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**TEACHERS' SENSE OF EFFICACY IN SCHOOLS  
IN THE MAJOR URBAN CENTRES OF THE  
FREE STATE PROVINCE AFTER MAY 10, 1994.**

Presented by

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A Thesis

Submitted in Accordance with the  
Requirements for the Degree of

**Philosophiae Doctor Educationis**

in the

**Department of Education**

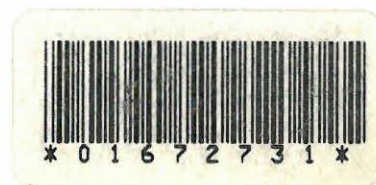
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## DEDICATION

**TO** My deceased Dad, Mr Edward Selaledi. I am very grateful for his exhortations to be "whole within and sensitive, respectful, and kind to others." In dedicating this Thesis to you, I'll always remember you as the man who cultivated in me the inquisitiveness of wanting to know the unknown in the academic realm and; one whose untimely death touched me very deeply indeed. Thanks Dad, for all the nights you woke me up to study. By the way, did you have to take exit so early?

## ACKNOWLEDGEMENTS

Once again and Always for Baile, my wife - of course; and for Boitumelo and Letlotlo - my sons indeed! You have immeasurably increased my appreciation of life. I love you!

**TO** Prof. H.M Freeman, of Vista University, for her scholarly technical guidance throughout the writing of this Thesis. Mr. Kevin Reich and Mr. Jacques Peterson of the Human Science Research Council (HSRC) in Pretoria for all the statistical computations of this Thesis. Special thanks to Mr. Reginald Litheko for his enormous assistance during the distribution, administration, and the processing of raw data. Thanks Reggy!

**TO** my colleagues who guided so I could aspire  
my friends who shared my postponed desires  
my relatives who didn't require that I acquire  
my mother who inquires and inquires  
my in-laws who, by being like my colleagues

my friends

my relatives

my mother

inspires...

## DECLARATION

I, the undersigned, hereby declare that the Thesis - entitled:

**TEACHERS' SENSE OF EFFICACY  
IN SCHOOLS IN THE MAJOR URBAN CENTRES OF THE  
FREE STATE PROVINCE AFTER MAY 10, 1004.**

- \* is my own work,
- \* that all the sources quoted have been acknowledged by means of references, and that
- \* this Thesis was never previously submitted to any university for degree purposes.



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**SELALEDI DAVID K.**

## ABSTRACT

- a) **TITLE:** Teachers' Sense of Efficacy in schools in the Major Urban centres of the Free State Province after May 10, 1994
- b) **STUDENT:** Selaledi, D.K.
- c) **DEGREE:** Ph.D
- d) **DEPARTMENT:** Education
- e) **SUPERVISOR:** Prof. H.M. Freeman
- f) **SUMMARY:**

The purpose of this research was to assess teachers' sense of efficacy in schools in the major urban centres of the Free State Province after May 10, 1994. The study had two major objectives. Firstly, the study sought to examine the impact of the new educational perspective and practice on primary and secondary school teachers. Secondly, the study sought to contribute to the theory of teacher self-efficacy by exploring teacher self-efficacy in relation to School Category (CAT), Gender (GEN), and Teaching Experience (EXP).

Data were collected from ninety-three primary and secondary schools in the school districts of Sasolburg, Bethlehem, Kroonstad, Welkom, Bloemfontein East, Bloemfontein West, and

Bloemfontein South. The instrument used consisted of fifty-three items aimed at asking teachers about their work, experiences at work, and opinions on matters related to teaching-learning interactive situations that are democratically inclined.

The instrument was submitted to a principal component analyses using a varimax rotation of one criterion for factor extraction. Three principal components were retained and rotated obliquely using the factor matrix solution. Factor 1 was called Teacher Administrative Responsibilities (TAR). Factor 2 was called Classroom Teaching Organisation (TCO). Factor 3 was called Teacher in Relationships with others (TRO). The internal consistency reliabilities for TAR, TCO, and TRO were found to be .89, .89, and .87 respectively. A three-way ANOVA focused on CAT, GEN, and EXP as independent variables and TAR, TCO, and TRO as dependent variables to generate descriptive statistics concerning the sample and inferential statistics for testing the seven research hypotheses.

The results have revealed a significant effect for the CAT variable with respect to TAR, TCO, and TRO. Primary school teachers tended to score higher than Secondary school teachers in all three factors. The same pattern was consistent for the GEN variable (although no main effects were determined). Females demonstrated higher self-efficacy than males in all three factors irrespective of School Category. The EXP variable showed a remarkable vacillation of opinions among the three factors. No primary-order and secondary-order interactions were found in all three factors. A discussion, interpretation of the results, and suggestions for future research studies in this realm were rendered based upon the outcome of the results.

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## Chapter I

# INTRODUCTION AND OVERVIEW OF THE STUDY

### 1.1 INTRODUCTION

The inauguration of Nelson R. Mandela as President of the Democratic Republic of South Africa on the 10th May, 1994, can be viewed as the inception of a Democratic system of Government in South Africa (Mandela 1994a:1-3). Concomitant with this political change, Bengu (cf. The White Paper on Education and Training 1995:5), advocates for a democratic educational system which would reflect and serve popular aspirations and accommodate for wider popular participation. Such an education system would be "acceptable to the majority of South Africans", and would have as its *mantra* "... excellence in education for all."

Prior to the new political era, the decade encompassing 1983 and 1993 can aptly be described as a period of breadth and intensity of activity regarding calls for significant change in the educational systems of South Africa. Wolpe (1987:1) mentions gross inequalities in the education of black and white people having constituted the central core of the agitations. This discrepancy had created a "...deeply divided society" (cf. The White Paper on Education and Training 1995:17).

As what the government had to offer seemed incompatible and/or ineffective with the educational aspirations of the black society, and as the belief in the legitimacy and the value of the erstwhile Nationalist Party government increasingly dwindled; schools in the urban and rural black areas became comprehensively disrupted. Newspapers were emblazoned with headlines literally showing protests, strikes, sit-ins, and demonstrations against the black education system.

What were the effects of the scenario just painted above on teachers? The perceptions and beliefs of teachers about their profession could have been inadvertently influenced - probably in a dejectable manner. And, as may be expected, it would not be impossible if many a teacher could have experienced what Habermas (cf. Hargreaves and Reynolds 1993:53) calls "a crisis motivation - that is, a generalised response of : Why should I bother?...why should I care?" Hence, it is befitting to have had concerted campaigns of exhortations by Mandela (1994b:15) to ...reinculcate the culture of learning and of teaching, and De Klerk in turn (1994:13) to ...restore a culture of learning, to replace a culture of disruption of education. Factors related to the culture of not learning include, inter-alia, absenteeism, truancy, dodging class, laziness, arriving late for school, and going home before the end of the day (Graham 1994:6).

## **1.2 SIGNIFICANCE OF THE STUDY**

Previous research on competence motivation (White 1959:297-333), on intrinsic motivation and on locus of control (Rotter 1966:1-28), all indicate manifestations of a trend toward an increasing awareness of "people's sense of personal efficacy to produce and to regulate

events in their lives" (Bandura 1982a:122). As a result, self-efficacy expectations are important sources of information to help explain achievement motivation and growth of intrinsic motivation (Bandura 1982:133-134). Research on teachers' sense of efficacy is, therefore, an imperative and quintessential focus of this study to determine, *inter-alia*, teachers' motivation and confidence levels in undertaking teaching from the new educational perspective. Taylor *et al.* (cf. The White Paper on Education and Training 1994:93) postulate that teachers are considered central to educational development in South Africa as their "expertise and motivation" is a prerequisite for the formulation and implementation of any new strategies.

If evidence is found that a thesaurus of variables being studied in this research are related to the self-efficacy of practising teachers, then such a finding will be very useful to educators generally, but more especially to education policy makers and curriculum planners. Where problem areas are identified, intervention programmes are suggested to help increase teachers' self-efficacies.

### **1.3 STATEMENT OF THE PROBLEM**

As a result of the possible perceptual imbalance to an individual teacher done by crisis journalism stated in (1.1); and as a result of probable difficulties that will be created by the need for teachers to redefine or readjust their teaching styles, methods, and techniques; and still, as a result of the problems inherent in curricula changes such as the conservative character of administrators and teaching staff, inappropriateness of the teaching staffs' qualifications, the quality and numbers of students, and the lack of money to improve the

quality of physical facilities favourable for effective teaching; this study was prompted by the question of the impact and effects of the new education approach on the teachers' self-efficacy behaviours. Moreover, Gibson and Dembo (1984:569) had thrown down the gauntlet when they remarked that "...although the importance of teachers' sense of efficacy has been identified, researchers are not certain how to conceptualize and measure the construct." The latter challenge, about self-efficacy, especially teachers' sense of efficacy, had to be taken up.

The main objective of this research is, therefore, to assess the self-efficacies of teachers in schools in the major urban centres of the Free State Province after May 10, 1994.

## **1.4 HYPOTHESES**

This research will test the following seven sets of hypotheses:

- \* There is no significant difference between primary and secondary school teachers with respect to self-efficacy.
- \* There is no significant difference between male and female school teachers with respect to self-efficacy.
- \* There is no significant difference between experienced and novice teachers with respect to self-efficacy.
- \* There is no significant interaction between school category and sex with respect to self-efficacy.
- \* There is no significant interaction between school category and teaching experience with respect to self-efficacy.

- \* There is no significant interaction between sex and teaching experience with respect to self-efficacy.
- \* There is no significant interaction among school category, sex, and teaching experience with respect to self-efficacy.

## 1.5 THEORETICAL RATIONALE

Over the past few decades, there were three major theoretical approaches to explain human behaviour. A single set of principles in explanations of what causes behaviour are used. The psychodynamic approach, on the one hand, suggests that people behave as they do because of motives within the individual (Mischel 1986:25-56). The behaviourist approach, on the other hand, focuses on various environmental determinants of behaviour (Slavin 1988:107-139). In recent years, the social cognitive approach of Albert Bandura explains behaviour as a continuous reciprocal interaction of personal behavioural, and environmental determinants (Ghatala and Hamilton 1994:287-320). This approach is a link between the cognitive and behavioural perspectives (Hall 1982:6-7).

Central to Bandura's social cognitive theory is the special emphasis he places on the important role played by the individual's self-efficacy. Bandura (1986:390) defines self-efficacy as a "self-referent thought [*that*] mediates the relationship between knowledge and action". Self-efficacy concerns judgement about an individual's capabilities to perform under given circumstances. An individual's "...perceived self-efficacy predicts performance much better than expected outcomes" (Bandura 1986:393). Bandura (1977a:125-138) furthermore states that an individual's self-efficacy expectation is basic to behaviour change. He defines

self-efficacy expectation as the conviction that one can successfully behave in such a way as to achieve the desired outcome. "Changes in self-percept predict coping and self-regulatory behaviour [*so that*] self-efficacy probes during the course of treatment can provide helpful guides for implementing a programme of personal change" (Bandura 1982a:131).

A variety of empirical studies on the topic of self-efficacy have lent support to Bandura's issue of perceived self-efficacy as a mechanism mediating behaviour changes (Bandura 1982a:129). Research results are consistent with Bandura's notion that perceived self-efficacy better predicts subsequent behaviour than does actual performance attainment, and it influences coping behaviours, self-regulation of refractory behaviours, perseverance, responses to failure experience, achievement striving, and career pursuits (Bandura 1982a:122-147; Bandura *et al.* 1980:39-66; Bandura and Schunk 1981:536-598; Betz and Hackett 1981:399-410; Brown and Inouye 1978:900-908; DiClemente 1981:175-187). The relevance of teachers' self-perceptions of efficacy to their performance has also been demonstrated in several studies (Ashton 1984:28-31; Ashton and Webb 1986:1-176; Gibson and Dembo 1984:569-582; Safran 1985: 61-67).

It is within the context of the self-efficacy construct as explained above that this study seeks to assess the self-efficacy of teachers in the schools in the major urban centres of the Free State Province after May 10, 1994, and to establish how their self-efficacy expectation relates to the newly introduced educational system. The variables to be studied are School Category, Gender, and Teaching Experience as independent variables. The dependent variable is Self-Efficacy (cf. 1.6 for definition). The objective for studying these variables is to investigate simultaneously the main effects and interaction effects that the inde-

pendent variables have on the dependent variable. McBurney (1994:251-253) define the main effects as the effect which each independent variable singly has on the dependent variable. The interaction effects are the combined effects of the independent variables on the dependent variable.

## **1.6 DEFINITION OF TERMS**

The variables identified for investigation in this research study are based upon a review of literature and the researcher's years of experience in working with practising teachers. These variables seem especially important to the assessment of the self-efficacy construct:

**1.6.1 Self-Efficacy:** Bandura (1977a:125-138, 1977b:193-200, 1982a:131, 1986:390-393) defines self-efficacy as an individual's belief that he or she is capable of performing a task. This construct is important for understanding how people cope and deal with life's challenges (Mischel 1986:252). A detailed explanation of the self-efficacy theory is provided in (2.2.2).

**1.6.2 School Category:** This variable refers to the primary and secondary schools which were sampling sites for this study. Institutions such as colleges of education, technicons, and universities were excluded.

**1.6.3 Teaching Experience:** For the purpose of this study, this variable is used to mean a teacher's historic years in practice. A conservative cut-off score of five years and up is

used to denote experienced teachers (experts); and those below five years are considered to be inexperienced (novices).

**1.6.4 Gender:** This variable refers to grammatical classification of being male or female.

## **1.7 METHODOLOGY**

This research is quantitative in design. The quantitative approach is an operational framework within which data are placed so that their meaning may be seen more clearly (Leedy 1980:90-91). It relies on two broad statistical techniques called the descriptive and inferential statistics for collecting, organising, analysing, and making inferences from numerical data (Martin 1988:14).

The descriptive statistics followed in this study commences with the identification of the population and the sample; then follows the instruments used in the collection of data. Finally, the data analyses techniques are designed to test the seven hypotheses stated in 1.4. These procedures are discussed in 1.7.1; 1.7.2; 1.7.3. For example, to understand teacher efficacy, data will be teacher behaviours converted into scores on the self-efficacy scale and descriptive statistics will be used to describe and understand those scores. Finally, inferential statistics will be used to generalise from the study sample to a larger population of teachers.

### **1.7.1 Population and Sample**

The population for this study consists of all teachers in primary and secondary schools in the major urban centres of the Free State Province. The centres identified were: Sasolburg, Bethlehem, Kroonstad, Welkom, Bloemfontein East, Bloemfontein West, and Bloemfontein South. The schools in these centres are run by the same department of education, they follow the same curriculum programme, they have the same administrative structures, and are subject to the same system of examinations. The sample for study is, therefore, obtained from all the centres mentioned above. Statistical sampling techniques called cluster sampling and "accidental sampling" were used to identify the group for study (cf.4.2.1).

### **1.7.2 Instrumentation**

A research instrument is a measuring device to evaluate more precisely the behaviour being studied. It reduces behaviour to numbers or other forms convenient for data analysis. It "takes the response out of the realm of causal observation and makes it reliable". In this manner, it makes the measurement of behaviour objective (McBurney 1994:146-147). The measuring instruments used in this study are questionnaires and sessions of interviews.

#### **1.7.2.1 Questionnaire**

A questionnaire is a widely used method of gathering information in educational research (McMillan and Schumacher 1993:42). It determines how people feel about a particular issue; or it may seek to find out the effect of some event on people's behaviour. In addition, a

questionnaire provides an opportunity to examine correlations among the subjects' responses and to look for possible patterns of cause and effect (McBurney 1994:193).

For the purpose of this study, a questionnaire was developed to measure the teachers' sense of efficacy in schools in the Free State Province. The development took heed of a suggestion by McMillan and Schumacher (1993:239) to provide justification for the development. A detailed justification is provided in chapter IV.

A four-paged questionnaire used in this study encompasses two sections; namely, a demographic questionnaire and a Self-efficacy Scale. These instruments are explained below.

*\* Demographic questionnaire*

This section was developed to ask teachers for pertinent demographic variables. Demographics are descriptive information about an individual's personal background and experiences (Robbins 1996:315). For example, age, sex, race, educational level, or length of service in an organization are demographics. Such information is referred to as variables because it is something that varies, that has more than one value - either yes or no; like someone's weight being either 75kg. or 80kg. (Vierra and Pollock 1988:27)

The demographic variables included in this study are School Category (Primary or Secondary), Gender (Male or Female), and Teaching Experience (Novice/Expert). These variables serve as independent variables of the study and the reason for using them is to

determine whether there are any significant differences among them with respect to self-efficacy as the dependent variable of the study.

#### *\* Self-Efficacy Scale*

A scale is a composite measurement of variables, that is, a measurement that is based on more than one item. It is used with complex variables that do not easily lend themselves to single-item measurement (Wimmer and Dominick 1983:26). The self-efficacy scale used in this study is an adaptation of the self-efficacy scales for teachers developed by Owen (1989), Emmons and Owen (1989), and Selaledi (1990). A total of thirty-five items were selected from these scales. Twenty-eight more items were drawn up with respect to the self-efficacy construct. This brought the total items of the new self-efficacy scale to fifty-five items. Detailed information on the nature of the self-efficacy scale and its items used in this study, and the reliability and validity of the adapted and developed version can be found in Chapter IV under 4.4.2. The above instruments can be found in appendices A, B, and C respectively.

#### **1.7.2.2 Interview**

Self-efficacy is not an entirely internal construct; it requires a responsive environment that allows for and rewards performance attainment (Bandura 1982:140). In this respect, research indicates that a teacher's sense of efficacy can be influenced by interactions with the organisational structures, colleagues, and the parents of the students (Fuller *et al.* 1982:8). Consistent with this enlightenment, an open-ended interview schedule was devised, so that

teachers were encouraged to speak at length about various aspects of their teaching lives. Questions were related to such issues as the teachers' professional role and interaction with others. Teachers were interviewed individually. A detailed structure of the interviews can be found in 4.3.2.

### **1.7.3 Data Analyses**

The data were collected by the researcher and trained assistants (three colleagues) over a period of four months. Furthermore, interviews were conducted subsequent to the administration of the self-efficacy scale to the major sample. Permission for data collection was applied for and obtained from the Director of Education and Culture in Bloemfontein, the District Managers, and the Principals of sampled schools(cf. Appendices D, E, and F).The data were subjected to a three-way ANOVA ( $2 \times 2 \times 2$ ) to test the seven hypotheses. The dependent variable of the study is self-efficacy as measured by the self-efficacy instrument (Selaledi 1995). It was expected that primary school teachers will show higher self-efficacy on the various teaching tasks contained in the self-efficacy scale than secondary school teachers. It was expected that female school teachers will show higher self-efficacy than male school teachers. It was also expected that experienced teachers will show higher levels of self-efficacy than novice teachers.

## **1.8 DELIMITATIONS**

There are two factors which delimit the external validity of this study. Firstly, the results cannot be generalised beyond the primary and secondary schools in the major urban centres

of the province because the universities, technicons, and technical training schools (Tertiary Institutions) are not represented. Tertiary Institutions differ from the primary/secondary schools in a number of characteristics. Both pursue different teaching and learning programme; and mostly have differently qualified teaching staff. Campbell and Stanley (1963:7-8) refer to different environmental factors and different teaching experiences as the maturation effect. In other words, teachers from the tertiary institutions, on the one hand; and teachers from the primary/secondary schools, on the other hand; have different maturation effects which cause teachers from tertiary institutions not to be a representative group to which the researcher would like to generalise.

Secondly, the results cannot be generalised to schools in the rural, suburban, and town schools also due to differences in environmental factors that impact on them in terms of perceptions, attitudinal norms, and time. Stanley and Campbell (1963:5) refer to this aspect as the history effect.

## **1.9 SUMMARY**

The purpose of this introductory chapter was to provide an overview of the study. This included a succinct and superficial description of the eminent demise in schooling, and the probable disorientation of teachers' perceptions and beliefs about their profession in the urban schools (the 80's and 90's). A short review of theoretical rationale was offered; hypotheses to be tested were presented; and a synopsis of methodological procedures employed were enunciated. Chapter one also contains a definition of specific terms; an exposition of the significance of the study; as well as delimitations of the study.

Chapter II presents a review of the literature relevant to self-efficacy. Chapter III explores the construct of teacher self-efficacy. Chapter IV describes the methods and procedures for data collection employed in the study. Chapter V presents the results of the statistical analyses. Chapter VI offers a discussion of the results, their implication, and recommendations for further research will be rendered.

## Chapter II

# LITERATURE STUDY

### 2.1 INTRODUCTION

This chapter presents a review of related literature and research regarding Bandura's construct of Self-Efficacy by way of providing an overview of the Social Learning Theory (cf. 2.2.1) as a major contemporary approach to explain human behaviour, behavioural change and learning. Within this context, Self-efficacy is put in its theoretical framework: Self-efficacy is defined (cf. 2.2.2). The importance of self-efficacy (cf. 2.3 ), sources of self-efficacy (cf. 2.4) and the measurement of self-efficacy (cf. 2.5) are reviewed. To further define the construct of self-efficacy, a distinction is made between self-efficacy and four major related constructs (cf. 2.6) often mentioned in self-efficacy research (locus of control, the self-concept, self-esteem, and intrinsic motivation). A conceptual link between self-efficacy as a theoretical construct and teacher self-efficacy as a focus for this study is presented in Chapter III. Included will be all research relating to teacher self-efficacy.

## 2.2 SOCIAL LEARNING AND SELF-EFFICACY THEORIES

As stated earlier (cf. 1.5), three major theoretical approaches have sought to explain human behaviour. The behavioural psychologists view learning as a change in behaviour - that is, the way a person acts in a situation. They focus almost solely on observable behaviour and behavioural change. Cognitive psychologists state that learning itself is an internal process that cannot be observed directly. They assert that learning is a change in a person's ability to respond to a situation and behaviour change is only a reflection of an internal change. In recent years a group of behavioral psychologists (like Albert Bandura), also called social learning psychologists, have formulated a social learning theory which entails an attempt to explain and predict human behaviour by formulating a synthesis of earlier theoretical approaches, in particular psychodynamic and behavioural explanations of behaviour change. This expanded view includes such internal unobservable events as expectations, intentions, beliefs, knowledge, and thoughts (Bell-Gredler 1986:234-235, Hergenhahn 1988:326-332, Slavin 1991:119, Mischel 1986:239). The following is a detailed explanation of the social learning theory and the self-efficacy theory.

### 2.2.1 Social Learning Theory

The Social learning theory, in its explanation of learning or behaviour change, can be traced back to observational learning as suggested by the early Greeks such as Plato and Aristotle. The Greeks suggested that education consisted of selecting the best model for presentation to the students so that the model's qualities could be observed and emulated. This trend marked the birth of a belief that humans learn by observing other humans.

Thorndike (cf. Hergenhahn 1988:327) and Watson (cf. Hergenhahn 1988:327) conducted experiments using monkeys, dogs, cats, and chicks to study observational learning as suggested by the Greeks. They concluded that learning could occur only through an individual's interaction with the environment and not through observation. Early social learning theorists such as Miller and Dollard (1941) inspired by Freudian concepts like dependency and identification, which they placed within a behaviouristic stimulus response framework, challenged this nativistic explanation of observational learning (Hergenhahn 1982:37). Unlike Thorndike and Watson, they endorsed the notion that an individual could learn by observing the activities of another individual. However, they maintained that if imitative behaviour is reinforced, it will be strengthened like any other kind of behaviour (Hergenhahn 1988:327-329).

