

**PERCEIVED LEVELS OF TEACHER EFFICACY AND LOCUS OF
CONTROL AT SECONDARY SCHOOLS IN LEJWELEPUTSWA
SCHOOL DISTRICT**

by

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DECLARATION

I declare that **PERCEIVED LEVELS OF TEACHER EFFICACY AND LOCUS OF CONTROL AT SECONDARY SCHOOLS IN LEJWELEPUTSWA SCHOOL DISTRICT** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.



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Meaningless to Fathom!

ABSTRACT

The aim in doing this study was to consider what research reports about efficacious teachers and the extent of their locus of control. Teacher Efficacy and Locus of Control was evaluated as part of the teacher's personal characteristics. Specifically, individuals with a high self-efficacy and internal locus of control believe that outcomes are a result of their own actions. Individuals possessing low self-efficacy and an external locus of control will conclude that external factors of which they had no control, such as luck, contributed to the specific outcome.

Research shows that efficacious teachers are capable of changing learners' attitudes about school, increasing their motivation to learn, and boosting academic achievement. Teachers provide school education and teacher efficiency is reflected in the teaching process and practice. Teacher effectiveness ultimately determines the success of long lasting learning in the classroom. Teachers' successes are also displayed in learner outcomes. The role of the teacher is to teach his or her learners through *interacting* with them and to provide an ultimate learning climate.

During this interaction, there are various factors that affect the effectiveness of the teacher. Some of these factors, amongst others, include influences of the environment, learner attitudes, the status of the teaching profession and utmost the *teacher's personal characteristics*. Combined with *teacher personal qualities*, teaching will pursue an educational perspective for the development of such learners that will perform to societal expectations, demonstrating comprehensive academic skills for the promotion of quality education.

The study ascertained the perceived levels of Teacher Efficacy and Locus of Control with regard to classroom teaching among Further Education and Training (FET) teachers in the Lejweleputswa district inclusive of the underlying reasons for the latter. As a result, this study attempted to outline the challenges facing education in South Africa today. Applied Teacher Efficacy and Locus of Control will enhance teaching and learning in our schools and; simultaneously, elevate our schools to a status of our education system in South Africa to a competitive edge internationally.

This study followed a concurrent explanatory approach whereby a quantitative analysis was followed by a qualitative approach. The data was thus integrated to lend itself to reliability and validity. Various tests were done in this regard complimented by tests of normality and homoscedasticity. The analysis of results was taken on a 'step-down' approach where the researcher conducted Multivariate analysis (MANOVA) tests, Univariate analysis of variance (ANOVA) tests, *t*-tests and item analysis for the purpose of *further* explanation. Statistical significance was substantiated by practical significance through item analysis and qualitative analysis of results.

Although levels of Teacher Efficacy and Locus of Control statistically satisfied the desired outcome, item analysis indicated that extraneous variables were present, impinging on these levels. These variables, inclusive of job satisfaction, training programmes, parental involvement and leaving the teaching profession, amongst others, were discussed as part of the results of the study. Significant variations were found in the different age groups of teachers whereby the researcher in addition analysed 'age' as an independent variable to the study.

This study recommends revisiting of essential aspects pertaining to the teacher and the educational environment that will facilitate effective functioning of the teacher workforce, complimenting levels of teacher efficacy and locus of control.

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LIST OF ABBREVIATIONS

FET	Further Education and Training
DoBE	Department of Basic Education
CAPS	Curriculum and Assessment Policy Statement
OBE	Outcomes Based Education
LOC	Locus of Control
SELOC	Teacher Efficacy and Locus of Control
DV	Dependent Variable
IV	Independent Variable
MANOVA	Multivariate analysis
ANOVA	Univariate analysis of variance
STEM	Science, Technology, Engineering and Maths
SES	Socio-economic Status
PTE	Personal Teacher Efficacy

CHAPTER 1

INTRODUCTION

1.1 Introduction

Penney (2007) espoused the idea that education was created to serve mankind in one's continual pursuit of knowledge construction and learning for a deeper and meaningful understanding of the environment around him/her. This view corresponds with Frankl's (2006:98) contention that "Life ultimately means taking responsibility to find the right answer to its problems and to fulfil the tasks which it constantly sets for each individual." This researcher associates herself with the postulations by Penney and Frankl and upholds the view that teacher effectiveness and efficiency in teaching and the promotion of learning is of paramount importance in the classroom.

The researcher, therefore, hypothesises that although learners may bring to class their experience, attitude, curiosity, interest, and motivational level; it is the teacher who has to prepare and present the new learning material in a manner that will be meaningful and understandable to the learners. Equally important, Eggen and Kauchak (2010:327) state that a teacher has to create a learning environment where every learner cherishes feelings of being related to other learners and belonging in the particular class. Research abounds that teacher effectiveness is reduced if specific teacher personal characteristics are lacking.

During the Teacher Development Summit (2009: online), Bernice Davids further attempts in defining what perfects the art of teaching. She associated it with a seed planted in untainted soil

that can flourish beyond the contours of anticipated greatness. She asserts that wisdom is not the mocking remnants of old age, projected on the growing strands of youthful naivety, rather wisdom shines through voices of [teachers], echoes that fill the days of knowledge captured as it is lived. From the seed of knowledge planted by a voice so akin to this of a parent, the [teacher's] voice is the guiding light that opens the way to knowledge, to experience, to wisdom, to richness. The [teacher's] voice, the all encompassing strand of wisdom, watered by life experience and nourishing the very soil that gives life to the seed of knowledge and wisdom.

Hence, the teacher's voice is qualified by the researcher as the specific teacher qualities identified as being of vital importance to enhance learners' meaningful understanding and motivational levels to learn. In this study these qualities refer to *Teacher Efficacy* and *Teacher Locus of Control*. The researcher seeks to determine the answers teachers give to explain their ability to teach learners from diverse backgrounds; and, the teachers' explanation of the reasons why learners succeed or fail in their classrooms.