Bandura (1977b:192), maintains that an individual could learn by observing and imitating the activities of another individual (model). People watch the model's behaviour and evaluate what outcomes may occur if the behaviour is imitated. They also generalise from imitating behaviour in specific situations to imitating behaviour in related similar situations. Regarding reinforcement, Bandura (1977a:137) states that it "plays a role mainly as an antecedent rather than a consequent influence." Hall (1982:8) corroborates Bandura's latter argument by saying that reinforcement serves as a source of information and an incentive, and not as a strengthener of behaviour. Later, social learning theorists offered extensive criticism of behaviouristic stimulus-response models, stressing the importance of cognitive intervening variables between stimulus and response even in learning. In the latter criticisms, the theorists redefined and operationalised the whole theory (Bandura 1974:859-869, Mischel, 1973:252-283).

According to Rosenthal and Zimmerman (1977:13-16) the basic questions addressed by social learning theory are the following: to what extent do cognitive factors and external stimuli influence behaviour? Must cognitive processes be taken into account to explain complex behaviour? What specific role does reinforcement play in learning? What is the nature of the learning process? What is the nature of developmental changes? The roots of social learning theory in cognitive and behaviouristic psychology are evident from the latter exposition.

The behavioural and cognitive psychologists have encountered heavy criticism because in their attempts to explain behaviour, the tenets of the theory are not consistently supported on a conceptual or empirical basis. Moreover, many of their investigations were based mainly on animal studies and the critics, therefore, rejected animal analogies of human learning (Bell-Gredler 1986:235-236). Nevertheless, Bandura (1986:336-337) argues that while reinforcement procedures to the model/observer may be used alone to increase modelling behaviour, they often are insufficient. He, therefore, identified two systems he calls self-reinforcement and reciprocal determinism and interactionism to explain human behaviour and learning.

#### ***2.2.1.1 Self-reinforcement***

Self-reinforcement involves the notion that people have a major impact on their own environment. People are not only dependent on the rewards and punishments that may come their way from outside forces but are also capable of rewarding and punishing themselves in a way that helps them develop new ways of behaving (Slavin 1994:176). Bandura (cf. Papalia and

Olds 1986:185) uses the term self-regulation for self-reinforcement so as to encompass both reinforcement and punishing influences that people impose upon themselves. Figure 1 below depicts the latter postulation.

**Figure 1: SELF-REGULATION PROCESSES OF BEHAVIOUR**

SELF - OBSERVATION	JUDGMENTAL PROCESS	SELF - RESPONSE
<p>PERFORMANCE DIMENSIONS</p> <p>QUALITY RATE QUANTITY ORIGINALITY AUTHENTICITY CONSEQUENTIALNESS DEVIANCY ETHICALNESS</p>	<p>PERSONAL STANDARDS MODELING SOURCES REINFORCEMENT SOURCES REFERENTIAL PERFORMANCES STANDERD NORMS SOCIAL COMPARISON PERSONAL COMPARISON COLLECTIVE COMPARISON VALUATION OF ACTIVITY REGARDED HIGHLY NEUTRAL DEVALUED PERFORMANCE ATTRIBUTION PERSONAL LOCUS EXTERNAL LOCUS</p>	<p>SELF - EVALUATIVE REACTION</p> <p>POSITIVE NEGATIVE</p> <p>TANGIBLE SELF- APPLIED CONSEQUENCES</p> <p>REWARDING PUNISHING NO SELF - RESPONSE</p>

(Source: Bandura 1978:349)

Based on the depictions of Figure 1, Bandura (1974:860-861, 1978:348-349) hypothesised "... people observe their own behaviour, judge it against their own standards, and reinforce or punish themselves". This process encompasses three self-prescribed dimensions. The dimensions are self-observation, judgemental process, and self-response (Bandura 1978:349). The self-observation dimension provides information for setting realistic performance standards and for evaluating ongoing changes in behaviour by frequent appraisals of regularity, proximity, and accuracy of performance. The self-judgemental dimension develops by analysing the latter appraisals in the covariation between situations and thoughts

and actions. The resulting insight so gained identifies and creates the important determinants of behaviour such as personal standards, referential performances, evaluation of activity, and performance attribution. The judgemental dimension, consisting of the evaluative standards and judgemental skills, leads to the development of the self-response dimension. Depending on how behaviour measures up to the first two dimensions; the individual creates incentives for his/her actions. Behaviour that is positive gets rewarded, and that which is negative gets punished (Gredler 1992:322-324).

#### ***2.2.1.2. Reciprocal Determinism and Interactionism***

The three main theoretical approaches to acquisition of complex behaviours, including human learning (cf. 2.2)), differ markedly as to where the causes of behaviour are located. The behaviourists, on the one hand, purport environmental determinism. In their view, behaviour is controlled by environmental influences. This control is unidirectional in that a person does not act upon the environment. Instead, the environment acts upon the person. The cognitivists, on the other hand, espouse personal determinism. They take the interactional view that behaviour is determined by the interaction of internal forces (for example, instincts, traits, beliefs, drives, and/or motivational forces) and the environmental forces. In other words, people's thoughts and beliefs interact with information from the environment to produce behaviour. As with the behaviourists, control of behaviour is also unidirectional (Hamilton and Ghatala 1994:289-290).

Bandura (1978:345) opposes the unidirectional notion of control by the behaviourists and the cognitivists. He argues that individuals and the environment were treated as independent

entities that combine to produce behaviour; when in essence, they combine to determine each other. Instead, Bandura (1978:344-348) proposes a three-way interaction model which he calls the triadic reciprocity.

The triadic reciprocity model is undergird by the absolute necessity to understand human psychological functioning in a particular situation, as well as the determinants of behaviour in general. It is based on the idea that personal, behavioural, and environmental factors are in a state of continuing mutual interaction to determine the individual's subsequent behaviour (Bandura 1978:346). The relationship between the three factors is called reciprocal determinism. It is often a complex and subtle interaction (Bandura 1974:866, 1977a:192-193, 1978:345-348). Bandura (1978:345) summarises this three-way interaction in Figure 2 below: where P is the person; B is the person's behaviour; and E is the environment.

**Figure 2: SCHEMATIC REPRESENTATION OF THE THREE ALTERNATIVE CONCEPTIONS OF INTERACTION**

(B signifies behaviour; P the cognitive and other internal events that can affect perceptions and actions; and E the external environment)

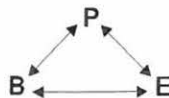
**UNIDIRECTIONAL**

$$B = F(P, E)$$

**PARTIALLY BIDIRECTIONAL**

$$B = F(P \leftrightarrow E)$$

**RECIPROCAL**



(Source: Bandura 1978:345)

Figure 2 indicates that the relative influence exerted by either factor varies across individuals and circumstances. In some cases, behavioural conditions are all powerful. Personal and environmental conditions are treated as independent entities that combine to produce behaviour (dyadic conjoint view). In other cases, the interaction acknowledges that personal and environmental factors are interdependent and more powerful in producing behaviour. Behaviour is treated as a by-product in the causal process (dyadic bi-directional notion). Sometimes behaviour, internal personal factors, and environmental influences all combine as interlocking determinants of one another.

As stated above **reciprocal determinism** refers to the idea that there is a continuous, dynamic and reciprocal relationship between three essential components of psychological functioning: person, behavioural and environmental variables (Bandura 1978:344-348). The relationship between these three components is dynamic, because not one of the components is fixed, but has to be activated by the individual. Thought is the main determinant affecting activation of such a thought/action. Bandura (1986:19) writes: behaviour is deliberate and is preceded by forethought which is "the product of generative and reflective ideation." For example, people think about what they are going to do and they then make choices. These choices are based on what they know about their environment and what they perceive as their capabilities. They might, therefore, selectively expose themselves to some situations and environmental factors, but not to others. Such choices impact on the outcomes.

In **summary**, this section clarified the role that the cognitive process play in mediating the reciprocal interaction among three essential components of human functioning. The implications of this dynamic interaction process is substantial self-regulation of behaviour.

An exposition of these systems is imperative for this study because the various principles and conditions that operate in self-reinforcement and reciprocal determinism are similar to those that are prevalent in the teaching-learning interactive situation and impact on teachers' confidence and motivation levels when undertaking new tasks. As will be shown in the next section, self-efficacy is embedded in reciprocal determinism and interactionism and reflects many of its principles.

## **2.2.2 Self-Efficacy Theory**

This section defines self-efficacy as a theoretical construct in great detail. A distinction is made between self-efficacy expectations and outcome expectations. Finally, a variety of experimental studies are cited to validate the construct of self-efficacy.

### ***2.2.2.1 Definition of Self-efficacy***

Bandura (1977b:193; 1982a:122; 1986:390-391) defines self-efficacy as the central, ubiquitous kind of thought : Self-Referent Thought which "mediates the relationship between knowledge and action" and leads to perceived self-efficacy. Bandura also (1986:390-391) defines perceived self-efficacy as "people's judgements of their capabilities to organise and execute courses of action required to attain designated types of action." In other words, it is an individual's judgement whether he/she can successfully execute the behaviour necessary to produce the desired outcome in a given task. Perceived self-efficacy is a sense of mastery and is concerned not with the skills one has, but with the judgements of what one, and not others, can do with whatever skills one possesses (Liebert and Spiegler 1987:462). Self-

efficacy can, therefore, be viewed as part of reciprocal determinism, bearing upon a person's environment, behaviour, cognition, as well as other personal variables (Bandura 1978:348). In literature, the terms self-efficacy, efficacy expectations, and perceived self-efficacy are used interchangeably.

Self-efficacy clearly is a cognitive construct. Rosenthal and Zimmerman (1977:1) define **cognition** as "a method of processing information", which refers to "all the processes that enable an individual to represent and deal with the external environment symbolically or imaginably." They state that rather than reacting to environmental stimuli directly, people's behaviour is guided by interpretations of these stimuli. This is the reason why, as Bandura (1977b:193) has pointed out that, human beings are capable of anticipating much of their behaviour, of producing selected outcomes or consequences, of evaluating these outcomes, and thus regulating their behaviour to a great extent.

Since self-efficacy is a cognitive construct, it is different from emotions: "... perceived self-efficacy does not include anxiety in either the definition or the measuring devices. Self-efficacy scales ask people to judge their performance capabilities and not if they can perform them nonanxiously" (Bandura 1984:238).

Kadzin (1978:177-195) has charged that the conceptual issue regarding the construct self-efficacy needs to be resolved to help all research efforts devoted to the study of self-efficacy. The argument is that self-efficacy is not the sole determinant of behaviour - skills and incentives are equally important. Another source of controversy is the distinction Bandura makes between Self-Efficacy Expectations and Outcome Expectations.

### 2.2.2.2 Distinction between Self-Efficacy Expectations and Outcome Expectations

One reason the two concepts have been distinguished is that while people may be confident that their behaviour will lead to a certain outcome (outcome expectation), they may be unsure of their ability to carry out the required behaviour (efficacy expectation). Thus Bandura holds that the best way to predict behaviour is to take into account both efficacy and outcome expectations (Bandura 1977b:193).

Bandura, Adams, and Beyer (1977a:126-127) define efficacy expectations as the conviction that one can successfully execute the behaviour required to produce the outcome. Furthermore, they define outcome expectations as a person's estimation of the likelihood that a behaviour will lead to a specific outcome. Figure 3 below illustrates the theoretical relationship between efficacy expectations and outcome expectations.

**Figure 3: DIAGRAMMATIC REPRESENTATION OF THE DIFFERENCE BETWEEN EFFICACY EXPECTATIONS AND OUTCOME EXPECTATIONS**



(Source: Bandura 1977:193)

Based on figure 3, an individual may believe that a particular course of action (behaviour) will produce certain outcomes (results). However, if an individual entertains serious doubts

about whether he/she can perform a required activity (behaviour), such a doubt will not influence his/her behaviour in seeking the outcome (Bandura 1977b:193). For example, individuals with high mathematics aptitudes have high efficacy expectations and will undertake maths and science courses (behaviour) to become engineers and doctors (outcome expectations). Conversely, those with low maths/science aptitudes have low efficacy expectations and will not even venture into taking mathematics and the sciences. They do not entertain the outcome expectations of being engineers or doctors. It is within this analyses that figure 3 makes a distinction between efficacy expectations and outcome expectations.

Efficacy expectations differ on three dimensions which have performance implications. These dimensions are magnitude, generality, and strength. Magnitude refers to the levels of task difficulty, that is, to what extent efficacy expectations extend to low, medium, or high difficulty behaviours. Generality refers to the extent to which efficacy expectations generalise from one task to a related or different task. Bandura (1977b:194) writes, "some [tasks] create circumscribed mastery expectations. Others instill a more generalised sense of efficacy that extends well beyond the specific treatment situation." Strength of efficacy expectations refers to whether an individual will attempt a task and persist at it even at the face of difficulties. In other words, this dimension regards how robust the efficacy expectation is or how extinguishable it might be when encountering hurdles.

Borkovec (1978:166-168) questions the conceptual basis for the distinction between efficacy expectations and outcome expectations; charging that this distinction is confusing and ambiguous. His main thrust of the conceptual criticism is that efficacy expectation is

defined in such a way that it includes within it expectations of outcome, and thus can not be regarded as conceptually clear. His argument is focused on the phrase "the conviction that one can successfully execute the behaviour to produce the outcomes" (Bandura 1977b:193). The differentiation creates "some difficulty in understanding exactly what Bandura means by efficacy expectations and outcome expectations".

Kadzin (1978:177-195) believes that it is essential to integrate the two concepts because of their reciprocal nature. For example, increases in self-efficacy are likely to demonstrate to individuals that untoward consequences do not in fact occur. Alternatively, demonstrations that outcomes are not deleterious might increase estimates of self-efficacy. Likewise, Teasdale (1978:211-212) perceived an ambiguity in the definition: By including the words "successfully" and "required to produce the outcome" in his definition of efficacy expectations, Bandura combines belief about ability to make a response with expectations concerning the outcome of the response..." Bandura (1984:231-255), in *Recycling Misconceptions of Perceived Self-Efficacy*, replies to the criticism levelled against the distinction made between efficacy and outcome expectations by asserting that the distinction holds true particularly where there is little relationship between quality of performance and expected rewards, as when better performance does not increase the amount of reward. He concluded that perceived self-efficacy is a common mechanism of personal change, although not to the exclusion of other mechanisms, and may have wide explanatory power.

There has been support for a differentiation of the two concepts, both theoretically and empirically. Brown and Inouye (1978:906) in their experiment to test the hypothesis that "learned helplessness can be induced through modelling"; found that a person's performance

could be lowered by observing another person fail, thus changing the observer's outcome expectation.

### ***2.2.2.3 The Significance of the Self-efficacy theory***

Bandura, Adams and Beyer (1977a:136) postulate that self-efficacy theory is a valuable and useful theory, that it may be a reliable and robust mechanism for both explaining and predicting human behaviour and behavioural change in learning. Mischel (1986:252) concurs with the latter notion regarding the reliability and robust nature of the self-efficacy theory. However, there are several debates concerning the issue of parsimony, the issue relating to methodology (cf. 2.5), as well as issues of theoretical conceptualization (cf. 2.2.2.1) and interpretation (cf. 2.2.2.2) of the construct of self-efficacy. Nevertheless, for most of the debates relative to the construct of self-efficacy, Bandura (1978, 1980, 1982, 1984) has provided adequate and capable responses to the various critiques. The latter issues are revisited in 2.2.2.4.

Bandura (1977b:191) states that the emergence of self-efficacy reflects two trends in contemporary social learning theory. The first trend is that behavioural change has increasingly been explained by cognitive processes. The second trend is that the importance of mere modelling in promoting behaviour change has been replaced by performance based treatments that operate through mastery experiences and are proving to be most powerful in producing effective, attitudinal, and behavioural changes. The second trend is based upon the principal assumption that "psychological procedures, whatever their form, serve as means of creating and strengthening expectations of personal efficacy" (Bandura 1977b:193).

Within this view, the major theme is the "people's sense of personal efficacy to produce and to regulate events in their lives" (Bandura 1982a:122). The latter assumption is consistent with elaborations by Mischel (1973:5-11) on the need for an expectancy construct to help explain varying individual responses to the same situation. In accord with the latter principal assumption and the major theme within it, Bandura and his colleagues conducted a variety of the following experimental studies to validate the construct of self-efficacy.

#### ***2.2.2.4 Self-efficacy research studies***

In one experiment, Bandura, Adams, and Beyer (1977a:125-138) tested the theory that psychological procedures achieve changes in behaviour by enhancing intensity and persistence of effort; thereby, altering the level of strength of self-efficacy. Adult snake phobics were assessed and examined for coping behaviours in this study. Treatment on the subjects was based upon their performance mastery experiences, vicarious experiences, or they received no treatment. Their efficacy expectations were measured before and after treatments. The results show self-efficacy to be an accurate predictor of snake handling behaviour. The study also shows that greater gains in self-efficacy had resulted from participant enactive behaviour than through modelling alone.

In another experimental study, Bandura and Adams (1977a:127) tested the hypothesised relationship between self-efficacy and behavioural change. The subjects in this study were adult snake phobics who were given a behavioural avoidance test before and after treatment. The test consisted of a series of increasingly threatening interactions with a snake. The various tasks in the experiment varied from looking at a boa constrictor in a glass cage to

allowing the snake to crawl freely in a subject's lap. The subjects were then individually matched in triads according to their pre-treatment avoidance behaviour and randomly assigned to three treatment conditions. The treatments were participant modelling treatment, modelling treatment, and a control group. The subjects in the participant modelling treatment observed a therapist perform a series of increasingly more threatening interactions with the snake. They then practised the same behaviour with the assistance of the therapist. The subjects in the modelling treatment merely observed the modelling sequences. The control group consisted of subjects who were untreated.

The results of this study indicate that self-reporting ratings of self-efficacy are accurate predictors of behaviour change for different behavioural treatments such as desensitization and partial mastery of threats. The subject who were treated with either participant modelling or modelling treatment had efficacy judgements slightly above their performance; and the third group indicated efficacy judgements slightly below their performance.

In yet another study, Bandura, Adams, Hardy, and Howels (1980:39-66) tested the predictive generality across different areas of functioning. Agoraphobia, defined as fear of public places such as elevators and heights, was used as a well-suited phenomenon for testing the predictive generality of the self-efficacy construct. The treatment relied on enactive mastery experiences as the principal means for instilling a strong sense of coping efficacy. It included group sessions in which clients were taught how to identify situational and ideational elicitors of fear, how to manage fear arousal through emboldening thought and self-relaxation, and how to deal assertively with social situations in which they were disregarded and exploited. Most importantly, the critical ingredient of treatment involved field mastery

experiences. The results lent support for the generality of self-efficacy across several treatment methods and behaviour domains.

In the following study, Bandura, Reese, and Adams (1982:5-21) conducted an experiment in which snake phobics received treatments based on enactive, vicarious, emotive, and cognitive models of influence. The subjects' level, strength, and generality of coping self-efficacy for a variety of threatening tasks were measured prior to and after the treatment. The results of this experiment indicate that different modes of influence all raise an individual's self-efficacy. Also, coping behaviour corresponds closely to self-efficacy with higher levels of perceived self-efficacy, the strength of self-efficacy, and the generality of self-efficacy being accompanied by greater performance attainments. This study showed self-efficacy to be "a predictor of behaviour and a measurable cognitive mediator." Bandura *et al* (1982:19-21). Because of its application to self-regulation in human behaviour, the self-efficacy construct has been the focus of substantial interest and research in a variety of fields of study and is in the process generating a significant body of knowledge. Positive results from using the self-efficacy construct have been reported in research articles and review articles; for example, vocational aspiration (Betz and Hackett 1981:399-410), smoking cessation (DiClemente 1981:175-187), and school achievement (Schunk 1981:93-105).

### **2.3 THE IMPORTANCE OF SELF-EFFICACY**

Among the functions of self-efficacy is its role as a variable intervening between the cognitive process (knowledge) and behaviour (action) (Bandura 1986:393). As implied by the reciprocal determinism model (cf. 2.2.1.2), environmental factors will influence an

individual's perceived self-efficacy. In light of this environmental effect; self-efficacy, in its capacity as a mediator, regulates behaviour by making action contingent on self-appraisal of efficacy, thereby preventing "mindless leaps into action without regard to one's capabilities" (Bandura 1984:235). Self-efficacy influences decisions as to whether or not to attempt an action, and to persist in the face of difficulties once an activity is initiated (Bandura 1986:394). Inefficacious individuals coping with environmental demands spend more time on their "personal deficiencies and imagined potential difficulties as more formidable than they really are" (Bandura 1982a:123). Self-efficacy affects coping behaviour by reducing fears and inhibitions before attempting action, and by influencing effort and persistence. Successful coping attempts will further increase self-efficacy (Bandura 1977b:193-194). The following are probable sources that impact on the individual's sense of efficacy.

## **2.4 SOURCES OF EFFICACY**

In the social cognitive view, perceived self-efficacy, whether accurate or faulty, is based on four principal sources of information. These include performance accomplishment, vicarious experience, verbal persuasion, and emotional arousal. These sources also serve as mechanisms of change by creating, strengthening, and increasing efficacy expectations - thereby leading the individual to believing that he/she can cope with the difficult situation that previously threatened him/her (Bandura 1977b:195, 1982a:126, and Mischel 1986:301).

A detailed explanation of these sources follows below.

### 2.4.1 Performance Accomplishment

Performance accomplishment has also been termed enactive attainment or enactive mastery. It has been found to be the most influential source of efficacy information because it is based on personal mastery experience and provides people with potent feedback about their ability to cope by producing concrete evidence of their abilities (Bandura 1977a:195). Success which an individual attains through performance raises his/her mastery expectations, but repeated failures lower them (Bandura 1983:1018). Furthermore, repeated success develops strong efficacy expectations and thereby reduces the negative impact of occasional failures. Once established, self-efficacy tends to generalise to similar situations more especially situations similar to those in which self-efficacy was restored by treatment and to different situations (Bandura *et al.* 1977a:134, 1980:41, and Bandura: 1982a:129).

Modelling is the most effective source of change that operates on the basis of performance accomplishment. In the course of treatment modelling enables to acquire a generalised skill for dealing successfully with stressful situations. It enhances behavioural capabilities which through participation, the observer provides additional opportunities for translating behavioural conceptions to appropriate actions and for making corrective refinements toward the perfection of skills (Bandura 1977b:196-197). However, people do not live as isolates in their own private world; they observe the behaviours of others and the occasions on which it is reinforced, ignored or punished (Bandura 1986:283). The benefits or results of the latter tendency are explained by the following source of efficacy called vicarious experience.

### **2.4.2 Vicarious Experience**

Vicarious experience refers to the impact on the observer's behaviour that results from observing the consequences of the model's behaviour. Among a variety of models, models which have an impact on observers are those who appear to deserve trust, portray consensus in a group, offer believable standards to guide observer's aspirations, or provide realistic reference figures for observer comparison (Bandura 1982b:197). However, it is important that the apt model for the observer should succeed especially through effort and persistence in order to have impact. Self-efficacy, by way of social comparison, will be lowered if the model is perceived as similar but failing (Slavin 1994:175). As Bandura (1977b:197) puts it: Clear and beneficial outcomes for the model strengthen observer self-efficacy, while ambiguous ones are less likely to do so. However, the degree of success of the latter two efficacy expectations, depends directly or indirectly on the intervening influence of verbal persuasion.

### **2.4.3 Verbal Persuasion**

Verbal persuasion refers to the suggestions by a model(s) to individuals that they possess capabilities that will enable them to cope successfully with situations. It has the greatest impact on individuals who have some reason to believe that they can produce effects through their actions. Such persuasive influences lead individuals to try hard enough to succeed and thereby require skills and a sense of personal efficacy (Bandura 1982a:127). However, efficacy expectations created by verbal persuasion are weaker and of a shorter duration than those arising from an individual's own accomplishments. This is because such efficacy

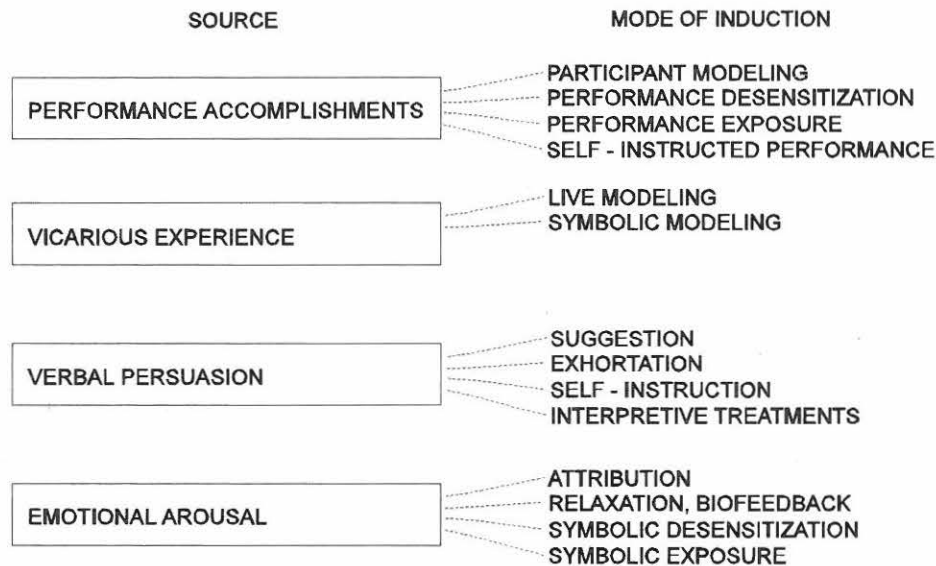
expectations are not established on a firm experiential base. Instead, verbal persuasion works better together with performance accomplishment and vicarious experience. In this capacity, it has some augmenting value. Moreover, it is usually readily available to people (Bandura *et al.* 1977a:126). Another weak source of self-efficacy is emotional arousal.

#### **2.4.4 Emotional Arousal**

Emotional arousal influences behaviour through the inferences of competence or incompetence based on their emotional or physical state. Most people, when very aroused in a threatening or ambiguous situation, are likely to develop fear and perhaps judge themselves as incompetent to participate. This fear arousal can result in lowered self-efficacy expectations. However, behavioural control enables some individuals to eliminate fear arousal and, in turn, affects how the situation is perceived. In a situation perceived as less threatening, individuals perform successfully. Success strengthens self-efficacy (Bandura 1977b:198-199). The four sources of efficacy expectations and their subsources are summarised below in figure 4:

### Figure 4: EFFICACY EXPECTATIONS

(Major sources of efficacy information and the principal sources through which different modes of treatment operate)



(Source: Bandura 1977:195)

Figure 4 presents the four principal sources of efficacy information: performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal. Any given source, depending on how it is applied, may draw on one or more subsources of efficacy expectations. For example, vicarious experience expectations may draw information from either live or symbolic models. The same applies to the other sources; they also have subsources that provide ways of acquiring information about one's capability for coping with threatening situations.

Again, consistent with the notion of reciprocal determinism (cf. 2.2.1.2) peoples' cognitive appraisals of self-efficacy information, as well as social, situational, and temporal circumstances, will influence the effect of the four sources. Bandura (1977b:200) writes:

"Self-efficacy expectations that have served self protective functions for years are not quickly discarded. When experience contradicts firmly established expectations of self-efficacy, they may undergo little change if the conditions of performance are such as to lead one to discount the import of experience."

Self-efficacy not only plays a central role in individual life but affects groups as well. This sense of group's ability to perform a task is called collective self-efficacy. To achieve change within a group or a nation, the members of that group must have a high sense of efficacy for the achievement of the task. According to social cognitive theory, to improve their condition, a group must have a high sense of collective efficacy, incentive, and the resources to achieve change (Bandura 1986:449-451). But, it is mainly within the framework of individual self-efficacy that teacher self-efficacy is explored in this study. The latter intention is encouraged by the view that self-efficacy is an important predictor of behaviour (Bandura 1986:425).

## **2.5 MEASUREMENT OF SELF-EFFICACY**

The true value of a theory is ultimately evaluated by its usefulness in stimulating research which is testable and whose procedures are replicable (Bandura and Adams 1977b:303). Furthermore, a worthwhile theory is characterised by how practical it is and whether it is a useful guide to action. In light of these assertions; self-efficacy, has been shown to be especially important predictor of behaviour and consequently, there have been many attempts to measure self-efficacy (Bandura 1986:425).

A recurring question that is of interest to this study is: how well does the construct self-efficacy measure performance? In pursuing an answer to the question, an examination of the predictive power, generalisability, and the microanalytic techniques for the assessment of the relationship between self-efficacy and behavioural change is undertaken below.

### **2.5.1 Predictive Power**

Mischel (1986:252) asserts that self-efficacy, if assessed accurately, can be a reliable and robust mechanism for both explaining and predicting with impressive accuracy the individual's actual ability to perform the relevant behaviour. Bandura (1982a:129) has felt that if a treatment really is based on psychological theory, then it should be possible to predict individual behaviour after the treatment.

Past research on the treatment of phobic behaviour (cf. 2.2.2.4) supports the usefulness of self-efficacy as an accurate predictor of behaviour. The results of these studies indicate that self-reporting ratings of self-efficacy are highly significant predictors of behavioural change for different behavioral treatments (Bandura 1982a:129), regardless of whether the change resulted from performance accomplishments (89% accuracy of prediction) or from vicarious experience (86% accuracy of prediction) (Bandura, Adams, and Beyer 1977a:131-132).

Several examples have emerged from literature supporting the predictive power of self-efficacy. A study on tennis performance (Barling and Able 1983:265-272); studies on planning and goal commitment (Bandura and Cervone 1983:1017-1028); and performance requiring intellectual skills (Bandura and Schunk 1981:536-598), have all obtained results

supporting the predictive power of self-efficacy. Bandura (1982a:133-136) explains discrepancies or inaccuracies between efficacy expectations and the actual ability to perform the behaviour with physical or social constraints, lack of incentive, insufficient experience with the task, misjudgment of task requirements, or distorted self-efficacy judgements. Discrepancies might even result from inadequate measures of either self-efficacy or performance. The issue of generalisability of self-efficacy is of great importance.

### 2.5.2 Generalisability of Self-Efficacy

One tedious question to the researcher is: How well does self-efficacy in one situation generalise to similar and/or different situations? Although Bandura (1977b:194) does not view self-efficacy as a global personality trait and states that self-efficacy levels vary over time and across tasks, he acknowledges that self-efficacy may generalise to similar and maybe even some different tasks. For example, following treatment, snake phobics reported that they had begun to participate in one or more activities they formerly had avoided because of their dread for snakes (Bandura *et al.* 1977a:136-138). Perceived self-efficacy has also been shown to influence much of psychological functioning, such as control of smoking behaviour (Condiotte and Lichtenstein 1981:658-698); social functioning (Kanfer and Zeiss 1983:319-329); and as vocational behaviour (Betz and Hackett 1981:399-410). A discussion of the measurement technique used in Bandura's experiments is under 2.5.3.



### 2.5.3 Microanalytic Technique

Microanalytic technique is used in the assessment of the relationship between perceived self-efficacy and behavioural change (Bandura 1986:422). Microanalysis consists of arranging tasks in a hierarchy. General tasks are broken into specific tasks and ranked in order of the perceived ability to accomplish each task to attain maximal performance (Bandura *et al.* 1977b:296). For each task that is designated, an individual indicates the degree of confidence that he/she has of being able to do a particular task on a 90 - point scale (10 to 100). The level of self-efficacy is stated as the number of performance tasks judged with a value above 10. The strength of self-efficacy in each specific area of functioning is compiled by summing the magnitude scores across tasks and dividing by the total of performance tasks (Bandura 1977b:205, 1980:264).

Microanalysis allows for the measurement of intermediate levels of task performance rather than global level. This allowance is consistent with Bandura's (1982a:124) contention that self-efficacy should be perceived primarily as a specific task or situation-specific construct and not a global construct.

The perception stated above is based on the idea that an individual's self-efficacy varies from situation to situation depending on the competencies required for different activities, as well as the idea that it can generalise to situations other than the target behaviour in a particular situation. For example, Bandura *et al.*'s (1982:7-8) demonstration of an intermediate level appropriate for microanalysis with snake phobic clients involved asking a client to assess his/her ability to enter a room which contained a snake in a covered cage;



and reliability of these measures will have to be carefully examined. The issue of measurement is addressed again in Chapter IV (cf. 4.4). Constructs related to self-efficacy are discussed under 2.7.

## **2.7 CONSTRUCTS RELATED TO SELF-EFFICACY**

An important academic feature of any theoretical construct is how it relates to other constructs and experimental findings. Self-efficacy is no exception and, as indicated (cf. 2.2.2.1), it is embedded in the social learning theory. For the purpose of this research, therefore, it is appropriate to look at self-efficacy and other constructs to which it has been explicitly related. Examination of these constructs will indicate the precise place of self-efficacy in the social learning theory. The constructs are: locus of control, self-concept as an affective construct; self-esteem, and intrinsic motivation. These constructs differ in important ways from the construct of self-efficacy.

### **2.7.1 Locus of Control versus Self-Efficacy**

This attributional variable is in literature often considered to be related to self-efficacy. Both locus of control and self-efficacy are within the framework of social learning theory, but have important theoretical and empirical distinctions (Bandura 1986:412-413). Self-efficacy, as defined in (2.2.2.1), refers to peoples' beliefs regarding their capability to successfully perform specific behaviours. Locus of control refers to the tendency of individuals to ascribe responsibility for what happens to them to either themselves (internal locus of control) or to their environment (external locus of control). Locus of control has been extended to

attribution theory, a cognitive approach to motivation that deals with peoples' perceptions of causality. Typically, people ascribe their successes to four causal factors: ability, effort, task difficulty, and luck (Slavin 1994:355-356; Owen *et al.* 1981:390-391).

Locus of control focuses on perceived rather than actual causality, just like self-efficacy. Another similarity is that locus of control is viewed by Rotter (cf. Mischel 1986:169-170) as an expectancy variable, the same holding true for self-efficacy (Bandura 1977b: 211-212). Both constructs, although situationally specific, appear to operate in a wide variety of specific situations. Locus of control expectancies, like self-efficacy expectancies, seem to influence outcome expectations regarding future situations. Unlike self-efficacy, however, which differentiates between efficacy and outcome expectations, locus of control focuses only on outcome expectations (Galejs and Hegland 1982:293-302).

Efficacy expectations refer to a person's belief about carrying out a certain behaviour, while outcome expectations refer to the belief that the behaviour will result in a certain outcome (cf. 2.2.2.2). Even if people generally attribute the results of their behaviour to their own making, they might lack the skills to perform the behaviour and possibly have a low sense of efficacy. Schunk (1981:93-95) suggests that locus of control attributions influence how self-efficacy information is cognitively appraised and they might modify gains made through the various sources of self-efficacy. For example, successes are more likely to result in self-efficacy gains if they are perceived as resulting from skill or effort (internal locus of control) rather than luck or chance (external locus of control).

In **conclusion**, it appears that there are two positions on the relationship between self-efficacy and locus of control. One views locus of control as an influence on self-efficacy, the other much the opposite. Below (cf. 2.7.2) is a discussion of the self-concept.

### **2.7.2 Self-Concept versus Self-Efficacy**

The self-concept and self-efficacy represent two different constructs. The self-concept refers to an individual's perception of himself. Much like efficacy perceptions, such perceptions are believed to be formed through experience with the environment, and thus are influenced by environmental reinforcement and significant others (Coleman and Fults 1982:116-120; Bandura 1986:409).

There are probably more differences than commonalities between the two psychological constructs. The self-concept is mainly an affective construct, self-efficacy a cognitive one. Wang *et al.* (1984:161-225) posits that the self-concept is mainly an affective construct; whereas self-efficacy is a cognitive construct. Social learning theory in fact views self-perceptions as cognitive processes, which mediate knowledge and skill acquisition (Bandura 1986:19). Self-evaluative processes, according to social learning theory, are determined by individual standards and accomplishments (Bandura 1977b:193). Within this framework, a negative self-concept refers to a person's tendency to devalue himself and a positive self-concept to favourable self-judgement. Because the self-concept has often been considered to be a rather fixed psychological trait as well as a global phenomenon (Rogers *et al.*

1978:50-57), Bandura (1978:348) charges that self-concept theories do not sufficiently account for the regulation of specific behaviours.

Because of the issue of definition and measurement of the two constructs, they might be difficult to compare. Definitions of the self-concept have been accused of being imprecise and varying from one study to the next. The instruments used to measure it often lack reliability data, and their construct validity is questionable (Martin 1988:16-19). Bandura (1978: 348) states that weaknesses in self-concept theory decrease its explanatory and predictive power. Self-efficacy measures, in contrast, generally have been based on narrow and consistent definitions, reflecting Bandura's definition. They have tended to be situational rather than general, referring to clearly defined areas of human behaviour.

To **summarize**, self-concept and self-efficacy represent two different constructs: self-concept "pertains to an individuals' self-worth", whereas self-efficacy is concerned with personal capabilities (Bandura 1984:247). Self-concept is affective in orientation; self-efficacy is cognitive. Self-esteem is another facet of the self-concept that differs from self-efficacy.

### **2.7.3 Self-Esteem versus Self-Efficacy**

Self-esteem pertains to the evaluation of self-worth, that is, how much an individual values himself (Mischel 1986:249). An individual with high self-esteem may feel worthwhile, confident, capable, useful, and necessary; whereas one with low self-esteem may feel frustrated, inferior, weak, and helpless (Shavelson *et al.* 1976:407-441). Bandura (1978:348) charged that the self-concept and self-esteem theory do not sufficiently account for the

regulation of specific behaviour. Self-efficacy theory, in contrast, is a reliable tool to account for the regulation of specific behaviours and its measures have been based on narrow and consistent definitions. Intrinsic motivation is another construct that is distinguished from self-efficacy under 2.7.4.

#### **2.7.4 Intrinsic Motivation versus Self-Efficacy**

Deci (cf. Hamilton and Ghatala 1994:329) defines an intrinsically motivated activity as one for which there is no apparent reward other than the activity itself and any resulting internal changes. He adds that people engage in such activity to feel competent and self-determining. Bandura *et al.* (1981:587-594) and Kadzin (1978:178-180) maintain that intrinsic interest grows from satisfactions derived from meeting internal standards, as well as from perceived efficacy gained through the appraisal of successful performance. Intrinsic interest represents only one of several sources of incentives to develop competencies. Furthermore, it is to be noted that intrinsic motivation is a highly appealing but elusive construct because it is difficult to find situations that totally lack external rewards, and because it is rarely clear whether people pursue activities for immediate or future benefits.

Research on the relationship between self-efficacy and intrinsic motivation is minimal. Bandura and Schunk (1981:586-598) investigated the effects of short term goal-setting on developing competencies, self-efficacy and intrinsic interest in children. They found that short term goals were superior to long term goals in these respects, and that perceived self-efficacy related positively to accuracy of mathematical performance and intrinsic interest. The researchers suggested that although a moderately high level of self-efficacy may be

required to create and sustain interest in an activity, "through continued involvement any activity can become imbued with consuming significance" (Bandura *et al.* 1981:587).

To **summarize**, chapter two had the purpose of reviewing the literature on some important aspects of self-efficacy. In a brief introduction to self-efficacy theory, the relationship of self-efficacy theory to social cognitive theory was highlighted. Efficacy expectations were defined as the conviction that one can successfully behave in a particular manner so as to achieve a desired outcome. They were shown to vary in magnitude, strength, and generality. The distinction between efficacy expectations and outcome expectations were explored. The importance of self-efficacy was described, particularly its roles as a mediator between thought and action, as a regulator of behaviour, and as an influence on people's decision making and coping behaviour. Four major sources of self-efficacy were explained. The predictive power, generalisability, and microanalytic technique for assessment of self-efficacy within individuals and across situations was shown to be a central issue in self-efficacy research and theory. Some criticisms of self-efficacy theory were summarised. Finally, some constructs closely related to self-efficacy were expounded. The relevance of this construct and its relationship to teacher efficacy are expounded upon in Chapter III.

## Chapter III

# TEACHER EFFICACY

### 3.1 INTRODUCTION

Chapter III offers a conceptual tie between self-efficacy and teacher efficacy by way of introducing the educational perspective and teaching approach hitherto practised in the urban primary and secondary schools in the Free State Province (including the whole of South Africa). A definition of teacher efficacy is presented. Finally, a succinct discussion of research studies on teacher self-efficacy concludes the chapter.

### 3.2 THE NEW EDUCATIONAL PERSPECTIVE

Prior to May 10, 1994, the South African educational perspective was paramountly based on the "fundamental pedagogic approach" (De Clercq 1984:24). Dewey (cf. Jackson 1986:99) describes such an educational system as an educational system in which "the subject matter of education, consisting of bodies of information and of skills that have been worked out in the past, as well as standards of conduct and morality, are handed down to the new

generation by the teachers through textbooks." This approach, Dewey continues, is based on learning by rote and emphasise what the learner has learned or acquired.

After May 10, 1994, a National Democratic Constitution founded on "... the recognition of human rights, democracy and peaceful co-existence and development of opportunities for all South Africans ; irrespective of colour, race, class, belief, and sex; was promulgated" (Mandela 1994:1-3; White Paper on Education and Training, 1995:17). An education system commensurate with this political ideal was formulated and is consistent with Dewey's (cf. Jackson 1986:100) postulation of a progressive education - calling for the promotion of "... (*self*)-expression and the cultivation of individuality ... free activity ... learning from experience ... and acquaintanceship with the changing world." This approach, Dewey maintains, is geared up to the pupils' understanding, and emphasises the pupils' accomplishments.

In light of the above promulgation of the new educational perspective for South Africa; the researcher sought to employ Bandura's self-efficacy theory to assess practising teachers' perceived personal efficacies in relation to the new educational perspective. It is hoped that the assessment will reveal the teachers' beliefs (and confidence of execution) regarding a shift from the fundamental to the progressive educational perspectives. High self-efficacies will denote strong confidence levels by the teachers to undertake progressive teaching. Lower self-efficacies will be indicative of the practical difficulties ahead for teachers to perform a salient transformation in terms of teaching strategies, techniques, and methods.

The items of the scale used in this assessment are representative of the teaching domains of progressive educational perspective. The assessment scale and the nature of the items used are discussed in Chapter IV - (cf 4.4.2). The items have also been designed to be in keeping with a stipulation by Gibson and Dembo (cf.Podell and Soodak 1986:247) that self-efficacy items should specifically address teacher efficacy in the area of teacher behaviours such as the use of time, questioning during instruction, and classroom management skills.

### **3.3 DEFINITION OF TEACHER SELF-EFFICACY**

Perceived efficacy refers to an individual's belief that he/she can successfully execute the behaviours required by a particular situation (Bandura 1986:391). As conceived by Bandura, Ashton and Webb (1983:9) define teacher self-efficacy as the "extent to which teachers believe that they have the capacity to affect student performance." Many educators (Gibson and Dembo 1984:569-580; Safran 1985:61-67; Evans and Tribble 1986:81-85; and Ashton and Webb 1986:1-176) writing on the topic of teacher self-efficacy describe two different but related constructs which make up the construct teachers' sense of efficacy, defined as "teachers' situation-specific expectation that they can help students learn" (Ashton and Webb 1986:3). The two constructs of teacher self-efficacy used are - *Teacher Efficacy and Personal Teacher Efficacy*.

#### **3.3.1 Teacher Efficacy**

Teacher efficacy is defined as the teacher's beliefs about the general relationship between teaching and learning. The emphasis of this construct is on the teacher's specific expect-

ations, for specific students, in a specific situation (Ashton and Webb 1986:3). In other words, this view of teacher efficacy can probably best be described as expectancy - that certain teacher's actions can result in student achievement or change in behaviour. It can also be stated as: teachers can get students to learn, or teachers can affect the lives of students.

### **3.3.2 Personal Teacher Efficacy**

Personal teacher efficacy is defined as the individual teacher's "assessment of (his/her) own teaching competence" (Ashton and Webb 1986:4). In other words, it is an assessment of the individual teacher's general sense of effectiveness. Personal teacher efficacy is, therefore, similar to Bandura's self-efficacy construct; and this study is based on perceived personal teaching efficacy because it is compatible with Bandura's (1986:391) definition of perceived self-efficacy (cf. 2.2.2.1).

## **3.4 RESEARCH STUDIES ON TEACHER SELF-EFFICACY**

Much of the past research on teachers' sense of efficacy has been concentrated in Europe and the United States of America. In the Republic of South Africa, there has been no documented research studies on teachers' sense of efficacy in the major urban centres. Consequently, all research studies cited below were conducted abroad. This section will, therefore, deal with research studies discussed under the following sub-headings: Personal and Teacher Efficacy; Organizational and Performance Efficacy; Preservice Teacher Sense of Efficacy; and Teacher Efficacy Scales.

### 3.4.1 Studies on Personal and Teaching Efficacies

The construct teacher self-efficacy was introduced into educational research in the two Rand Corporation evaluation studies (Armor *et al.* 1976, Berman and McLaughlin 1978). These studies, influenced much of the work that followed by Gibson and Dembo (1984:569-580); Safran (1985:61-67); Evans and Tribble (1986:81-85); Ashton and Webb (1986:1-176) among others, both in terms of the definition of the construct and the content of the items used in the scales. The following is a brief outline of some of the studies conducted on teachers' sense of efficacy.

Research studies have been conducted to determine the various factors that impact on teacher motivation and a sense of professional self-esteem. Teacher efficacy has been identified as one such powerful variable (Ashton and Webb 1986:1-2). In one study, Armor *et al.* (1976:24), reported that teachers' sense of efficacy was "strongly and significantly related to increases in reading". In another study, Berman *et al.* 1978:137, reported a "strong positive relationship" between teachers' sense of efficacy and the percentage of project goals achieved, improved student performance, and teachers' maintenance of the innovations.

Teacher efficacy has been identified as a variable accounting for individual differences in teaching effectiveness (Fuller, Wood, Rapoport, and Dornbusch 1982:7). Gibson and Dembo's (1984:569-580) studies on teacher efficacy in relation to the latter assertion, examined the relationship between teacher efficacy and observable teacher behaviours amongst other investigations of the same study. A subsample of 8 teachers were selected from a total sample of 208 teachers for this phase of the study. The observation instruments

used to code teacher classroom behaviour were a teacher-use-of-time measure and a question-answer-feedback sequence. Seven observers collected data using videotaped lessons. Interrater reliability ranged from .73 to .91. One tailed *t*-tests were used to analyze differences between high- and low-efficacy teachers in teacher behaviours related to academic focus, teacher feedback, and teacher persistence. The results were numerous and varied. The ones relevant for this study are that - low-efficacy teachers spent more time in small group instruction than high-efficacy teachers; high-efficacy teachers spent more time in large group instruction than low-efficacy teachers. Also, low-efficacy teachers criticised students for wrong answers; whereas high efficacy teachers were more effective in leading students to correct responses through their questioning.

Ashton and Webb (1986:125-143) conducted a programme of research designed to investigate, *inter-alia*, the relationship of teachers' sense of efficacy to student achievement. 48 mathematics and communications teachers participated in this phase of the study. Data collection was carried out by 5 trained observers who used three instruments called: The teacher Practices Observation Record, to gather information about the teachers' instructional style; the Engagement Rate Form, to measure students' attentiveness; and the Control and Climate System, to collect classroom process data. Reliability of the process measures was estimated using interclass correlation that treated as error both teacher variability from occasion to occasion and differences between observers. Analyses of the process-product relationship were calculated with the class as the unit of analysis.

A series of correlations and multiple regression analyses were carried out to determine the relationships between various independent variables and the dependent variable. The results

confirmed the hypothesis that teachers' sense of efficacy is related to student achievement. Students' mathematics achievement was significantly related to teachers' beliefs in the efficacy of teaching. Another finding of this research was that mathematics achievement is negatively related to negative affect between the teacher and students and to the teachers' use of strong control strategies. Furthermore, no strong relationships were found between teacher attitudes and their behaviours in the classroom. However, the results supported the assumption that teacher efficacy attitudes are situation-specific: Teachers with a strong belief in the efficacy of teaching tended to use praise and nonverbal signs of acceptance such as nodding, smiling, and other positive facial feedback. They tended to avoid behaviours that created a tense, negative climate such as screaming, reminding students of the rules, giving directions without reasons, prodding students, and punishing them.

Allinder (1994:86-95) conducted a study to examine the relationship between instructionally relevant behaviours and attitudes in teaching children with specific learning disabilities, mild mental disabilities, and behaviour disorders. The study also explored whether the relationship stated above was similar for special education teachers who provide indirect services to students with mild disability in general education classrooms and those who provide direct services to students with mild disabilities in resource rooms. Seventy-three (73) teachers were identified as direct service providers, and forty (40) teachers were identified as indirect service providers.

For the first purpose of the study, that is, the examination of the relationship between instructionally-relevant behaviours and attitudes, a Teacher Characteristics Scale was used to gather data. The internal consistency of the subsets of this scale ranged from .72 to .92

for various characteristics. For the second purpose of this study - whether the relationships in the first purpose were similar for the direct and indirect service providers to children identified with specific learning problems, a Teacher Efficacy Scale designed by Gibson and Dembo (1984:581-582) was used for gathering data. This scale has been demonstrated to have convergent and discriminant validity. Internal consistency of this scale in previous research was reported at .78 and .75 for personal teaching efficacy and teaching efficacy respectively.

A four-paged questionnaire containing items of the Teacher Efficacy Scale and items of the Teacher Characteristics Scale was administered. Two scores were computed for Teacher Efficacy (Personal and Teaching Efficacy). Three scores were computed for Teacher Characteristics - Instructional experimentation (for example, willingness to try a variety of approaches), Business-Like Approach (for example, the degree of organization, planfulness, and fairness), and Assuredness (for example, enthusiasm and level of clarity in lesson presentation). Correlations and multiple regression analyses were conducted.

The results indicate that personal efficacy was related significantly to each of the instructionally relevant components, showing that teachers who had greater belief in their ability to teach also were more likely to do the following: try different ways of teaching; be business-like in working with students by being organized and planful in their instruction, and fair and firm when dealing with students; and be confident and enthusiastic about teaching. Teaching efficacy, the belief that students benefit from school experience, was related to the assuredness component or confidence and enthusiasm about teaching. The second question of the study examined the extent that the type of service the teacher provides

is associated with efficacy and instructional components. The results show that the type of service did not significantly differ with regard to personal or teaching efficacy.

### 3.4.2 Organizational and Performance Efficacy

Fuller *et al.* (1982:7-10) introduced the concepts organisational and performance efficacy to specify domains of efficacy present in school organisations. Organizational efficacy refers to an organizational individual feeling efficacious due to "actual experience arising from attempts to influence or act cooperatively with others, as well as being rooted in beliefs of the organization regarding normative expectations of social influence". Performance efficacy indicates the perceived efficacy in performing one's own work task, independent of social interaction with other staff members of the school organization. For example, a teacher may choose to remain alone in the classroom/office where pursuit of valued outcomes is viewed as more consistently rewarding. Fuller *et al.* (1982:14-17) view a school's organisational approach as capable of enhancing or undermining teacher self-efficacy. They regard bureaucratic approaches, characterised by hierarchical control and routinisation of work task, as undermining teacher's efficacy by limiting their responsibility and their participation in problem solving.

In an efficacy study with middle school teachers, Ashton *et al.* (1983:18) found that "the ideology of non-interference that governs the interpersonal relations among teachers... [*leaves them*] isolated from one another. [*They*] cannot assess the efficacy of their behaviour or the extent of the professional competence. [*Consequently*] it is difficult for the individual teacher to assess whether or not they are making a lasting or significant difference in the lives of

their students." The teachers in this study also expressed a sense of powerlessness that emanates from "having little say in the decisions that affect their work [*and thus rendering them vulnerable to*] ... self-estrangement (Ashton *et al.* 1983:19). These environmental factors, that often accompany poor performance, make it difficult for teachers to maintain a strong sense of efficacy (Ashton 1986:163-166).

Imants *et al.* (1994:7-13) assessed the effects of school management development programmes on principals' and teachers' sense of efficacy in primary education. Two principal-training programmes were evaluated. The aim of both programmes was to contribute to the development of educational leadership in elementary schools, and both programmes focus on general insight into school effectiveness. The question to be addressed in the first evaluation study is whether principals' and teachers' sense of efficacy is affected by the principal being a participant in the programme. The question to be addressed in the second evaluation study is whether "school climate and principal' and teachers' attitudes towards the training content do have intervening effects on the relationship between school management training and changes in principals' and teachers' sense of efficacy."

For the first principal-training programme, the Teachers' and Principals' Sense of Efficacy Scale was used to gather data. The scale contains 32 test items and distinguishes between the two self-efficacy dimensions. Sixteen items are asked regarding primary school tasks which vary from pupil-oriented tasks to school-oriented tasks. No managerial tasks are asked. The other 16 test items are aimed at assessing the two efficacy dimensions. For the second study, two questionnaires were developed. One concerns the principals' and teachers'

perceptions of school climate. The other concerns the principals' and teachers' attitude towards the school management training.

Twelve principals and 23 teachers ; and 8 principals and 14 teachers participated in the first and second studies respectively. A statistical technique called MANOVA was employed for data analyses. The results show that principals' sense of personal efficacy was positively affected by the school management programme. The results showed no significant change to principals' teaching efficacy; and no significant effect to both components of teacher efficacy. However, the fact that there is an increase in principal's sense of personal efficacy is a significant result. In the second study, the results showed an interaction between the attitudes of the principals towards the practical value of the training contents, and the change in principals' sense of teaching efficacy.

### **3.4.3 Preservice Teachers' sense of Efficacy**

The researcher found a paucity of research relating to teacher trainees' self-perceptions of efficacy. Veenman (1984:143-178) conducted a study on professional problems identified by beginner elementary and secondary school teachers. The results of this study indicate that perceived serious problems identified by beginner teachers include the following in descending order: classroom discipline, motivating students, dealing with individual differences, assessing students' work, and parent relations.

Evan and Tribble (1986:81-85) conducted a study to identify and compare the perceived teaching problems, self-efficacy and commitment to teaching among preservice teachers. The

variables assessed were gender (male or female) and teaching speciality (primary or secondary). The subjects, consisting of 179 introductory psychology class students of a state university, responding to a 30-item Likert type Teacher Efficacy Scale of Gibson and Dembo (1984:573) that purported to measure the teaching efficacy and personal efficacy dimensions of teacher efficacy. The results of this study indicate that females, regardless of teaching speciality, have a stronger self-efficacy than did males. Elementary teachers showed a higher teaching efficacy than did secondary teachers.

Selaledi (1990:1-73) conducted a study to assess the effects of a newly introduced (1985) progressive oriented teacher training programme on the self-efficacious behaviours of teacher trainees. The sample consisted of 388 teacher trainees (171 males and 217 females) from four Colleges of Education in the erstwhile Bophuthatswana Republic. The results indicate that for each college grade level, teaching speciality, and sex variables based on both Classroom Teaching and Organisation and Administrative Responsibility factors; freshmen primary students and freshmen secondary students tended to score higher than the finalist students. The pattern was consistent for both factors (Selaledi 1990:47). The implication of this pattern was that freshmen students tended to rate themselves efficaciously higher due to lack of practical experience in matters of teaching. However, in the third year their overblown self-efficacies dwindled because of the realistic impact of the practical situations during microlessons and practice teaching sessions.

Enoch *et al* (1995:63-75) conducted a study to examine, *inter-alia*, preservice elementary teachers' sense of efficacy with regard to science teaching. The STEBI-B and PCI scales were used for gathering data. A series of Pearson product-moment correlations were

generated. The results indicate that preservice teachers with high self-efficacies believed that they will be effective in providing science teaching. They also believed that their future students would be responsible, cooperative participants in the classroom. Those with lower self-efficacies felt that they would be less effective in providing science instruction. This group espoused the need to be more authoritative in their science teaching.

#### **3.4.4 Teacher Efficacy Scales**

An examination of the scales used by researchers of teacher efficacy, reveal that the scales do not always reflect Bandura's view of self-efficacy. Some scales were developed along the general expectancy or locus of control path. For example, Safran (1985:62) used the identical items from the two Rand Corporation studies (Ashton and Webb 1986:178-183) along with some ecological data based on Ashton and Webb's ecological model, to see what the correlates of teacher-self-efficacy were for special educators. Gibson and Dembo (1984:573) also based their self-efficacy scales on the instrument used in the Rand studies, apparently developing several items for each factor. A look at the items for the personal teaching efficacy dimension of that scale show that only about half of the items deal with capabilities which would fit Bandura's concept of self-efficacy.

Evans and Tribble (1986:82) used Gibson and Dembo's (1984:73) 30-item Teacher Efficacy scale, reporting reliabilities of .75 and .78 respectively for the teaching and personal teaching self-efficacy subscales, and stating that the total scale score of .79 was used. However, the reliability of this scale is the focus of contention because the reliabilities for the subscales were reported for only 16 of the 30 items (Gibson and Dembo 1984:574) and not for the

entire 30-item scale. This renders the construct that Evans and Tribble (1986:81-85) reported in greater question. Hillman's scale, as does her definition of teacher self-efficacy, clearly has a locus of control orientation. She defines teacher self-efficacy as "the belief that what one does will affect student achievement" (Hillman 1986:3), and notes that the instrument is made up of "four subscales crossing positive and negative situations with internal and external locus of control items" (Hillman 1986:5).

### **3.4.5 Conclusion**

It seems, therefore, that problems in the conceptualization and measurement of teacher self-efficacy still exist. The construct teacher self-efficacy will continue to be clarified through reflective thinking and practice and through research. In this manner, the irrelevant layers will be peeled off, exposing the central core. The theoretical basis can thus be expanded, and practical applications implemented.

## **3.5 SUMMARY**

To summarise, chapter 3 focused on two aspects, namely, a definition of teacher efficacy and literature review on teacher self-efficacy. A conceptual link was made between self-efficacy as defined by Bandura (1977b:193-194) and teacher self-efficacy as conceived and defined by Ashton and Webb (1983:9). The following chapter describes the subjects, the procedures, and instrumentation for the major purpose of this study.

## CHAPTER IV

# METHODOLOGY

### 4.1 INTRODUCTION

This chapter describes the methodological procedures used in this study. The sample and the research design are described, followed by a section on data collection procedures. The section on instrumentation reviews information on the demographic variables and on the development and pilot testing of a new self-efficacy scale.

### 4.2 SAMPLE AND RESEARCH DESIGN

The sampling technique and the research design procedures employed in this study are presented below.

#### 4.2.1 Sampling Technique

The sample for this study consisted of 1128 teachers. The teachers were all sampled from 93 primary and secondary urban schools in the Free State Province. The schools are located

in the school districts of Sasolburg, Bethlehem, Kroonstad, Welkom, Bloemfontein East, Bloemfontein West, and Bloemfontein South.

A statistical sampling technique called cluster sampling was used to identify schools within the districts from which to draw the sample. Vierra *et al.* (1988:97) states that this technique is a variation of the random sample. "With it, relevant characteristics are identified and then successively sampled." Using this method, a representative sample of the school districts was identified. Urban schools within the sampled school districts were selected; and a representative sample of participants within the schools was drawn. Best (1970:265) states that cluster sampling is convenient when the population is large, and it is administratively necessary where the geographic distribution [*of schools*] is widely scattered. The large numbers of teachers and the vastness of the urban school districts in the Free State Province are the impediments which made it impracticable to have all the teachers in all the urban schools included in the study. Cluster sampling was, therefore, also economic.

Hinkle *et al.* (1988:167) stipulates that once a cluster [*of schools*] is selected all members of that cluster [*teachers*] are included in the sample. In this study, the latter stipulation was not adhered to due to a requirement by the Free State Department of Education and Culture that teachers were to participate voluntarily in the study (Appendix I... Ref. 01/11/3/3 : 2.2). Consequently, the researcher sampled from a sample of convenience (included are volunteers). McBurney (1994:203) state that the sample of convenience is chosen for practical reasons (McBurney :1994:203). Kerlinger (1973:129) refers to the sample of convenience as "accidental sampling" and, while not advocating it as a sampling technique of choice, states that, "used with reasonable knowledge and care, it is probably not as bad

as it has been said to be." He goes on to advise that "if you do use it, use extreme circumspection in analysis and interpretation of data." The results of the descriptive statistics and inferential statistics of the study sample are presented in 5.2. and 5.3 respectively.

With this in mind, a series of one-way ANOVAs for the school districts were conducted to determine whether there were any statistically significant differences among the levels of the independent variables (School Category, Gender, Teaching Experience ) with respect to the dependent variable (Self-efficacy). A finding of no difference would support the decision to combine the subjects into one sample, regardless of membership in any school district, for the purpose of testing the hypotheses for this research. The results of these one-way ANOVAs are presented in 5.3.1.

Another important sampling decision concerned the selection of an appropriate means for including a sufficient number of teachers from the urban schools. It might have been possible to seek out an available group of teachers who were more perceptive about the need for readjustments in teaching styles and more willing to express these concerns, but such a "clinical population" could have introduced some selection bias. Therefore, the researcher decided to sample from a "non-clinical population" hoping that this sample of convenience or "accidental sample" would contain a sub-sample of teachers representative of those found in the general population and were not aware of the need for readjustments by the teachers.

#### 4.2.2 Research Design

The research design for this study allows for comparing the effects of three dichotomous variables: Gender (Males versus Females); School Category (Primary versus Secondary); and Teaching Experience (Experts versus Novices). As indicated by this format of a 2x2x2 factorial design, there was a total of eight separate cells available for assignment of subjects. McBurney (1994:222) refers to this type of research as an *ex post facto* research design because unlike in the experimental research where the researcher controls the values of the independent variables, in the *ex post facto* research the researcher uses naturally occurring values of the independent variable. Furthermore, in the experimental research the researcher seeks to find the answers to problems through an analysis of causal relationships. In the *ex post facto* research the researcher can only analyze what actually happens as it is often impractical to rearrange occurrences to study the cause (Best 1970:128-129).

### 4.3 DATA COLLECTION PROCEDURES

For purposes of this study, data were gathered through a questionnaire and personal interviews. The following are the procedures employed in undertaking these techniques.

#### 4.3.1 The Questionnaire

Permission to conduct this research in schools was obtained from the Free State Department of Education and Culture in Bloemfontein. Letters to the district managers and the principals of sampled schools were subsequently dispatched requesting for permission to distribute

questionnaires among teachers for research purposes. The aims and objectives of the research study were outlined (Letter of request to district managers - Appendix E; and, a letter of request to principals of sampled schools - Appendix F). The district managers expressed a positive regard and an enthusiastic response to the research being conducted in their schools. The principals sent correspondence and in some instances telephoned to grant permission based on total support by the teachers.

Data for the pilot study and for the final sample were collected through a four page questionnaire focusing on self-efficacy. In each case, the questionnaire was a one week take home exercise in order to circumvent encroachment upon the teachers' administrative time and schooling activities. This arrangement was in response to the document on information regarding undertaking research in schools by the Free State Province Department of Education and Culture. Data for the interviews were collected by the researcher and a skilled and experienced colleague who is acquainted with the administrative procedures for research study.

In sample testing and the interviews, the respondents were assured of complete anonymity and requested that they refrain from providing any written identifying information, that is, names, ID's, and reference numbers. To maintain anonymity of the respondents, no coding was used prior to the collection of the data. However, since the design of this study was cross-sectional, it was necessary to assign case numbers after testing. These numbers were used solely for entry, management and manipulation of the data and could in no way be employed to match the questionnaires to the original respondents. The questionnaire sought for responses pertaining to teachers' work experiences and matters related to the teaching-

learning interactive situations. Although the respondents may not have been fully apprized of the nature of this study as were the district managers and the principals; they were informed that this was part of a doctoral thesis research project at the Vista University - Welkom Campus. They were thanked for their co-operation, participation, and assistance in this study.

#### **4.3.2 The Interview**

After developing a questionnaire, the next step was to gather data through a method called ethnographic interviews. Ary *et al.* (1990:418-419) regard this method as characterised by open-response questions which enable the researcher to decipher how respondents construe their world and how they interpret events in their lives. The type of ethnographic interview used is called standardised open-ended interview. This type of interview, by having interviewers use a standardized set of open-ended questions whose wording and sequence of asking is pre-determined, and providing interviewers with a uniform method of recording information; has the variability in results across applicants reduced and the validity of the interview as a measurement device greatly enhanced (McMillan and Schumacher 1993:426; Robbins 1996:638).

For this study, ten primary school teachers and thirteen secondary school teachers were interviewed. All these teachers came from schools in Welkom (Motsethabong) and Odendaalsrus (Kutlwanong). Their teaching experiences ranged from 3 to 29 years. Fourteen were male teachers and nine were female teachers. The Interviews took place either in the

staff room, after school, or during a free period; and lasted approximately 30 minutes. All interviews were tape-recorded.

The interview allowed the researcher to examine fundamental questions about the way teachers perceived and interpreted the impact of organisational role on their self-efficacies as teachers. Particular attention was paid to data that bore on the question of the teacher's professional role, peer relationships, presentations of self, and perceptions of the teacher's relationships with others. The procedure and the questions asked are presented below.

#### ***4.3.2.1 Procedure***

After meeting with the interviewee and initial introductions made, some small-talk would follow so as to make the interviewee as comfortable as possible. All interviews began with the interviewer reciting the following introduction:

- \* The researcher thanked the interviewee for participation without which his work would be impossible. Appreciation was expressed... then continued to say:
  
- \* I am going to ask you a wide variety of questions regarding your beliefs and feelings about teaching. I'll also ask you about your actual experiences, both good and bad, on issues relating to your professional role and interaction with others - the principal, colleagues, students, and parents.

- \* The questions I am going to ask are divided into five groups; and before I ask you the first question, do you have anything to ask or say? After some clarifications or absence of any questions asked or statement of discontent ... the questions would then be asked in a predetermined order.

#### 4.3.2.2 *The Questions*

- \* How professionally close and interactive are you with your:
  - Principal, Senior teachers, and other members of staff?
  - What kind of support do you need from the principal and senior teachers?
  - Do you get that support? Why and Why not?
  
  - What rank do you occupy administratively?
  - Does your word count when administrative decisions are made?  
(Probing was made to check whether the teacher thought/felt his\her administrative skills were used enough by the principal and the senior staff?)
  
- \* Whenever you have problems (academic or social) is there any colleague in particular from whom you get help? (Probing for names, the kind of help, and the kind of relationship was made)
  
- \* Relations with parents are considered to be the most important link that could make us effective as teachers. Do you agree or disagree?

(Probing to find out whether the teacher blamed him-/herself or parents for the relationship that might go awry. If the teacher identified problems emanating from either him-/herself or the parents, they were asked why?)

\* How long have you been a teacher?

- Are you satisfied with the amount of work you have to do?
- Are you satisfied with your class size?

(Whatever the size mentioned, probing was made to determine the effect of the size on the teacher).

\* Teaching is a noble job with good remuneration; do you agree?

(Probing was made to determine the significance of remuneration on the confidence of the teacher)

The data analyses, techniques of asking the questions, and the results of these questions are presented in chapter V (cf. 5.4).

#### **4.4 INSTRUMENTATION**

A four-page questionnaire was administered that consisted of two sections. The first section comprised a subsection on demographic variables. The second section was composed of a three-page self-efficacy scale for teachers developed for this study. The two sections can be found in (Appendices G and H). respectively. The description of each section follows.

#### **4.4.1 Demographics**

This section was included to elicit basic descriptive information about the study sample. Such information is called demographics. Robbins (1996:82-83) defines demographic variables as biographical characteristics of an individual that have an impact on the individual's productivity, turnover, and satisfaction. Many of such variables are difficult to assess, but variables such as an individual's gender, age, and marital status are definable and readily available. For the purpose and goal of this study, the variables selected for assessment with regard to teachers' self-efficacy are gender, school category, and teaching experience.

#### **4.4.2 Self-Efficacy Scale for Teachers (SEST)**

This section begins with a summary of the steps followed in developing the SEST. Lastly, the final scale is described and validity and reliability issues addressed.

##### ***4.4.2.1 Rationale behind the development of the SEST***

Before construction of the SEST was begun, the literature was reviewed to answer three questions: Was the development of a new instrument to measure the self-efficacy in teachers necessary? How had self-efficacy been measured before? And, which theoretical considerations were important to construct the new instrument?

Bandura (1977b:191) introduced perceived self-efficacy as "an integrative theoretical framework to explain and predict psychological changes achieved by different modes of treatment." Based on this postulation, he contends that self-efficacy ratings on specific behavioural tasks are accurate predictors of subsequent behavioural performance on those tasks. In light of these assertions, Bandura and his colleagues (Bandura and Adams 1977b: 125-138, Bandura and Schunk 1981:586-597) used a procedure called microanalysis to determine task-related self-efficacy levels of their subjects. Subjects were given a list of tasks which they would be asked to perform later. They were asked to mark those tasks which they thought they would be able to perform, and to rate the strength of their efficacy on those tasks on a 10-100 point scale, in 10-unit intervals. Self-efficacy scores were derived by summing the magnitude scores, and dividing them by the number of tasks.

Review of literature on teacher self-efficacy shows that several researchers have attempted to measure self-efficacy in teachers. However, an examination of their instruments both in terms of the content of the items used in the scales and the definitions of the construct, reveals that their instruments were developed along the lines of general expectancy\locus of control format. For example, Hillman's scale (1984:3), as does her definition of teacher-self-efficacy, clearly has a locus of control orientation. She defines teacher self-efficacy as "the belief that what one does will affect student achievement". She also notes that her instrument was made up of four subscales crossing positive and negative situations with internal and external locus of control items (Hillman 1984:5). Even when researchers profess to be using Bandura's view of self-efficacy, their scales do not always reflect this change. For example, Webb Efficacy Scale consists of an assortment of items seemingly from different constructs such as locus of control (item 38); opinions as to best practice

(item 39); area of greater skill (item 40). Safran (1985:62), and Gibson and Dembo (1984:569-582) in their researches used items for the personal teaching efficacy dimension which showed that some of the items dealt with capabilities that would not fit Bandura's concept of self-efficacy. The problems in the conceptualization and measurement of teacher self-efficacy, therefore, prompted the researcher to develop a new instrument for assessing teachers' self-efficacy in the Free State Province.

#### **4.4.2.2      *Development of the SEST***

One other question that had to be answered by the researcher prior to the construction of the SEST was: which theoretical considerations were important to construct the new instrument? This question was answered by proceeding through the following steps in the actual construction of the new instrument.

##### ***Step 1. Variable specification and preparation of the item pool***

Oosterhof (1990:108-109) has given useful guidelines to follow when developing a new instrument. He states that the first steps in test development are to develop specifications by defining the construct to be measured clearly, to define the general purpose of the instrument and its scope and emphasis, and to plan the format of the test items. Vierra and Pollock (1988:34-35) points out that the choice of items to represent a theoretical construct is critical because the chosen items will partly determine the generalizability of research based on such items.

For the purpose of the SEST, perceived personal teaching efficacy was defined as an individual teacher's "general sense of effectiveness in relation to behaviours such as the use of time, questioning during instruction, classroom management skills, and extra relationships with significant others in the teaching-learning situations. This operationalization was chosen because as an outcome measure the SEST should reflect the objective of this study (cf. 1.3) and an estimation of the teachers' abilities to perform general school-related tasks. The general format of the test items was planned as follows: A total of thirty-five test items were selected from the self-efficacy scales for teachers developed by Owen (1989), Emmons and Owen (1989), and Selaledi (1990). Twenty-eight more items were developed for the new scale. This brought the total test items of the new self-efficacy scale to sixty-three. The items are independent, so that no answer to an item depends on the response to any other item.

There were theoretical implications of the self-efficacy theory which were considered in the selection of test items. Bandura (1977b:194) points out that self-efficacy expectations vary along three dimensions: magnitude (the levels of task difficulty), generality (the degree to which efficacy expectations transfer to different behaviours), and strength (the level of confidence a person has in his/her ability to perform a task). Consistent with this exposition, the researcher selected items that spanned both a variety of teaching tasks and various levels of difficulty. Such items seemed to provide an index of generality and magnitude. To provide a composite index of strength and magnitude, subjects were to respond to each item by rating their degree of confidence on a 5-point Likert-type scale varying from strongly confident (A), through intermediate values of confidence, to not at all confident (E). The higher the scale value, the stronger the perceived self-efficacy.

## *Step 2. Expert Judgements*

First, the sixty-three (63) items were given to five experienced teachers. These experts were lecturers in two colleges of education and were in the department of education. They were asked to rate each item as to how well it reflected activities associated with teaching and learning on a scale from one to five. Only items that had been rated by the majority of experts as a four or five, reflecting teaching-learning interactive activities, were kept in the item pool. Some items had been criticized as either ambiguous, unintelligible, or incoherent. A decision was made to eliminate eleven (11) such items.

The next stage involved giving the revised item pool to ten experienced practising teachers, to determine their suitability for teachers of primary and secondary schools. One expert was an inspector of schools; three were principals of schools; and the rest were departmental heads. They were instructed to base their answers on the teachers they knew. All the raters returned the questionnaires, and again a decision was made to discard any items that had been rated a "one" by the majority of the raters because such an item reflected a low suitability for teachers. Five new items were added, as the experts thought they represented important school-related behaviours for teachers. In conversation with each rater, the researcher tried to determine whether the wording of each item was understandable.

After reference to the ten teachers, the instrument consisted of fifty-seven (57) items. These items were next given to six Bachelor of Education students (four having completed the degree) for rating. These students had been taught educational psychology by the researcher and the topic of self-efficacy had been discussed in one of the class sessions.

They were asked to rate each item, again from one to five, according to how well it reflected self-efficacy in teachers. Again, all questions were returned. Two items had been consistently criticised as "vague" and were thus eliminated.

### ***Step 3. The tentative version of the SEST - pending Factor Analyses***

The tentative version of the SEST has fifty-five (55) items. The items are phrased as behaviours which elicit a teacher's beliefs about his/her ability to perform various teaching tasks effectively. The items vary in perceived difficulty, as measured by the number of high self-efficacy responses given per item. The measures taken to ascertain the validity and reliability of SEST at this step are discussed below.

***Validity.*** Validity refers to the degree to which an instrument measures what it is intended to measure (Robbins 1996:A-19). The two types of validity addressed in this study were content validity and construct validity. Content validity refers to the idea that a test should sample the range of behaviour represented by the theoretical concept being studied (Nitko, 1983:414-415). Kerlinger (1973:458) notes that this is a judgemental issue. The three rounds of expert ratings (Lecturers, Practising Teachers, and the Bachelor of Education students), described above, served to increase the likelihood that items in the SEST were adequate and representative. Construct validity was addressed by reference to research studies on self-efficacy (cf. 2.2.2.4). Construct validity refers to the extent to which the results support the theory behind the research, that is, the theoretical meaning of the instrument (McBurney 1994:121). The literature on self-efficacy and teacher self-efficacy was reviewed, and self-efficacy was differentiated from related constructs (cf. 2.7)

**Reliability.** Reliability refers to the accuracy, consistency, precision or stability of a measuring instrument (Nitko, 1983:388-389). Before reporting reliability statistics for the SEST, a few general comments are made. The SEST is a cognitive measure, and it has been pointed out that cognitive measures generally show a stronger reliability and validity than do affective ones (Oosterhof 1990:14-16). However, the reliability and validity of an instrument correspondingly increases with the age of an individual. The older the individual who is being assessed, the better his/her attention span and stability and consistency in his/her answers. Additionally, the reliability of self-report measures depends on the individual's amount of self-understanding, the willingness to introspect, and comprehension of the importance of honest responses (Walker 1973:25-29). All three requirements were honoured in this study.

For the present research, internal consistency of the SEST was calculated using the Cronbach Alpha estimate for the total scale. This type of reliability represents the homogeneity of items in a test and the Cronbach Alpha is the "most appropriate type of reliability" method for use with items that require neither right nor wrong answers (McMillan and Schumacher, 1993:229-230; and Ary *et al.*, 1983:279).

## 4.5 SUMMARY

Chapter four describes the sample used in this study. The research design was explained. An explanation of the data collection procedures followed. Finally, the chapter concluded with a rationale for and a detailed description of the procedure employed in the development the Self-Efficacy Scale for Teachers (SEST) in the primary and secondary schools in the Free State Province. Chapter V below presents the results of this study.

## CHAPTER V

# RESULTS OF THE STUDY

### 5.1 INTRODUCTION

The purpose of chapter five is to present the results of the data analyses carried out to assess the teachers' sense of efficacy in schools in the major urban centres of the Free State Province after May 10, 1994. The chapter is divided into three sections. The first section, descriptive statistics, describes the sample characteristics and the data cleansing procedures that preceded analysis. The section also presents the exploratory factorial analyses on the items of the SEST and a report of the reliability for the SEST that was generated by the study sample.

The second section, inferential statistics, reports the results of the one-way NOVAs computed to determine significant differences among various school districts that could hamper the districts being treated as a single main sample. The results of the statistical analyses for each testing of the seven hypotheses investigated are also presented in this section. The section concludes with the decisions made on testing the hypotheses. The third and final section deals with the interpretation of the results of the **interviews**.

## 5.2 DESCRIPTIVE STATISTICS

This section provides a demographic profile of the subjects from whom data were obtained. The statistical descriptions arise from responses to the items on page one of the questionnaire to be found in Appendix G.

### 5.2.1 Sample Characteristics and Data Cleansing Procedures

The initial size of the sample had been 1128 primary and secondary school teachers from the school districts of Sasolburg, Bethlehem, Kroonstad, Welkom, Bloemfontein East, Bloemfontein West, and Bloemfontein South in the Free State Province. After the first administration of the questionnaire, the low response rate necessitated two follow-ups on all who did not respond. Eventually, a total return rate from 911 (81%) subjects was obtained.

After administration of the questionnaires, data were examined for accuracy by checking the raw data for errors. Subjects with large amounts of missing data or responses were eliminated from the study. Forty-four (44) such cases were eliminated. As a result, statistical analyses for this study is based on responses from 867 (77%) subjects. Total nonrespondents were jettisoned from the study sample. McMillan and Schumacher (1993:282) state that a total response rate of 75% is satisfactory enough to justify abandonment of those who do not respond at all.

Frequency data were also checked for minimum and maximum values, means, and standard deviations; to detect out-of-range or inconsistent scores. After these initial checks, group

means and standard deviations were obtained for the total sample. This descriptive statistics revealed no out of range or alarming means and standard deviations. Data were then subjected to factorial analyses to determine the prevalence of factors and the internal consistency reliability of the Factors.

### 5.2.2 Factorial Analyses

The initial tentative version (cf. 4.4.2.2. - step 4) of the self-efficacy instrument consisted of fifty-five (55) items. This instrument was submitted to a principal component analyses using a varimax rotation of one criterion for factor extraction. Three principal components were retained and rotated obliquely using the factor matrix solution. An empirical criterion of factor loading of 0,40 or greater on a given factor was used to reduce the number of items and to eliminate sources of redundant and error variance. Thirteen items loaded on the first factor; twenty-three items loaded on the second factor; and sixteen items loaded on the third factor. Two items could not load on either factor and were, therefore, eliminated.

The two items were:

	A	B	C	D	E
	Strongly Confident	Confident	A Little Confident	Not Confident	Not at all Confident
	<b>Statement</b>			<b>Ratings</b>	
*	Provide teacher-guided practice.			A B C D E	
*	Provide for independent practice.			A B C D E	

(see Appendix I for the principal factors and their loadings).

Factor One was related to the teacher as a Classroom Administrator. It was, therefore named Teacher Administrative Responsibilities (TAR) because the variables defining it dealt with environmental factors which teachers believe have a significant impact on students' learning and could lead to certain outcomes. Variables such as: provide prompt feedback to all students, have material prepared on time, assist students in defining realistic individual goals, use a wide variety of media and materials to make current learning objectives relevant; loaded on this factor. This factor appears to correspond with Bandura's outcome expectancy theory. Analysis of internal consistency reliability for the TAR factor yielded a Cronbach's Alpha coefficient of .89 for the total of 13 items.

Factor Two relates to the teacher as a Director of Learning. It was named Teacher Classroom Organisation (TCO) because the variables defining it dealt with classroom teaching and learning activities such as have in-depth understanding of the content to be taught, clearly communicate the purpose of the lesson, move among students providing feedback and reteaching where necessary, use a variety of learning activities, encourage students to participate in discussion activities. These variables appear to represent teacher beliefs that he/she has the skills and abilities to teach and facilitate pupil learning. They, therefore, appear to correspond with Bandura's self-efficacy dimension of teacher personal efficacy (that is, teacher's general sense of effectiveness). Analysis of internal consistency reliability for TCO yielded a Cronbach's Alpha coefficient of .89 for a total of 23 items.

Factor Three relates to the Teacher in Relationship with the Others. It was designated the name TRO because the variables defining it dealt with teacher interactions with colleagues and other organizational factors. The TRO factor is consistent with Bandura's stipulation that

for self-efficacy to sustain and elicit competency, it requires a responsive environment. Items which loaded on this factor are, *inter-alia*, obtain parents' assistance, when appropriate, for school activities, work with parents to clarify and define school and/or class objectives, work with colleagues to evaluate the total school programme and make improvements, cooperation with colleagues and students to maintain a pleasant, orderly, and work-oriented atmosphere, share ideas, materials, and methods with other teachers, and consult with administrators, teachers, specialists, and support staff concerning student development. Analysis of internal consistency reliability for this factor yielded a Cronbach's alpha coefficient of .87 for the total of 16 items.

The statistical analyses of this study was, therefore, focused on three factors composed of 52 items from the self-efficacy instrument. Table 1 presents the means and standard deviations of the total factors (TAR, TCO, and TRO) scores for School Category (CAT), Gender (GEN), and Teaching Experience (EXP) variables. Table 1 presents the means and standard deviations of the total factor scores for each school category, gender, and teaching experience.

**Table 1. Means and Standard Deviations For each CAT, GEN, and EXP.**

		<b>Fact 1 CAT</b>		<b>Fact 2 GEN</b>		<b>Fact. 3 EXP</b>	
<b>Variables</b>	<b>n</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Mean</b>	<b>Standard Deviation</b>
<b>CAT</b>							
Primary	470	4.04	.60	4.04	.57	4.00	.61
Secondary	397	3.83	.64	3.92	.55	3.76	.65
<b>GEN</b>							
Males	391	3.91	.65	3.97	.56	3.88	.64
Females	476	3.97	.61	4.00	.57	3.91	.63
<b>EXP</b>							
Novices	285	3.92	.62	4.01	.50	3.90	.61
Experts	580	3.95	.63	3.99	.60	3.90	.64

The results of descriptive statistics in table 2 indicate no statistically significant differences and the teaching experience ratios (Novices:  $SD=.50$ ; and Experts:  $SD=.60$ ) are what one would reasonably expect for the second factor - Teacher Classroom Organisation.

### 5.2.3 Summary

The three measures, TAR, TCO, and TRO were found to be very reliable for this study sample. The internal consistency reliabilities were "consistent" with previously reported statistics of very good reliabilities in research studies.

## 5.3 INFERENCE STATISTICS

This section deals with inferences or generalisations made from the sample of this study to the population of subjects from which the sample was selected by way of testing the seven hypotheses of this study. First, however, the results of the one-way ANOVAs (cf. 4.2.1) computed to determine statistically significant differences among the sampled members of the five school districts are presented below.

### 5.3.1 Sample Mean Differences

One-way ANOVAs were conducted to determine whether there were any mean differences among the sample members of the five school districts under investigation. As stated above (cf. 4.2.1), a finding of no difference would support the decision to combine the subjects into one sample, regardless of membership in any school district. Three ANOVAs were computed on the three factors - TAR, TCO, and TRO. To maintain an overall significance level of 0,05 the exceedance probability was set at  $0,05 \div 3$ . Hence, the probability level of significance was 0,0167.

#### 5.3.1.1 *One-way ANOVA for TAR*

A series of one-way ANOVAs were conducted and no statistically significant differences were found among CAT, GEN, and EXP as independent variables with respect to TAR, as a dependent variable. The mean statistics for each school district were: 1 = 4.04; 2 = 3.94; 3 = 4.02; 4 = 3.77; and 5 = 3.97 (The names of the various school districts on all

the factors have been deliberately withheld in compliance with the terms of agreement on confidentiality). The F ratio using  $p < 0,0167$  was 0,0200.

#### **5.3.1.2 One-way ANOVA for TCO**

A series of one-way ANOVA's were conducted and no statistically significant differences were found among CAT, GEN, and EXP as independent variables with respect to TCO, as a dependent variable. The mean statistics for each school district were: 1 = 3.97; 2 = 4.00; 3 = 4.07; 4 = 3.88; and 5 = 3.98. The F ration using  $p < 0,0167$  was 0,1303.

#### **5.3.1.3 One-way ANOVA for TRO**

A series of one-way ANOVAs were conducted and no statistically significant differences were found among CAT, GEN, and EXP as independent variables with respect to TRO, as a dependent variable. The mean statistics for each school district were: 1 = 3.90; 2 = 3.89; 4 = 3.75; and 5 = 3.97. The F ratio using  $p < 0,0167$  was 0,0560.

#### **5.3.1.4 Summary**

The results of the one-way ANOVAs described above were all above 0,0167, indicating no significant differences among CAT, GEN, and EXP as independent variables with respect to TAR, TCO, and TRO as dependent variables respectively, the researcher decided that it was logically and statistically appropriate to combine the subjects for the ANOVA analyses that would be used to test the seven hypotheses in this study. The latter analyses is in 5.3.2

### 5.3.2 Statistical Analyses

The purpose of this section is to present the results of the ANOVA used to test the seven hypotheses in this study. To review, the seven hypotheses state that:

- \* There is no significant difference between primary and secondary school teachers with respect to self-efficacy.
- \* There is no significant difference between male and female school teachers with respect to self-efficacy.
- \* There is no significant difference between experienced and novice teachers with respect to self-efficacy.
- \* There is no significant interaction between school category and gender with respect to self-efficacy.
- \* There is no significant interaction between school category and teaching experience with respect to self-efficacy.
- \* There is no significant interaction between gender and teaching experience with respect to self-efficacy.
- \* There is no significant interaction among school category, gender, and teaching experience with respect to self-efficacy.

#### 5.3.2.1 *Introduction*

A 2x2x2 analysis of variance was computed for testing the main effects and interactions associated with School Category (CAT), Gender (GEN), and Teaching Experience (EXP) as

independent variables with Self-Efficacy as the dependent variable. The self-efficacy scores were obtained by summing the item responses and dividing by the total number of items. However, since the factorial analyses procedure isolated three clusters of items from the SEST, three three-way analyses of variance were computed, one for each factor. The results of these analyses are presented in the following subsections in accordance to the respective factors (TAR, TCO, and TRO).

#### **5.3.2.2      *The Teacher on Administrative Responsibilities (TAR)***

The results of the three-way ANOVA with respect to The Teacher on Administrative Responsibilities, as measured by the SEST, indicate that there was no statistically significant effect for the gender variable, and no statistically significant effect for the teaching experience variable. The first-order interactions between CAT and GEN; CAT and EXP; and GEN and EXP were not statistically significant. The second-order interaction among CAT x GEN x EXP was also not statistically significant

The results of the analyses indicate that there was, however, a statistically significant main effect found for School Category ( $F = 0.0001, \alpha < .05$ ). A comparison of the means of primary and secondary school teachers indicates that primary school teachers obtained significantly higher self-efficacy scores (mean = 4.04) than the secondary school teachers (mean = 3.83).

Further review of the results of the ANOVA in table 2 reveal an interesting point of view regarding the self-efficacies of GEN and EXP with respect to TAR. Female teachers (mean

= 3.97) possess a higher self-efficacy than male teachers (mean = 3.91) regardless of School Category. In contrast, teacher experts (mean = 3.95) have higher self-efficacies than novice teachers (3.92) regardless of School Category. The results of the three-way ANOVA for the Teacher on Administrative Responsibilities are summarized in table 2.

**Three-way Source Table For Teacher Administrative Responsibilities.**

Source Variation	Sum of Squares	df	Mean Square	F Value	Probability
CAT	9.985	1	9.985	25.84	0.0001*
GEN	0.289	1	0.289	0.75	0.386
EXP	0.085	1	0.085	0.22	0.639
CATx GEN	0.003	1	0.003	0.01	0.919
CATx EXP	0.748	1	0.748	1.94	0.164
GENx EXP	0.026	1	0.026	0.07	0.792
CATx GEN x EXP	0.305	1	0.305	0.79	0.374
Residual	330.350	855	0.386		
Total	341.532	862	0.396		

\*  $\alpha < .05$

### 5.3.2.3 The Teacher on Classroom Organisation (TCO)

The results of the three-way ANOVA with respect to The Teacher on Classroom Organisation, as measured by the SEST, indicate that there was no statistically significant effect for the gender variable, and no statistically significant effect for the teaching

experience variable. The first-order interactions between CAT and GEN; CAT and EXP; and GEN and EXP were not statistically significant.

The results of the analyses indicate that there was, however, a statistically significant main effect found for School Category ( $F = 0.0005$ ,  $\alpha < .05$ ). A comparison of the means of primary and secondary school teachers indicates that primary school teachers obtained significantly higher self-efficacy scores (mean = 4.04) than the secondary school teachers (mean = 3.92).

Further examination of the results divulge interesting information regarding the self-efficacies of GEN and EXP with respect to TCO. Female teachers possess higher self-efficacy (mean = 4.00) and male teachers possess a lower self-efficacy (mean = 3.97). Quite interestingly, novice teachers (mean = 4.01) showed higher self-efficacy than expert teachers (mean = 3.99) regardless of School Category. The results of the three-way ANOVA for the Teacher on Administrative Responsibilities are summarized in table 3.

**Table 3. Three-way Source Table For Teacher Classroom Organisation.**

Source Variation	Sum of Squares	df	Mean Square	F Value	Probability
CAT	3.928	1	3.928	12.37	0.0005*
GEN	0.034	1	0.034	0.11	0.743
EXP	0.699	1	0.699	2.20	0.138
CATx GEN	0.003	1	0.003	0.01	0.918
CATx EXP	0.466	1	0.466	1.47	0.225
GENx EXP	0.069	1	0.069	0.22	0.639
CATx GEN x EXP	0.132	1	0.132	0.42	0.518
Residual	271.514	855	0.317		
Total	276.153	862	0.320		

\*  $\alpha < .05$

#### **5.3.2.4 The Teacher on Relationships with Others (TRO)**

The results of the three-way ANOVA with respect to The Teacher on Administrative Responsibilities , as measured by the SEST, indicate that there was no statistically significant effect for the gender variable, and no statistically significant effect for the teaching experience variable. The first-order interactions between CAT and GEN; CAT and EXP; and GEN and EXP were not statistically significant.

There was, however, a statistically significant main effect found for School Category ( $F = 0.0001, \alpha < .05$ ). with primary school teachers demonstrating higher self-efficacy (mean = 4.00) than secondary school teachers (mean = 3.76).

Further analysis shows that female teachers have higher self-efficacy (mean = 3.91) than male teachers (mean = 3.88); and quite remarkably, both expert and novice teachers have an equal level of self-efficacy irrespective of the School Category. The results of the three-way ANOVA for the Teacher on Administrative Responsibilities are summarized in table 3.

**Table 4. Three-way Source Table For Teacher in Relationship with Others.**

Source Variation	Sum of Squares	df	Mean Square	F Value	Probability
<b>CAT</b>	12.507	1	12.507	31.74	0.0001*
<b>GEN</b>	0.046	1	0.046	0.12	0.734
<b>EXP</b>	0.410	1	0.410	1.04	0.307
<b>CATx GEN</b>	0.045	1	0.045	0.12	0.734
<b>CATx EXP</b>	0.435	1	0.435	1.10	0.293
<b>GENx EXP</b>	0.039	1	0.039	0.94	0.333
<b>CATx GEN x EXP</b>	0.274	1	0.274	0.70	0.404
<b>Residual</b>	337.738	857	0.394		
<b>Total</b>	351.007	864	0.406		

\*  $\alpha < .05$

### 5.3.2.5 Summary

It is interesting to note with regard to the variable School Category, Primary School teachers tended to score higher than Secondary School teachers in all three factors (TAR, TCO, and TRO). The same pattern is consistent for the Gender variable (although no main effect reported). Females demonstrated higher self-efficacy than Males in all three factors and regardless of School Category. Teaching Experiences, however, shows a remarkable vacillation of opinions among the three factors. Expert teachers possess higher self-efficacy than Novice teachers with respect to factor 1 (TAR). In contrast, Novice teachers demonstrate higher self-efficacy than Expert teachers with respect to factor 2 (TCO). Factor 3 (TRO) has both Expert and Novice teachers indicating an equal level of self-efficacy. No primary and secondary interactions were found in all three factors.

### 5.3.3 Decisions on Hypotheses

This chapter presented the statistical results of this research focusing on the descriptive statistics of the study, factorial analysis of the instrument, and statistical analysis of the three factors (TAR, TCO, and TRO). The specific decisions taken with respect to the seven hypotheses are:

**Hypothesis 1:** Rejection of the null hypothesis that there is no significant differences between primary and secondary school teachers with respect to self-efficacy. The decision is based on the results of the ANOVA for the Teacher on Administrative Responsibilities, the Teacher on Classroom Organisation, and the Teacher on Relationships with Others, revealing a

significant main effect of School Category (TAR:  $\alpha = 0.0001$ ; TCO:  $\alpha = 0.0005$ ; and TRO:  $\alpha = 0.0001$ ).

**Hypothesis 2:** Failure to reject the null hypothesis that there is no significant difference between male and female school teachers with respect to self-efficacy. This decision is based on the failure of the main effects of Gender (GEN) to reach statistical significance.

**Hypothesis 3:** Failure to reject the null hypothesis that there is no significant difference between experienced and novice teachers with respect to self-efficacy. This decision is based on the failure of the main effects of Teaching Experience (EXP) to reach statistical significance.

**Hypothesis 4:** For all three factors (TAR, TCO, TRO), a decision failing to reject the null hypothesis that there is no significant interaction between CAT and GEN was taken. The decision is based on the results of the ANOVA failing to indicate a significant CAT x GEN interaction.

**Hypothesis 5:** Failure to reject the null hypotheses (for all three factors) that there is no significant interaction between CAT and EXP with respect to self-efficacy. The decision is based on the failure of either ANOVA to reveal an interaction between CAT and EXP.

**Hypothesis 6:** Failure to reject the null hypothesis (for all three factors) that there is no significant interaction between GEN and EXP with respect to self-efficacy. This decision

is based on the results of the ANOVA's revealing a non-significant interaction between GEN and EXP with respect to self-efficacy.

**Hypothesis 7:** Failure to reject the null hypothesis, for all factors, that there is no significant difference among School Category, Gender, and Teaching Experience variables with respect to self-efficacy. This decision is based on the failure of either ANOVA to reveal a significant interaction for the three variables for either factor.

## 5.4 THE INTERVIEWS

As indicated earlier (cf. 4.3.2 ) the interview allowed the researcher to examine fundamental questions about the way teachers perceived and interpreted the impact of organisational role on their self-efficacies as teachers. Particular attention was paid to data that bore on the question of the teacher's professional role, peer relationships, presentations of self, and perceptions of the teacher's relationships with others. As data from the questionnaire was regarded as primary data, data from the interview was used as secondary data to complement the questionnaire. The data analyses and results of the interviews are summarised and provided in the following subsections.

### 5.4.1 Data Analyses

The researcher evaluated interview data by completing three tasks: Firstly, listening through the entire set of interviews once. Secondly, re-listening to the interviews and inducing categories of responses for each research question. Finally, writing interpretive summaries

for each research question. To validate interpretations, inferences, and categories, the researcher discussed the analyses with two colleagues.

#### **5.4.2 The Interview Results**

The results and conclusions about the interviews are presented in this section under the headings subtitled by the questions asked. The findings can be viewed as somewhat circumstantial. However, they serve as valuable guides to further study in other areas of research such as teacher effectiveness and teacher expectations.

**How professionally close and interactive are you with your principal and senior teachers? How administratively involved are you?**

The respondents indicated varying degrees of closeness depending on the status of the other in their job. The more senior the other was, the less professional contact they had with him/her. Worse still, there was little or no contact if the other was seen as an outsider like the parents of children.

Six (27%) teachers reported no contact at all with the principal and or senior teachers at their schools. The relationship was non-directive or supportive with regard to matters of teaching. Thirteen (56%) reported superficial contact. They reported principals to be aloof and seemingly disinterested in their work and, like senior teachers, on occasions when there is contact like meetings, the atmosphere is subjective and directive. Only three (17%) teachers reported having a cordial professional relationship with the principal and senior

teachers. They were offered academic, curriculum, and at some instances mentored advice. The latter teachers felt good about their work, and to quote one: "School is like my second home..."

### **Relations with Colleagues**

Eighteen teachers (78%) reported a non-existent relationship with colleagues in their schools. Where relationships were established, they were in cliques and most of them seemed superficial and unrelated to an academic relationship. Five teachers (22%) reported a full academic relationship with the principal, senior teachers, and amongst junior members.

### **Relations with Parents**

Twenty (87%) of the teachers reported not having contact at all with the parents of the students. They realised the importance of such a move, but found the prospect daunting. The three (13%) teachers who reported having contact, found the exercise fruitful as they felt more in contact with their pupils due to positive feedback from the pupils' parents.

### **Class Size and Work-Load**

Twenty-one teachers (91%) expressed "utter disgust" at the ratio of pupils to teachers' in their classes. The average class size reported by all twenty was forty-six. These sizes, they maintained, made it difficult for them to reach every student and therefore felt ineffective. The two teachers (9%) who reported otherwise, were in fact despondent about the class sizes

and the work-load. Consequently, to "maintain sanity," they said; they had come to tolerate the sizes and the work-load.

### **Remuneration**

All twenty-three teachers (100%) reported dissatisfaction with their salaries. The meagre salaries made the majority of these teacher doubt their self-worth and confidence as people who could make a difference in the lives of children. Interestingly, all reported staying in teaching for the love of the profession instead of venturing in to professions that could pay them better.

In **conclusion**, it is evident that teachers experienced problems related to administrative and organisational structure, relationship with the parents of the pupils, and lack of collegiality which caused the feelings of isolation amongst the teachers. Ten (43%) teachers initially expressed fear to respond to questions related to these problem areas, but after some persuasion and assurance of confidentiality, the responses came out flowing.

## **5.5 SUMMARY**

This chapter presented the results of this study. A description of the data cleansing procedure and the characteristics of the sample was made. A report was given of a principal component factorial analyses to which the SEST was submitted. Three factors that emerged are called The Teacher on Administrative Responsibilities, The Teacher on Classroom Organisation, and The Teacher in Relationships with Others. The results of the statistical

analyses were presented for each School Category, Gender, and Teaching Experience variables based on all three factors (TAR, TCO, and TRO). Specific decisions were reported on the hypotheses under investigation. Finally, a synthesis of the opinions expressed by teachers during the interviews was rendered. Chapter VI elaborates on the findings stated in chapter V by way of discussion, conclusion and recommendations.



## Chapter VI

# DISCUSSION AND CONCLUSIONS

### 6.1 INTRODUCTION

The following sections - discussions, implications, and suggestions for future research, are supported by the results presented in chapter V. They are formulated with consideration given to the theoretical rationale and related research of self-efficacy and teacher efficacy discussed in chapters II and III. Generalisations from this study sample to the appropriate wider population of teachers is done cautiously and with concern for delimitations noted earlier (cf. 1.8).

### 6.2 DISCUSSION

This study was concerned with the assessment of the independent and interactive effects of CAT, GEN, and EXP on the self-efficacy of teachers. There was one major finding of statistical significance reported (cf. 5.3.3 - Hypotheses 1). The ANOVA's did not reveal any statistically significant effects and interactions with regard to other variables. However, the mean differences among the variables were significantly different. McMillan and

Schumacher (1993:343-344) state that even though the results of inferential statistics may be statistically insignificant; the mean differences among the variables are significant educationally, that is, in reality. The reasons for these differences cannot be identified from this study, but some implications, based on the studies cited previously, are assumed.

### **6.2.1 Findings of Statistical Significance**

The results of the ANOVAs revealed a statistically significant difference between primary and secondary school teachers with respect to self-efficacy. The primary school teachers demonstrated higher self-efficacy than secondary school teachers on the TAR, TCO, and TRO variables. This finding is consistent with the prediction made (cf. 1.7.3 ) prior to the research that primary school teachers will have a stronger sense of efficacy.

Two explanations might be offered to the above finding. Firstly, it may be that the higher self-efficacy of primary teachers reflect an awareness that their relationship with pupils change as students in the secondary school become more independent and less responsive to teachers and school influence. At secondary school, teachers work with students in one specific subject and for an hour or less each day and thus, feel less able to influence them.

Secondly, the organisational differences between primary schools and secondary schools allow primary school teachers to spend more time with the same pupils than teachers at secondary school. Consequently, they develop more competence and confidence in their ability to teach and influence the pupils. The latter explanation seems to fit the claim by Schunk (1981:93-105 ) that individuals who perform self-efficacy tasks with some level of

competence would possess higher self-efficacy than those with low level competence. It, therefore, seems appropriate to say that the low self-efficacy shown by secondary school teachers stems from their low competence level to teach secondary school age children. Nevertheless, appropriate reasons for this difference in self-efficacy is a matter for further study.

## **6.2.2 Findings of Mean Difference Significance**

Statistics of mean difference significance were revealed on the gender and teaching experience variables. As indicated in 6.2, these differences may be statistically insignificant, but educationally they are indeed. These differences are explained in the subsections below.

### **6.2.2.1 *The Gender Differences***

The gender mean difference on teacher efficacy shown by this study can be associated with the attribution theory concerning beliefs that individuals hold about causes of success and failure in achievement situations. Weiner (1979:3-25) has indicated that several variables, such as ability, the nature of the task to be performed, and effort, are involved in the causal attribution belief system. If school teaching is perceived as a feminine task, then females would indicate higher self-efficacy expectations than males. Such expectations are consistent with the findings of this study. Also consistent with this finding are the findings by Rosenfeld and Stephen (1978:244-249) that showed gender differences favouring females. Deaux (1984:105-116) attributes these gender differences to the fact that situations that are more interactive in nature reveal gender differences more than less social, more

individualistic tasks. Teaching is such an interactive task. Hence, the differences between male and female teachers were so statistically well pronounced (for TAR, males = 3.91 and females = 3.97; for TCO, males = 3.97, and females = 4.00; and for TRO, males = 3.88, and females = 3.91). Clinically, however, this difference should be viewed as being very modest.

#### **6.2.2.2      *The Teaching Experience Differences***

The most surprising and important mean difference finding was the vacillation of self-efficacy levels between novice and expert teachers with respect to TAR, TCO, and TRO. For the TAR factor, expert teachers possess higher self-efficacy (mean = 3.95) than the novice teachers (mean = 3.92). This finding is consistent with the assumption that expert teachers, having extensively executed the actual teaching tasks related to the TAR factor, would possess higher self-efficacy. It seems, therefore, appropriate to say that the longer individuals are exposed to a situation that requires occupational ability, the better chances they have to develop their abilities to perform successfully. As Bandura (1977a:193-194) notes, successful coping attempts further increases self-efficacy.

The finding that novice teachers (mean = 4.01) have a higher self-efficacy than expert teachers (mean = 3.99) with regard to TCO is inconsistent with predictions that expert teachers would have higher self-efficacies. Two explanations might be offered. Firstly, it might be that the novice teachers with only a brief exposure to complex subtleties of teaching, may have found it difficult to discriminate among different teaching tasks because such tasks are not instantly apparent from what they know. Bandura *et al.* (1981:596)

indicate that in such a situation, incongruities between perceived self-efficacy and action may stem from misperceptions on task demands as well as from faulty self-knowledge. Secondly, as indicated by Schunk (1981:93-105) it might be that, to lessen a sense of failure, novice teachers may have judged their competencies so unrealistically high that failure does not necessarily imply an ability deficit.

A unique revelation and contribution of the teaching experience variable with respect to TRO is an indication of equal means between novice and expert teachers (mean = 3.90) - that is, equal levels of self-efficacy. To review, this factor consisted of behavioural situations such as: obtain parents' assistance, when appropriate, for school activities; encourage parents to visit classroom; work with parents to clarify and define school or class objectives; consult with administrators, teachers, specialists, and support staff concerning student development; work with colleagues to evaluate the total school programme and make improvements etc. (cf. Appendix I).

The researcher takes the view that the above behaviours imply openness and transparency to classroom activities, and the latter exercise is incompatible with many a teacher's perceptions of classroom teaching, management, and control. Moreover, openness and transparency are concepts akin to democratic practices. The researcher, therefore, assumes that the equal self-efficacy performance by novice and expert teachers is indicative of uncertainty by teachers on how to behave in situations of a democratic nature. Hence, there is no variation in their performance.

Colarelli (1991:41) states that when there is little variation in the abilities of a group of people regarding an educational or cognitive occupation, "situational factors have the strongest influence on job performance." The current South African political situation of transformation to democracy could, therefore, be viewed as an explicit and plausible reason why teachers are not varied with regard to TRO. As democracy in teaching would mean a realignment of teaching strategies, and realignment being a stressful exercise evoking doubts about one's abilities, teachers' self-efficacies were bound to be uncertain and unvaried. The results of the interviews below greatly accentuate the situational impact on teachers' sense of efficacy.

### **6.2.3 Findings of the Interviews**

The results of the interviews indicate that teachers differ in their levels of self-efficacy. The differences are shown in their behaviours to teaching which impact on their students. All their efficacy problems can be subsumed under the administrative, collegial, economic, uncertainty, and work-load. All interviewees conceded that the latter problem areas are at the heart of many teachers being ineffective with classroom teaching.

#### **6.2.3.1 *Administrative Influences***

One of the major contributors to teachers' sense of inefficacy was found to be organisational and structural influences. Teachers expressed discontent at not being part of the processes that determine policies in the schools. Principals and senior teachers were often and in some instances always aloof creating a feeling of being denied opportunities to exercise

responsibility. They, therefore, could not get recognition and support of their administrative efforts from their seniors. This inability to share in the decision-making process reduced the teachers' sense of efficacy and has caused many teachers to resign themselves from active participation and involvement in developing both the schools and the pupils.

#### **6.2.3.2      *Collegiality***

Collegial interaction was found to be a source of loneliness and dissatisfaction, thereby lowering the teachers' efficacies. Some schools were reported not to have developmental programmes that are conducive to the development of collegiality. For example, there were never workshops and symposia made, even opportunities for attending conferences were never availed. Ashton (1983:151) suggests that enhancing opportunities for collegial interaction can have a positive effect on teacher efficacy and subsequently on pupils' performance.

#### **6.2.3.3      *Work-Load***

The burden of work and class sizes teachers are often faced with seemingly militate against them developing a sense of efficacy. Teachers reported large class sizes and integrating the roles of disciplinarians, teaching, counselling, and being substitute parent overwhelming and creating serious doubts about their effectiveness. All interviewees explained that if they were allocated small or manageable class sizes, then it would be possible and exciting to integrate all the stated responsibilities above, in their day to day work.

#### **6.2.3.4      *Economic Rewards***

From time to time, most teachers expressed a sense of worthlessness due to lack of adequate financial rewards in the teaching profession. Low financial reward created a sense of not being valuable in making a difference to learning. Consequently, their professional self-worth was dented.

#### **6.2.3.5      *Parent-Teacher Relations***

All teachers interviewed expressed the fear of pulverising their already brittle self-efficacies by having interactions with the parents of their students. The common view was that parents were outspoken critics of teacher effectiveness and, therefore, there was no hope of them being cooperative and offerers of support for their efficacies.

### **6.3    IMPLICATIONS OF THE RESULTS**

Based on the results of this study, it may seem premature to offer educational suggestions related to the development of self-efficacy expectations on teachers in the Free State Province, and how the Department of Education and Culture might influence it most powerfully. However, the results suggest that self-efficacy expectations exist for the teacher on Administrative Responsibilities, the Teacher on Classroom Organisation, and the Teacher in Relations to Others. As indicated by Bandura (1986:430), these self-efficacy expectations can be used as predictors of individuals' [teachers included] subsequent behaviours. In other words, teachers' sense of efficacy can be used by the Free State Department of Education

and Culture to predict the extent to which teachers would be successful in attaining the styles, methods, and techniques of a democratic educational teaching perspective (cf. 3.2).

It is clear from the results of descriptive and inferential statistics that teachers' sense of efficacy impacts, directly or indirectly, on student achievement. It also seems clear from the results of the interviews that giving teachers some administrative responsibility and classroom autonomy (being involved in deciding what to teach), setting up structures that would allow them to work in a collegial manner, and giving them constructive feedback on how they are performing; would help to create a conducive environment for teacher professional growth and development.

Focusing on environmental change alone, however, is not enough. A pervasive question is if teachers' should change as well, what and how should they change? Goldfields and Robins (cf. Betchtel, 1988:17-19) suggested four strategies for explaining self-efficacy judgements in behavioural change process. They believe that efficacy expectations reflect the nature of an individual's "self-schema for the particular area of functioning," such as teaching. For example, the role of the agents of change (e.g, departmental programmes, experts in teacher motivation and self-efficacy) would consist of assisting the teachers in making a distinction between "past and present/future behaviours, helping them to "view changes from both an objective and a subjective vantage point," helping them to retrieve "past success experiences," and aligning their "expectancies, anticipatory feelings, behaviours, objective consequences, and subsequent self-evaluations," into new behavioural patterns.

## 6.4 SUGGESTIONS FOR FUTURE RESEARCH

The following suggestions are made for future research on aspects of concern in the enhancement of teacher self-efficacy. These suggestions are factors that have a direct and indirect effect on teacher efficacy.

1. Bandura's (1978:344-348 ) concept of reciprocal determinism states that behaviour, the environment and people (including their beliefs) all interact to guide human behaviour. In this researcher's opinion, the school organisation, educational programmes, and parent-teacher relations are all agents in the teacher's professional and deterministic world which affect his/her self-efficacy. It is through these agents' facilitation of enactive attainments the creation of situations that evoke vicarious experiences that teachers' self-efficacy will be enhanced.

Furthermore, the researcher is of the opinion that as teacher efficacy is contingent on relations with the teacher's environmental agents stated above, enhancement of the teachers' self-efficacies will be commensurate with the students' self-efficacies. Based on this trend of thought, the researcher suggests that the following aspects to be considered for research:

\* Firstly, research on teacher efficacy within the schools could be undertaken in order to determine organisational changes favouring democratic educational teaching and aspects of bureaucratic resilience that may hamper perceptual changes.

\* Secondly, research could determine practising teachers' attitudes and their effective use of specific and appropriate teaching strategies, techniques, and methods favouring progressive education and the concomitant ideals supporting it.

\* Thirdly, research on the agents within the teachers' environment could be aided by careful delineation of the settings and targets of influence.

2. Teacher preparation curriculum is currently weighted heavily with educational methods and subjects to be taught to the total exclusion of knowledge in role definition. The universities and teacher training colleges could assist in identifying and including in the curriculum a course study that identifies specific pressures and contradictory role expectations that may lead to lower sense of efficacy. As stated by Ashton *et al.* (1984:30), role theory with its emphasis upon "the process and phases of socialisation, interdependence among individuals, the characteristics and organisation of social positions, processes of conformity and sanctioning, specialisation of performance, and the division of labour," can provide source guidelines that may help teachers withstand the conflicting process that may lead to lower self-efficacy.

3. The results of this study supported the usefulness of the theoretical construct of Self-Efficacy. The self-efficacy instrument used in this study contributed substantially in generating data that could be used for the assessment of teachers. However, the comprehensiveness of the instrument could be improved with the addition of the following:

- \* Inclusion of a wider range of behavioural tasks in teaching. In order to be consistent with Bandura's (1982b:159-199) specification for an effective instrument, such an instrument should be composed of behavioural tasks that assess the extent to which teachers' self-efficacy expectations extend to low, medium, or high difficulty behaviours.

- \* The instrument should also include tasks that assess the extent to which teachers' self-efficacy expectations generalise from one task to a related or different task.

- \* Some behavioural tasks should also determine whether teachers would attempt a task and persist at it even at the face of difficulty.

4. Although not part of this study, the researcher assumes that if there won't be any complementary assessment of pupils' efficacies for learning, then all efforts at determining teachers' efficacies will not bear the desired results and whatever results are obtained, are certainly going to die instantaneously. This assumption is based on the notion that determining and enhancing students' self-efficacies can also have positive effect on teachers' efficacies and their classroom teaching effectiveness. Consequently, the researcher is of opinion that:

- \* Research is needed to determine which factors influence students' capabilities to make self-efficacy judgements.

- \* Research is needed on how school-related self-efficacy influences variables such as persistence behaviour, achievement behaviour, and even social behaviour in school.

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## APPENDIX A: TEACHING SELF-EFFICACY SCALE OWEN (1989)

A                      B                      C                      D                      E

Quite a lot <-----> Very Little  
Confident

- A B C D E 1. Maintaining classroom discipline.  
A B C D E 2. Motivating students.  
A B C D E 3. Dealing with individual student's problems.  
A B C D E 4. Assessing students' work.  
A B C D E 5. Getting support and cooperation from parents.  
A B C D E 6. Organizing class work.  
A B C D E 7. Dealing with insufficient materials and supplies.  
A B C D E 8. Having a heavy teaching load.  
A B C D E 9. Having insufficient teaching time.  
A B C D E 10. Relating to colleagues.  
A B C D E 11. Planning lessons and school days.  
A B C D E 12. Effectively using different teaching methods.  
A B C D E 13. Having a thorough knowledge of the subject matter.  
A B C D E 14. Having a thorough knowledge of the school policies.  
A B C D E 15. Determining the learning levels of students.  
A B C D E 16. Dealing with the burden of the clerical work.  
A B C D E 17. Getting support from administrators.  
A B C D E 18. Dealing with inadequate school equipment.  
A B C D E 19. Having limited opportunity for personal growth.  
A B C D E 20. Having an adequate salary.  
A B C D E 21. Gaining community recognition as a professional.  
A B C D E 22. Being accepted by students.  
A B C D E 23. Improving the system.  
A B C D E 24. Getting students to work cooperatively.  
A B C D E 25. Maintaining your enthusiasm.  
A B C D E 26. Teaching students with problems outside (divorce, drugs, etc.).  
A B C D E 27. Coping with extra duties (paperwork, lunch duty, etc.).  
A B C D E 28. Finding time to accomplish all your objectives.  
A B C D E 29. Working in overcrowded classrooms.



## APPENDIX C: TEACHER TRAINEES SELF-EFFICACY SCALE (SELALEDI, 1990)

	A	B	C	D	E	
	Strongly Confident	Confident	A little Confident	Not Confident	Not at all Confident	
A B C D E						1. Adapt instruction to suit students' needs.
A B C D E						2. Preplan transition from one activity to another.
A B C D E						3. Model behaviour I want students to adopt.
A B C D E						4. Getting students to do work cooperatively.
A B C D E						5. Maintaining your enthusiasm.
A B C D E						6. Relating to colleagues.
A B C D E						7. Instruct students in classroom procedures at the beginning of the year.
A B C D E						8. Use most (85% or more) of class time.
A B C D E						9. Maintain academic focus throughout each class.
A B C D E						10. Motivating students.
A B C D E						11. Prepare students in advance for the next activity.
A B C D E						12. Maintain eye contact with students.
A B C D E						13. Give help to students having difficulty with work.
A B C D E						14. Dealing with insufficient materials
A B C D E						15. Dealing with the burden of clerical work.
A B C D E						16. Having an adequate salary.
A B C D E						17. Finding time to accomplish all your objectives.
A B C D E						18. Construct clear objectives.
A B C D E						19. Effectively using different teaching methods.
A B C D E						20. Stop one activity completely before starting another.
A B C D E						21. Use humour during instruction.
A B C D E						22. Explain work requirements so that all students understand what is expected.
A B C D E						23. Stop disruptive behaviour quickly.
A B C D E						24. Intervene with success when students are not on task.
A B C D E						25. Being accepted by students.
A B C D E						26. Having a thorough knowledge of school policies and rules.
A B C D E						27. Having thorough knowledge of the subject matter.
A B C D E						28. Frequently check to see if students are not on task.

A	B	C	D	E
Strongly Confident	Confident	A little Confident	Not Confident	Not at all Confident

- A B C D E 29. Working in overcrowded classrooms.
- A B C D E 30. Gaining community recognition as a professional.
- A B C D E 31. Getting support from administrators.
- A B C D E 32. Having a heavy teaching load.
- A B C D E 33. Monitor students' progress on assignments.
- A B C D E 34. Clearly state expected standards of work to students.
- A B C D E 35. Getting support and cooperation from parents.
- A B C D E 36. Dealing with inadequate school equipment.
- A B C D E 37. Wait for students' attention before giving direction.
- A B C D E 38. Inform students of optional activities they may pursue after completing their assignments.
- A B C D E 39. Planning lessons and school days.
- A B C D E 40. Having limited opportunity for personal growth.

**APPENDIX D: LETTER TO THE DIRECTOR OF EDUCATION  
AND TRAINING REQUESTING FOR PERMISSION TO UNDER-  
TAKE THE STUDY IN THE SCHOOLS**

*16th February 1996*

*The Head: Free State Dept. of Educ. & Culture  
P.O. Box 521  
BLOEMFONTEIN  
9300*

*Dear Sir*

**RE: REQUEST FOR CONDUCTING RESEARCH AT SCHOOLS**

*I, the undersigned and lecturer at Vista University - Welkom Campus, hereby request for permission to conduct research studies at some of the schools under your jurisdiction in Bloemfontein. Consistent with your letter dd. 95/11/22 regarding particulars imperative for permission to be granted, the following is in response to that requirement.*

**1. PERSONAL DEMOGRAPHICS**

<b>TITLE:</b>	<i>Mr. David K. Selaledi.</i>
<b>TEL:</b>	<i>(057) 396-4112 x 259.</i>
<b>UNIVERSITY:</b>	<i>Vista University - Welkom Campus.</i>
<b>DEGREE:</b>	<i>PhD.</i>
<b>SUPERVISOR:</b>	<i>Prof H.M. Freeman.</i>
<b>THESIS TITLE:</b>	<i>Teachers' sense of efficacy in schools in the major urban centres of the Free State Province after May 10, 1994.</i>

## 2. THE RESEARCH PROJECT

### 2.1 Rationale

*The central ubiquitous construct on which this study is focused is: "Teachers' sense of Self-Efficacy." Bandura (1986:390) defines Self-Efficacy as a "self-referent thought [that] mediates the relationship between knowledge and action." An individual's perceived self-efficacy predicts performance much better than expected outcomes (Bandura 1986:393). Bandura (1977:125-138, 1982:131) furthermore, states that an individual's perceived self-efficacy expectations is basic to behaviour change and, therefore, changes in the self-percept will predict coping and self-regulatory behaviour. As a result, Self-efficacy probes during the course of treatment can provide helpful guides for implementing a programme of personal change.*

*It is within the self-efficacy construct outlined above that the present study seeks to assess the self-efficacies of teachers in the schools in the major urban centres of the Free State Province after May 10, 1994. The paramount purpose of the study is to determine how teachers' self-efficacy relates to the political change & its concomitant new educational democratic system. If evidence is found that a thesaurus of variables (related to teachers' teaching styles, methods, and techniques) being studied in this research are related to the self-efficacy of practising teachers, then such a finding will be very useful to educators generally, but more especially to education policy makers and curriculum planners.*

*Being able to identify problem areas where teachers' sense of efficacy is low, and then institute intervention programmes to influence teachers' efficacies favourably towards democratic teaching styles, methods & techniques, would be appropriate to increase their intrinsic and achievement motivations. Bengu (in the White Paper on Education and training, 1995:5) asserted that if the new education system would be successful and acceptable, then Teachers were considered central to such a development as their "motivation was a prerequisite for the formulation and implementation of any new strategies."*

### 2.2 Population

*The population targeted for the study is all primary and high school practising teachers in the major urban centres of Sasolburg, Bethlehem, Kroonstad, Welkom, and Bloemfontein.*

### 2.3 Research Instrument

*A questionnaire will be filled anonymously and every individuals' responses will be confidential - shown neither to others nor identified by the names of the schools. Personal demographics such as the qualifications of teachers will not be solicited. To circumvent encroachment upon schooling activities and to curtail or minimise defrauding teachers of their administrative time, the questionnaire will be a one week take home exercise. The*

*questionnaire contains items aimed at asking teachers about their work, their work experiences, and opinions on several related matters to the teaching-learning interactive situations that are democratically inclined (copy of questionnaire attached)*

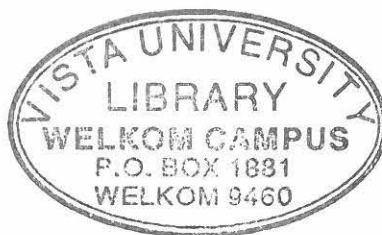
## *2.4 Results*

*A copy of the thesis and a comprehensive summary of the findings will be provided to the department. This researcher will also be honoured to accept departmental invitations to deliver papers on the subject wherever needed. Finally, I wish to emphasise that I will abide by all conditions pertaining to the task of conducting research in the schools as stipulated by the department; and will undertake not to pass any information to the mass media without prior arrangement with the department.*

*Thanking you in anticipation.*

*SELALEDI DAVID K.*

*PROF H.M. FREEMAN (SUPERVISOR)*



**APPENDIX E: LETTER TO THE DISTRICT MANAGERS  
REQUESTING FOR CONSENT TO CONDUCT THE STUDIES IN  
THE SCHOOLS**

MAY 1996

*The District Manager*

.....  
.....  
.....

*Dear Sir/mam.*

**REQUEST FOR CONDUCTING RESEARCH AT SCHOOLS**

*I, the undersigned and lecturer at Vista University - Welkom Campus, hereby request for permission to conduct research studies at some of the schools under your jurisdiction. The initial request for this exercise was made with the Department of Education & Culture in Bloemfontein. Permission was obtained and I have been referred to you for further assistance (Find copy of the department attached) I believe you can help me.*

**2. THE RESEARCH PROJECT**

**2.1 Rationale**

*The central ubiquitous concept around which this research revolves is the construct of "SELF-EFFICACY". Self-efficacy refers to an individual's belief that he or she is capable of performing a task. The higher your self-efficacy, the more confidence you have in you ability to succeed in a task. So, in difficult situations, we find that people with low self-efficacy are more likely to lessen their effort or give up altogether whereas those with high self-efficacy will try harder to master the challenge. In addition, individuals high in self-efficacy seem to respond to negative feedback with increased effort and motivation; those low in self-efficacy are likely to lessen their effort when given negative feedback.*

*It is within the self-efficacy construct outlined above that the present study seeks to assess the self-efficacies of teachers in the schools in the major urban centres of the Free State Province after May 10, 1994. The paramount purpose of the study is to determine how teachers' self-efficacy relates to the political change & its concomitant new educational democratic system. If evidence is found that a thesaurus of variables (related to teachers' teaching styles, methods, and techniques) being studied in this research are related to the self-efficacy of practising teachers, then such a finding will be very useful to educators generally, but more especially to education policy makers and curriculum planners.*

*Being able to identify problem areas where teachers' sense of efficacy is low, and then institute intervention programmes to influence teachers' efficacies favourably towards democratic teaching styles, methods & techniques, would be appropriate to increase their intrinsic and achievement motivations. Bengu (in the White Paper on Education and training, 1995:5) asserts that if our new education system should be successful and acceptable, then Teachers are considered central to such a development as their "motivation is a prerequisite for the formulation and implementation of any new strategies."*

## *2.2 Population & Sample*

*The population targeted for the study is all primary and high school practising teachers in the major urban centres of Sasolburg, Bethlehem, Kroonstad, Welkom, and Bloemfontein. The sample will be obtained through cluster and stratified sampling techniques (A list of all the schools in the identified areas has been obtained from the department, and the names of the sampled schools will be provided soon).*

## *2.3 Research Instrument*

*A questionnaire will be filled anonymously and every individuals' responses will be confidential - shown neither to others nor identified by the names of the schools. Personal demographics such as the qualifications of teachers will not be solicited. To circumvent encroachment upon schooling activities and to curtail or minimise defrauding teachers of their administrative time, the questionnaire will be a one week take home exercise. The questionnaire contains items aimed at asking teachers about their work, their work experiences, and opinions on several related matters to the teaching-learning interactive situations that are democratically inclined (copy of the questionnaire attached)*

*Thanking you in anticipation.*

***SELALEDI DAVID K.***

***PROF H.M. FREEMAN  
(SUPERVISOR)***

**APPENDIX F: LETTER TO THE PRINCIPALS OF SCHOOLS  
REQUESTING FOR CONSENT TO VISIT THE SCHOOLS FOR  
RESEARCH STUDIES**

May 1996

*The Principal*

.....  
.....  
.....

*Dear Sir/Mam.*

*The Department of Education and Culture has advised me to inquire if you could please do me an extraordinary favour. I believe you can help me.*

*I am taking a PhD degree studies with Vista University - Welkom campus. The topic for my research studies is :Teachers' sense of efficacy in schools in the major urban centres of the Free State Province after May 10, 1994. The quintessence of this study is an exercise intended to maximise the professional growth and development of the teaching corps in the Free State so as to be compatible with the political change and the concomitant democratically oriented educational system.*

*In the context of the above ideal; your school has been identified as, inter-alia, one from which to obtain data for the research. I intend sending a questionnaire to your school for a number of sampled teachers to fill. The questionnaire will solicit for responses pertaining to teachers' work experiences and matters related to the teaching-learning interactive situations. Please, be assured that I'll maintain absolute confidentiality - teachers' names will not be used and the responses will not be identified by the names of the schools. This is purely an academic exercise!!*

*There will, however, be an overall publicising of the research results to the department. Emphasis on this will be on the state of our teachers' self-efficacies in the Free State Province (once more, no individuals' and schools' names will be revealed - Trust me, my lips are sealed on this). It is hoped that, the department permitting, the result could eventually cascade to the practising teachers.*

*The following is a suggested quota and distribution of participants in each and every school:*

1. *Number of participants required:* TWELVE (12)

2. *Composition of the group:*

*Male Teachers*

*\* Six (6)*

*\* Three (3) with 5yrs. DOWN  
TEACHING EXPERIENCE*

*\* Three (3) with 6yrs. UP  
TEACHING EXPERIENCE*

*Female Teachers*

*\* Six (6)*

*\* Three (3) with 5yrs. DOWN  
TEACHING EXPERIENCE*

*\* Three (3) with 6yrs. UP  
TEACHING EXPERIENCE*

*Thanking you in anticipation*

*Your sincerely*

*SELAEDI DAVID K.*

*PROF. H.M. FREEMAN  
(SUPERVISOR)*

**APPENDIX G: INSTRUCTIONS & DEMOGRAPHIC  
VARIABLES FOR TEACHER SELF-EFFICACY SCALE  
(SELALEDI 1996)**

Thank you for participating in this study. Your responses are confidential & will be shown neither to others nor identified by your name and/or school. Below is a sections of the questionnaire requiring your response about your personal information. This information is important for the processing of data.

**Date:...../...../.....**

**\* School Category? (Prim./Sec.).....**

**\* Gender? (Male/Female).....**

**\* Teaching Experience? (Yrs.).....**

## APPENDIX H: SELF-EFFICACY SCALE (SELALEDI 1996)

Listed below are a wide variety of situations that teachers sometimes have problems with once they begin teaching. For each situation:

- \* Rate each item as it pertains to you personally; i.e. how much confidence you have in coping successfully.
- \* Base your ratings on how you feel most of the time.

Use the scale below to rate the statements. Be sure to answer all statements. Also, try to respond to each item independently; do not be influenced by your previous choices.

	A	B	C	D	E
	Strongly Confident	Confident	A little Confident	Not Confident	Not at all Confident
STATEMENTS	RATINGS				
1. Clearly communicate the purpose of the lesson.	A	B	C	D	E
2. Review work of previous day when appropriate.	A	B	C	D	E
3. Ensure that all students are engaged in active learning.	A	B	C	D	E
4. Adjust teaching to accommodate problems of individual learners, i.e. inattention, confusion, repeated mistakes of the same nature.	A	B	C	D	E
5. Move among students providing feedback and reteaching where necessary.	A	B	C	D	E
6. Vary cognitive level of questions, i.e. recall, compare and contrast, analyze, evaluate.	A	B	C	D	E

A	B	C	D	E
Strongly Confident	Confident	A little Confident	Not Confident	Not at all Confident

## STATEMENTS

## RATINGS

7. Rephrase questions where necessary to ensure student understanding	A B C D E
8. Demonstrate knowledge and understanding of principles of Motivation in the structure of learning activities.	A B C D E
9. Work with each student according to his/her needs, talents, and learning style.	A B C D E
10. Use a variety of learning activities.	A B C D E
11. Provide opportunities for students to develop qualities of leadership and self-direction.	A B C D E
12. Vary assignments/work according to student needs.	A B C D E
13. Encourage students to participate in discussion and activities.	A B C D E
14. Hold and communicate high expectations for each student.	A B C D E
15. Use principles of positive reinforcement such as good, beautiful, you're a star, I like your answer.	A B C D E
16. Work with students to define classroom rules and actively teach those rules at the beginning of the year.	A B C D E
17. Use techniques of positive reinforcement to help students change undesirable attitudes and behaviour to desirable ones.	A B C D E
18. Monitor and reinforce classroom rules as necessary to prevent discipline from becoming a problem.	A B C D E
19. Provide prompt feedback to all students.	A B C D E
20. Maintain a balance of student autonomy and teacher control.	A B C D E
21. Have materials prepared on time.	A B C D E
22. Use effective procedures for collecting and maintaining information about students (e.g. records, diagnostic tests )	A B C D E
23. Assist students in defining realistic individual goals.	A B C D E
24. Show consistency and fairness in working with students.	A B C D E
25. Establish goals of student self-discipline and a spirit of cooperation and mutual respect in the classroom.	A B C D E
26. Maintain a general appearance of a professional person.	A B C D E
27. Meet people with poise and use tact in discussing problems.	A B C D E
28. Use appropriate forms of written and oral communication.	A B C D E
29. Balance the needs of the school with personal needs.	A B C D E
30. Acknowledge the rights of others to hold views different from yours.	A B C D E
31. Obtain parents' assistance, when appropriate, for school activities.	A B C D E
32. Encourage parents to visit classroom.	A B C D E

A	B	C	D	E
Strongly Confident	Confident	A little Confident	Not Confident	Not at all Confident

## STATEMENTS

## RATINGS

33. Confer with individual parents regarding their child's progress and development.	A B C D E
34. Work with parents to clarify and define school and/or class objectives.	A B C D E
35. Participate in school, local, and provincial in-service activities.	A B C D E
36. Use study, professional conferences, reading, supervisory help, and constant evaluation of teaching results to improve methods of teaching.	A B C D E
37. Establish a climate which is purposeful, task oriented, orderly and pleasant.	A B C D E
38. Encourage students to assume a large measure of responsibility for the quality of life in the classroom (e.g. rules, student govt.).	A B C D E
39. Consider that student contributions are important and make them visible in the classroom wherever possible.	A B C D E
40. Provide opportunities for each student to make worthwhile contributions to the group.	A B C D E
41. Pay attention to physical conditions and appearance of the classroom, with particular reference to health and safety.	A B C D E
42. Consult with administrators, teachers, specialists, and support staff concerning student development.	A B C D E
43. Work with colleagues to evaluate the total school programme and make improvements.	A B C D E
44. Cooperate with colleagues and students to maintain a pleasant, orderly, and work-oriented atmosphere.	A B C D E
45. Share ideas, materials, and methods with other teachers.	A B C D E
46. Assist in out-of-class interests and activities.	A B C D E
47. Have in-depth understanding of the content to be taught.	A B C D E
48. Understand and apply the principles of learning.	A B C D E
49. Formulate and explicitly specify the goals and objectives of learning.	A B C D E
50. Provision for mastery learning wherever possible.	A B C D E
51. Use a wide variety of media and materials to make current learning objectives relevant.	A B C D E
52. Make use of school's specialised services both for own learning and in work with students.	A B C D E
53. Use the physical environment to enhance current learning activities.	A B C D E

## APPENDIX I: SUMMARY OF PRINCIPAL COMPONENTS ANALYSIS

ITEM NO.	ITEM	LOADING
<b>FACTOR 1</b>		
(TEACHER ADMINISTRATIVE RESPONSIBILITIES)		
Q18.	Work with students to define classroom rules and actively teach those rules at the beginning of the year.	.81
Q19.	Use techniques of positive reinforcement to help students change undesirable attitudes and behaviour to desirable ones	.68
Q20.	Monitor and reinforce classroom rules as necessary to prevent discipline from becoming a problem.	.88
Q21.	Provide prompt feedback to all students.	.56
Q22.	Maintain a balance of student autonomy and teacher control.	.55
Q23.	Have materials prepared on time.	.60
Q24.	Use effective procedures for collecting and maintaining information about students (e.g., surveys, records).	.71
Q25.	Assist students in defining realistic individual goals.	.64
Q26.	Show consistency and fairness in working with students.	.61
Q27.	Establish goals of students self-discipline and a spirit of cooperation and mutual respect in the classroom.	.47
Q53.	Use a wide variety of media and materials to make current learning objectives relevant.	.84
Q54.	Make use of school's specialised services both for own learning and in work with students.	.78
Q55.	Use the physical environment to enhance current learning activities.	.64

## FACTOR 2

### (CLASSROOM TEACHING ORGANISATION)

Q1.	Clearly communicate the purpose of the lesson.	.85
Q10.	Demonstrate knowledge and understanding of the principles Motivation in the structure of learning activities.	.57
Q11.	Work with each student according to his/her needs, talents, and learning styles.	.46
Q12.	Use a variety of learning activities.	.68
Q13.	Provide opportunities for students to develop qualities of leadership and self-direction.	.68
Q14.	Vary assignments/work according to student needs.	.58
Q15.	Encourage students to participate in discussion and activities.	.49
Q16.	Hold and communicate high expectations for each student.	.58
Q17.	Use principles of reinforcement such as good, you're a star...	.53
Q2.	Review work of previous day when appropriate.	.64
Q5.	Adjust teaching to accommodate problems of individual learners such as inattention, confusion, repeated mistakes...	.82
Q4.	Ensure that all students are engaged in active learning.	.74
Q7.	Move among students providing feedback and reteaching where necessary.	.63
Q8.	Vary cognitive level of questions, such as recall, compare and contrast, analyse, evaluate.	.64
Q9.	Rephrase questions where necessary to ensure student understanding.	.65
Q39.	Establish a climate which is purposeful, task oriented, orderly and pleasant.	.52
Q40.	Encourage students to assume a large measure of responsibility for the quality of life in the classroom (e.g., rules...)	.76
Q41.	Consider that student contribution are important and make them visible in the classroom wherever possible.	.78
Q42.	Provide opportunities for each student to make worthwhile contributions to the group.	.69
Q43.	Pay attention to physical conditions and appearance of the classroom, with particular reference to health and safety.	.60
Q49.	Have in-depth understanding of the content to be taught.	.76
Q50.	understand and apply the principle of learning.	.58
Q51.	Formulate and explicitly specify the goals and objectives of learning.	.76
Q52.	Provision for mastery learning wherever possible.	.69

### FACTOR 3

#### (TEACHER IN RELATIONSHIP WITH OTHERS)

Q28.	Maintain a general appearance of a professional person.	.71
Q29.	Meet people with poise and use tact in discussing problems.	.54
Q30.	Use appropriate forms of written and oral communication.	.57
Q31.	Balance the needs of the school with personal needs.	.61
Q32.	Acknowledge the rights of others to hold views different from yours.	.52
Q33.	Obtain parents' assistance, when appropriate, for school activities.	.67
Q34.	Encourage parents to visit classroom.	.61
Q35.	Confer with individual parents regarding their child's progress and development.	.67
Q36.	Work with parents to clarify and define school and/or class objectives.	.67
Q37.	Participate in school, local, and provincial in-service activities.	.62
Q38.	Use study, professional conferences, reading, supervisory help, and constant evaluation of teaching results to improve methods of teaching.	.68
Q44.	Consult with administrators, teachers, specialists, and support staff concerning student development.	.64
Q45.	Work with colleagues to evaluate the total school programme and make improvements.	.52
Q46.	Cooperate with colleagues and students to maintain a pleasant, orderly, and work-oriented atmosphere.	.75
Q47.	Share ideas, materials, and methods with other teachers.	.56
Q48.	Assist in out-of-class interests and activities.	.65

## **APPENDIX J:**

**EXAMPLES OF RESPONSES FROM THE DISTRICT MANAGERS AND PRINCIPALS.**

LETTERS ARE SAFELY KEPT TO MAINTAIN THE CONTRACTUAL ASSURANCE OF CONFIDENTIALITY.

## APPENDIX A: TEACHING SELF-EFFICACY SCALE OWEN (1989)

A                      B                      C                      D                      E

Quite a lot <-----> Very Little  
Confident

- |   |   |   |   |   |     |   |
|---|---|---|---|---|-----|---|
| A | B | C | D | E | 1.  | Maintaining classroom discipline.                               |
| A | B | C | D | E | 2.  | Motivating students.  |
| A | B | C | D | E | 3.  | Dealing with individual student's problems.                     |
| A | B | C | D | E | 4.  | Assessing students' work.                                       |
| A | B | C | D | E | 5.  | Getting support and cooperation from parents.                   |
| A | B | C | D | E | 6.  | Organizing class work.  |
| A | B | C | D | E | 7.  | Dealing with insufficient materials and supplies.               |
| A | B | C | D | E | 8.  | Having a heavy teaching load.                                   |
| A | B | C | D | E | 9.  | Having insufficient teaching time.                              |
| A | B | C | D | E | 10. | Relating to colleagues.   |
| A | B | C | D | E | 11. | Planning lessons and school days.                               |
| A | B | C | D | E | 12. | Effectively using different teaching methods.                   |
| A | B | C | D | E | 13. | Having a thorough knowledge of the subject matter.              |
| A | B | C | D | E | 14. | Having a thorough knowledge of the school policies.             |
| A | B | C | D | E | 15. | Determining the learning levels of students.                    |
| A | B | C | D | E | 16. | Dealing with the burden of the clerical work.                   |
| A | B | C | D | E | 17. | Getting support from administrators.                            |
| A | B | C | D | E | 18. | Dealing with inadequate school equipment.                       |
| A | B | C | D | E | 19. | Having limited opportunity for personal growth.                 |
| A | B | C | D | E | 20. | Having an adequate salary.                                      |
| A | B | C | D | E | 21. | Gaining community recognition as a professional.                |
| A | B | C | D | E | 22. | Being accepted by students.                                     |
| A | B | C | D | E | 23. | Improving the system.   |
| A | B | C | D | E | 24. | Getting students to work cooperatively.                         |
| A | B | C | D | E | 25. | Maintaining your enthusiasm.                                    |
| A | B | C | D | E | 26. | Teaching students with problems outside (divorce, drugs, etc.). |
| A | B | C | D | E | 27. | Coping with extra duties (paperwork, lunch duty, etc.).         |
| A | B | C | D | E | 28. | Finding time to accomplish all your objectives.                 |
| A | B | C | D | E | 29. | Working in overcrowded classrooms.                              |



## APPENDIX C: TEACHER TRAINEES SELF-EFFICACY SCALE (SELALEDI, 1990)

	A	B	C	D	E	
	Strongly Confident	Confident	A little Confident	Not Confident	Not at all Confident	
A B C D E						1. Adapt instruction to suit students' needs.
A B C D E						2. Preplan transition from one activity to another.
A B C D E						3. Model behaviour I want students to adopt.
A B C D E						4. Getting students to do work cooperatively.
A B C D E						5. Maintaining your enthusiasm.
A B C D E						6. Relating to colleagues.
A B C D E						7. Instruct students in classroom procedures at the beginning of the year.
A B C D E						8. Use most (85% or more) of class time.
A B C D E						9. Maintain academic focus throughout each class.
A B C D E						10. Motivating students.
A B C D E						11. Prepare students in advance for the next activity.
A B C D E						12. Maintain eye contact with students.
A B C D E						13. Give help to students having difficulty with work.
A B C D E						14. Dealing with insufficient materials
A B C D E						15. Dealing with the burden of clerical work.
A B C D E						16. Having an adequate salary.
A B C D E						17. Finding time to accomplish all your objectives.
A B C D E						18. Construct clear objectives.
A B C D E						19. Effectively using different teaching methods.
A B C D E						20. Stop one activity completely before starting another.
A B C D E						21. Use humour during instruction.
A B C D E						22. Explain work requirements so that all students understand what is expected.
A B C D E						23. Stop disruptive behaviour quickly.
A B C D E						24. Intervene with success when students are not on task.
A B C D E						25. Being accepted by students.
A B C D E						26. Having a thorough knowledge of school policies and rules.
A B C D E						27. Having thorough knowledge of the subject matter.
A B C D E						28. Frequently check to see if students are not on task.

A	B	C	D	E
Strongly Confident	Confident	A little Confident	Not Confident	Not at all Confident

- A B C D E 29. Working in overcrowded classrooms.
- A B C D E 30. Gaining community recognition as a professional.
- A B C D E 31. Getting support from administrators.
- A B C D E 32. Having a heavy teaching load.
- A B C D E 33. Monitor students' progress on assignments.
- A B C D E 34. Clearly state expected standards of work to students.
- A B C D E 35. Getting support and cooperation from parents.
- A B C D E 36. Dealing with inadequate school equipment.
- A B C D E 37. Wait for students' attention before giving direction.
- A B C D E 38. Inform students of optional activities they may pursue after completing their assignments.
- A B C D E 39. Planning lessons and school days.
- A B C D E 40. Having limited opportunity for personal growth.

**APPENDIX D: LETTER TO THE DIRECTOR OF EDUCATION  
AND TRAINING REQUESTING FOR PERMISSION TO UNDER-  
TAKE THE STUDY IN THE SCHOOLS**

*16th February 1996*

*The Head: Free State Dept. of Educ. & Culture  
P.O. Box 521  
BLOEMFONTEIN  
9300*

*Dear Sir*

**RE: REQUEST FOR CONDUCTING RESEARCH AT SCHOOLS**

*I, the undersigned and lecturer at Vista University - Welkom Campus, hereby request for permission to conduct research studies at some of the schools under your jurisdiction in Bloemfontein. Consistent with your letter dd. 95/11/22 regarding particulars imperative for permission to be granted, the following is in response to that requirement.*

**1. PERSONAL DEMOGRAPHICS**

**TITLE:** *Mr. David K. Selaledi.*  
**TEL:** *(057) 396-4112 x 259.*  
**UNIVERSITY:** *Vista University - Welkom Campus.*  
**DEGREE:** *PhD.*  
**SUPERVISOR:** *Prof H.M. Freeman.*  
**THESIS TITLE:** *Teachers' sense of efficacy in schools in the  
major urban centres of the Free State Province  
after May 10, 1994.*

## 2. THE RESEARCH PROJECT

### 2.1 Rationale

*The central ubiquitous construct on which this study is focused is: "Teachers' sense of Self-Efficacy." Bandura (1986:390) defines Self-Efficacy as a "self-referent thought [that] mediates the relationship between knowledge and action." An individual's perceived self-efficacy predicts performance much better than expected outcomes (Bandura 1986:393). Bandura (1977:125-138, 1982:131) furthermore, states that an individual's perceived self-efficacy expectations is basic to behaviour change and, therefore, changes in the self-percept will predict coping and self-regulatory behaviour. As a result, Self-efficacy probes during the course of treatment can provide helpful guides for implementing a programme of personal change.*

*It is within the self-efficacy construct outlined above that the present study seeks to assess the self-efficacies of teachers in the schools in the major urban centres of the Free State Province after May 10, 1994. The paramount purpose of the study is to determine how teachers' self-efficacy relates to the political change & its concomitant new educational democratic system. If evidence is found that a thesaurus of variables (related to teachers' teaching styles, methods, and techniques) being studied in this research are related to the self-efficacy of practising teachers, then such a finding will be very useful to educators generally, but more especially to education policy makers and curriculum planners.*

*Being able to identify problem areas where teachers' sense of efficacy is low, and then institute intervention programmes to influence teachers' efficacies favourably towards democratic teaching styles, methods & techniques, would be appropriate to increase their intrinsic and achievement motivations. Bengu (in the White Paper on Education and training, 1995:5) asserted that if the new education system would be successful and acceptable, then Teachers were considered central to such a development as their "motivation was a prerequisite for the formulation and implementation of any new strategies."*

### 2.2 Population

*The population targeted for the study is all primary and high school practising teachers in the major urban centres of Sasolburg, Bethlehem, Kroonstad, Welkom, and Bloemfontein.*

### 2.3 Research Instrument

*A questionnaire will be filled anonymously and every individual's responses will be confidential - shown neither to others nor identified by the names of the schools. Personal demographics such as the qualifications of teachers will not be solicited. To circumvent encroachment upon schooling activities and to curtail or minimise defrauding teachers of their administrative time, the questionnaire will be a one week take home exercise. The*

*questionnaire contains items aimed at asking teachers about their work, their work experiences, and opinions on several related matters to the teaching-learning interactive situations that are democratically inclined (copy of questionnaire attached)*

## **2.4 Results**

*A copy of the thesis and a comprehensive summary of the findings will be provided to the department. This researcher will also be honoured to accept departmental invitations to deliver papers on the subject wherever needed. Finally, I wish to emphasise that I will abide by all conditions pertaining to the task of conducting research in the schools as stipulated by the department; and will undertake not to pass any information to the mass media without prior arrangement with the department.*

*Thanking you in anticipation.*

**SELALEDI DAVID K.**

**PROF H.M. FREEMAN (SUPERVISOR)**

**APPENDIX E: LETTER TO THE DISTRICT MANAGERS  
REQUESTING FOR CONSENT TO CONDUCT THE STUDIES IN  
THE SCHOOLS**

MAY 1996

*The District Manager*

.....  
.....  
.....

*Dear Sir/mam.*

**REQUEST FOR CONDUCTING RESEARCH AT SCHOOLS**

*I, the undersigned and lecturer at Vista University - Welkom Campus, hereby request for permission to conduct research studies at some of the schools under your jurisdiction. The initial request for this exercise was made with the Department of Education & Culture in Bloemfontein. Permission was obtained and I have been referred to you for further assistance (Find copy of the department attached) I believe you can help me.*

**2. THE RESEARCH PROJECT**

**2.1 Rationale**

*The central ubiquitous concept around which this research revolves is the construct of "SELF-EFFICACY". Self-efficacy refers to an individual's belief that he or she is capable of performing a task. The higher your self-efficacy, the more confidence you have in you ability to succeed in a task. So, in difficult situations, we find that people with low self-efficacy are more likely to lessen their effort or give up altogether whereas those with high self-efficacy will try harder to master the challenge. In addition, individuals high in self-efficacy seem to respond to negative feedback with increased effort and motivation; those low in self-efficacy are likely to lessen their effort when given negative feedback.*

*It is within the self-efficacy construct outlined above that the present study seeks to assess the self-efficacies of teachers in the schools in the major urban centres of the Free State Province after May 10, 1994. The paramount purpose of the study is to determine how teachers' self-efficacy relates to the political change & its concomitant new educational democratic system. If evidence is found that a thesaurus of variables (related to teachers' teaching styles, methods, and techniques) being studied in this research are related to the self-efficacy of practising teachers, then such a finding will be very useful to educators generally, but more especially to education policy makers and curriculum planners.*

*Being able to identify problem areas where teachers' sense of efficacy is low, and then institute intervention programmes to influence teachers' efficacies favourably towards democratic teaching styles, methods & techniques, would be appropriate to increase their intrinsic and achievement motivations. Bengu (in the White Paper on Education and training, 1995:5) asserts that if our new education system should be successful and acceptable, then Teachers are considered central to such a development as their "motivation is a prerequisite for the formulation and implementation of any new strategies."*

## **2.2 Population & Sample**

*The population targeted for the study is all primary and high school practising teachers in the major urban centres of Sasolburg, Bethlehem, Kroonstad, Welkom, and Bloemfontein. The sample will be obtained through cluster and stratified sampling techniques (A list of all the schools in the identified areas has been obtained from the department, and the names of the sampled schools will be provided soon).*

## **2.3 Research Instrument**

*A questionnaire will be filled anonymously and every individual's responses will be confidential - shown neither to others nor identified by the names of the schools. Personal demographics such as the qualifications of teachers will not be solicited. To circumvent encroachment upon schooling activities and to curtail or minimise defrauding teachers of their administrative time, the questionnaire will be a one week take home exercise. The questionnaire contains items aimed at asking teachers about their work, their work experiences, and opinions on several related matters to the teaching-learning interactive situations that are democratically inclined (copy of the questionnaire attached)*

*Thanking you in anticipation.*

**SELALEDI DAVID K.**

**PROF H.M. FREEMAN  
(SUPERVISOR)**

**APPENDIX F: LETTER TO THE PRINCIPALS OF SCHOOLS  
REQUESTING FOR CONSENT TO VISIT THE SCHOOLS FOR  
RESEARCH STUDIES**

May 1996

*The Principal*

.....  
.....  
.....

*Dear Sir/Mam.*

*The Department of Education and Culture has advised me to inquire if you could please do me an extraordinary favour. I believe you can help me.*

*I am taking a PhD degree studies with Vista University - Welkom campus. The topic for my research studies is :Teachers' sense of efficacy in schools in the major urban centres of the Free State Province after May 10, 1994. The quintessence of this study is an exercise intended to maximise the professional growth and development of the teaching corps in the Free State so as to be compatible with the political change and the concomitant democratically oriented educational system.*

*In the context of the above ideal; your school has been identified as, inter-alia, one from which to obtain data for the research. I intend sending a questionnaire to your school for a number of sampled teachers to fill. The questionnaire will solicit for responses pertaining to teachers' work experiences and matters related to the teaching-learning interactive situations. Please, be assured that I'll maintain absolute confidentiality - teachers' names will not be used and the responses will not be identified by the names of the schools. This is purely an academic exercise!!*

*There will, however, be an overall publicising of the research results to the department. Emphasis on this will be on the state of our teachers' self-efficacies in the Free State Province (once more, no individuals' and schools' names will be revealed - Trust me, my lips are sealed on this). It is hoped that, the department permitting, the result could eventually cascade to the practising teachers.*

*The following is a suggested quota and distribution of participants in each and every school:*

*1. Number of participants required: TWELVE (12)*

*2. Composition of the group:*

*Male Teachers*

*\* Six (6)*

*\* Three (3) with 5yrs. DOWN*

*TEACHING EXPERIENCE*

*\* Three (3) with 6yrs. UP*

*TEACHING EXPERIENCE*

*Female Teachers*

*\* Six (6)*

*\* Three (3) with 5yrs. DOWN*

*TEACHING EXPERIENCE*

*\* Three (3) with 6yrs. UP*

*TEACHING EXPERIENCE*

*Thanking you in anticipation*

*Your sincerely*

*SELALEDI DAVID K.*

*PROF. H.M. FREEMAN  
(SUPERVISOR)*

**APPENDIX G: INSTRUCTIONS & DEMOGRAPHIC  
VARIABLES FOR TEACHER SELF-EFFICACY SCALE  
(SELAEDI 1996)**

Thank you for participating in this study. Your responses are confidential & will be shown neither to others nor identified by your name and/or school. Below is a sections of the questionnaire requiring your response about your personal information. This information is important for the processing of data.

**Date:**...../...../.....

**\* School Category?** (*Prim./Sec.*).....

**\* Gender?** (*Male/Female*).....

**\* Teaching Experience?** (*Yrs.*).....

## APPENDIX H: SELF-EFFICACY SCALE (SELALEDI 1996)

Listed below are a wide variety of situations that teachers sometimes have problems with once they begin teaching. For each situation:

- \* Rate each item as it pertains to you personally; i.e. how much confidence you have in coping successfully.
- \* Base your ratings on how you feel most of the time.

Use the scale below to rate the statements. Be sure to answer all statements. Also, try to respond to each item independently; do not be influenced by your previous choices.

	A	B	C	D	E
	Strongly Confident	Confident	A little Confident	Not Confident	Not at all Confident
STATEMENTS	RATINGS				
1. Clearly communicate the purpose of the lesson.	A B C D E				
2. Review work of previous day when appropriate.	A B C D E				
3. Ensure that all students are engaged in active learning.	A B C D E				
4. Adjust teaching to accommodate problems of individual learners, i.e. inattention, confusion, repeated mistakes of the same nature.	A B C D E				
5. Move among students providing feedback and reteaching where necessary.	A B C D E				
6. Vary cognitive level of questions, i.e. recall, compare and contrast, analyze, evaluate.	A B C D E				

A	B	C	D	E
Strongly Confident	Confident	A little Confident	Not Confident	Not at all Confident

## STATEMENTS

## RATINGS

7. Rephrase questions where necessary to ensure student understanding	A B C D E
8. Demonstrate knowledge and understanding of principles of Motivation in the structure of learning activities.	A B C D E
9. Work with each student according to his/her needs, talents, and learning style.	A B C D E
10. Use a variety of learning activities.	A B C D E
11. Provide opportunities for students to develop qualities of leadership and self-direction.	A B C D E
12. Vary assignments/work according to student needs.	A B C D E
13. Encourage students to participate in discussion and activities.	A B C D E
14. Hold and communicate high expectations for each student.	A B C D E
15. Use principles of positive reinforcement such as good, beautiful, you're a star, I like your answer.	A B C D E
16. Work with students to define classroom rules and actively teach those rules at the beginning of the year.	A B C D E
17. Use techniques of positive reinforcement to help students change undesirable attitudes and behaviour to desirable ones.	A B C D E
18. Monitor and reinforce classroom rules as necessary to prevent discipline from becoming a problem.	A B C D E
19. Provide prompt feedback to all students.	A B C D E
20. Maintain a balance of student autonomy and teacher control.	A B C D E
21. Have materials prepared on time.	A B C D E
22. Use effective procedures for collecting and maintaining information about students (e.g. records, diagnostic tests )	A B C D E
23. Assist students in defining realistic individual goals.	A B C D E
24. Show consistency and fairness in working with students.	A B C D E
25. Establish goals of student self-discipline and a spirit of cooperation and mutual respect in the classroom.	A B C D E
26. Maintain a general appearance of a professional person.	A B C D E
27. Meet people with poise and use tact in discussing problems.	A B C D E
28. Use appropriate forms of written and oral communication.	A B C D E
29. Balance the needs of the school with personal needs.	A B C D E
30. Acknowledge the rights of others to hold views different from yours.	A B C D E
31. Obtain parents' assistance, when appropriate, for school activities.	A B C D E
32. Encourage parents to visit classroom.	A B C D E

A	B	C	D	E
Strongly Confident	Confident	A little Confident	Not Confident	Not at all Confident

## STATEMENTS

## RATINGS

33. Confer with individual parents regarding their child's progress and development.	A B C D E
34. Work with parents to clarify and define school and/or class objectives.	A B C D E
35. Participate in school, local, and provincial in-service activities.	A B C D E
36. Use study, professional conferences, reading, supervisory help, and constant evaluation of teaching results to improve methods of teaching.	A B C D E
37. Establish a climate which is purposeful, task oriented, orderly and pleasant.	A B C D E
38. Encourage students to assume a large measure of responsibility for the quality of life in the classroom (e.g. rules, student govt.).	A B C D E
39. Consider that student contributions are important and make them visible in the classroom wherever possible.	A B C D E
40. Provide opportunities for each student to make worthwhile contributions to the group.	A B C D E
41. Pay attention to physical conditions and appearance of the classroom, with particular reference to health and safety.	A B C D E
42. Consult with administrators, teachers, specialists, and support staff concerning student development.	A B C D E
43. Work with colleagues to evaluate the total school programme and make improvements.	A B C D E
44. Cooperate with colleagues and students to maintain a pleasant, orderly, and work-oriented atmosphere.	A B C D E
45. Share ideas, materials, and methods with other teachers.	A B C D E
46. Assist in out-of-class interests and activities.	A B C D E
47. Have in-depth understanding of the content to be taught.	A B C D E
48. Understand and apply the principles of learning.	A B C D E
49. Formulate and explicitly specify the goals and objectives of learning.	A B C D E
50. Provision for mastery learning wherever possible.	A B C D E
51. Use a wide variety of media and materials to make current learning objectives relevant.	A B C D E
52. Make use of school's specialised services both for own learning and in work with students.	A B C D E
53. Use the physical environment to enhance current learning activities.	A B C D E

## APPENDIX I: SUMMARY OF PRINCIPAL COMPONENTS ANALYSIS

ITEM NO.	ITEM	LOADING
<b>FACTOR 1</b>		
<b>(TEACHER ADMINISTRATIVE RESPONSIBILITIES)</b>		
Q18.	Work with students to define classroom rules and actively teach those rules at the beginning of the year.	.81
Q19.	Use techniques of positive reinforcement to help students change undesirable attitudes and behaviour to desirable ones	.68
Q20.	Monitor and reinforce classroom rules as necessary to prevent discipline from becoming a problem.	.88
Q21.	Provide prompt feedback to all students.	.56
Q22.	Maintain a balance of student autonomy and teacher control.	.55
Q23.	Have materials prepared on time.	.60
Q24.	Use effective procedures for collecting and maintaining information about students (e.g., surveys, records).	.71
Q25.	Assist students in defining realistic individual goals.	.64
Q26.	Show consistency and fairness in working with students.	.61
Q27.	Establish goals of students self-discipline and a spirit of cooperation and mutual respect in the classroom.	.47
Q53.	Use a wide variety of media and materials to make current learning objectives relevant.	.84
Q54.	Make use of scholl's specialised services both for own learning and in work with students.	.78
Q55.	Use the physical environment to enhance current learning activities.	.64

## FACTOR 2

### (CLASSROOM TEACHING ORGANISATION)

Q1.	Clearly communicate the purpose of the lesson.	.85
Q10.	Demonstrate knowledge and understanding of the principles Motivation in the structure of learning activities.	.57
Q11.	Work with each student according to his/her needs, talents, and learning styles.	.46
Q12.	Use a variety of learning activities.	.68
Q13.	Provide opportunities for students to develop qualities of leadership and self-direction.	.68
Q14.	Vary assignments/work according to student needs.	.58
Q15.	Encourage students to participate in discussion and activities.	.49
Q16.	Hold and communicate high expectations for each student.	.58
Q17.	Use principles of reinforcement such as good, you're a star...	.53
Q2.	Review work of previous day when appropriate.	.64
Q5.	Adjust teaching to accommodate problems of individual learners such as inattention, confusion, repeated mistakes...	.82
Q4.	Ensure that all students are engaged in active learning.	.74
Q7.	Move among students providing feedback and reteaching where necessary.	.63
Q8.	Vary cognitive level of questions, such as recall, compare and contrast, analyse, evaluate.	.64
Q9.	Rephrase questions where necessary to ensure student understanding.	.65
Q39.	Establish a climate which is purposeful, task oriented, orderly and pleasant.	.52
Q40.	Encourage students to assume a large measure of responsibility for the quality of life in the classroom (e.g., rules...)	.76
Q41.	Consider that student contribution are important and make them visible in the classroom wherever possible.	.78
Q42.	Provide opportunities for each student to make worthwhile contributions to the group.	.69
Q43.	Pay attention to physical conditions and appearance of the classroom, with particular reference to health and safety.	.60
Q49.	Have in-depth understanding of the content to be taught.	.76
Q50.	understand and apply the principle of learning.	.58
Q51.	Formulate and explicitly specify the goals and objectives of learning.	.76
Q52.	Provision for mastery learning wherever possible.	.69

### FACTOR 3

#### (TEACHER IN RELATIONSHIP WITH OTHERS)

Q28.	Maintain a general appearance of a professional person.	.71
Q29.	Meet people with poise and use tact in discussing problems.	.54
Q30.	Use appropriate forms of written and oral communication.	.57
Q31.	Balance the needs of the school with personal needs.	.61
Q32.	Acknowledge the rights of others to hold views different from yours.	.52
Q33.	Obtain parents' assistance, when appropriate, for school activities.	.67
Q34.	Encourage parents to visit classroom.	.61
Q35.	Confer with individual parents regarding their child's progress and development.	.67
Q36.	Work with parents to clarify and define school and/or class objectives.	.67
Q37.	Participate in school, local, and provincial in-service activities.	.62
Q38.	Use study, professional conferences, reading, supervisory help, and constant evaluation of teaching results to improve methods of teaching.	.68
Q44.	Consult with administrators, teachers, specialists, and support staff concerning student development.	.64
Q45.	Work with colleagues to evaluate the total school programme and make improvements.	.52
Q46.	Cooperate with colleagues and students to maintain a pleasant, orderly, and work-oriented atmosphere.	.75
Q47.	Share ideas, materials, and methods with other teachers.	.56
Q48.	Assist in out-of-class interests and activities.	.65



## **APPENDIX J:**

### **EXAMPLES OF RESPONSES FROM THE DISTRICT MANAGERS AND PRINCIPALS.**

LETTERS ARE SAFELY KEPT TO MAINTAIN THE CONTRACTUAL ASSURANCE OF CONFIDENTIALITY.