1.2 Statement of the Problem

With the advent of the promulgation of a constitutional democracy in South Africa on February 1997; a concomitant *progressive educational perspective* was formulated comprising democratic ideals and values. Policy makers and stakeholders gave it a very apt name of *Outcomes Based Education (OBE)* as it calls for the promotion of Self-Expression, Individuality and Free Activity, Learning from Experience, World Awareness and Accomplishment at every level of learning (Beets & Van Louw, 2005).

One of the most provocative and challenging tasks by teachers; and the researcher believes most significant, are ubiquitous conceptual and perceptual dilemmas and hurdles of cognitive transformation to teaching. Cognitive transformation of teacher practical and formal knowledge required that teachers needed development along three dimensions simultaneously: content knowledge, teaching approaches and professional attitudes. A vortex of debates from newspapers, electronic media and panel debates; indicate that teachers were lacking in competency skills to pursue the new educational perspective.

Central to the debates is an outcry by Metcalfe (2008:10) that “the conceptual knowledge of [teachers] is low; [teachers] have a poor grasp of the subjects they teach; there is a high level of [teacher] error in the content and concepts presented in lessons; and the [teachers] have low expectations of learners, who then achieve to these low expectations.” Kriek and Grayson (2009:185) could not agree more with the latter when they stated teachers were not producing learners that are able to demonstrate the comprehensive academic skills in the critical subjects with reference to Science, Mathematics and Accounting.

The views of Metcalfe (2008) and Kriek and Grayson (2009) point to teacher development in content knowledge and teaching methods, strategies, and techniques. This study, seeks to determine teacher personal qualities that might hamper teacher ability to develop learners that perform according to society’s expectations due to lack of or reduced teacher efficacy and inappropriate locus of control. Lewandowski (2005:5) made an important observation when she stated that how teachers view their own classroom capabilities is of equal importance.

Hence, this study is on Perceived Levels of Teacher Efficacy and Locus of Control when Teaching at Further Education and Training (FET) schools in Lejweleputswa School District.

1.3 Background to the Study

1.3.1 Self-Efficacy and Personal Teacher Efficacy.

1.3.1.1 Self-Efficacy

Social cognitive theory, proposed by Bandura (in Wentzel & Wigfield, 2009:36), is a perspective that enables individuals to self-regulate cognitive processes and behaviours, rather than simply react to events. This perspective ascribes to the belief that individuals are capable of exercising a degree of control over their thoughts, feelings, motivation and actions after a self-interpretation of performance. Central to Bandura's social cognitive theory is the construct of self-efficacy. Bandura defines self-efficacy as a person's belief that he or she can accomplish a task. Bandura provided an excellent statement of the implications of this belief: "The stronger the perceived self-efficacy, the higher the goal challenges set for themselves and the firmer their commitment to it" (Bandura 1993:119). According to Bandura (in Wentzel & Wigfield, 2009:36), an individual's perceived self-efficacy beliefs may impact a person in either a positive, empowering way, or in a negative, demoralizing way.

1.3.1.2 Personal Teacher Efficacy (PTE)

Teacher Personal Efficacy (PTE), as conceived by many educators writing about the topic of teacher efficacy; refers to an assessment of a teacher's competence... i.e. an assessment of a teacher's capacity to affect learner's performance (Dembo & Gibson, 1985). Teachers who

possess stronger perceptions of self-efficacy tend to display specific observable behaviours for themselves such as effort, persistence, enthusiasm and confidence. These teachers use teaching time differently and engage learners in learning for longer periods of time. Teachers with strong self-efficacy exemplify warmth and responsiveness to all learners, especially those of lower ability.

High-Efficacious teachers take responsibility for the success or failure of their teaching; they are fair but demanding. Teachers with low self-efficacy, on the other hand, do not consider the possibility of learners failing as could be theirs: rather, low-efficacious teachers are more than likely to blame low achievement on lack of intelligence, poor home environments, uncooperative administrators etc. They have lower expectations, spend less time on learning activities, and are more critical when learners fail. They are more controlling and value learner autonomy less than do high-efficacy teachers (Woolfolk, 2007:334).

Kearns (in Woolfolk, 2007) acknowledged that failure to change the willingness of all teachers to make a positive impact on all learners and for teachers to believe in their own ability [and responsibility], is failure to deal with a critical issue in education today. Teachers must believe in themselves and their learners if educational strides are to be made.

Research studies on teacher efficacy have been conducted by various researchers over the years to determine factors impacting on teacher's own assessment of a sense of competence in the classroom. Hartfield (2011) concluded that experienced teachers are slightly more efficacious and when the correlation between experience and the construct teacher efficacy were reviewed, it

was found that teachers' level of efficacy increases with experience. Ashton and Webb (1986: 1-2) conducted a study to determine factors that impact on a teacher's motivation and self-esteem. In another study; Armor, Conry-Oseguera, Cox, Kin, McDonnel, Pascal, Pauly, and Zellman (1976:24) reported that teacher's sense of efficacy was "strongly and significantly related to increases in reading."

In yet another study; Berman and McLaughlin (1977:137) reported strong relationship "between teachers' sense of efficacy and the percentage of project goals achieved, improved learner performance, and teachers' maintenance of innovations. (More about studies pertaining to teacher self-efficacy in a chapter two on literature review)

1.3.2 Teacher Locus of Control

Locus of control is a personality trait developed through social learning. Rotter (in Slavin, 2009) upholds that an individual has an internal locus of control if she/he is influenced by his/her own actions and initiatives, and she/he has an external locus of control if consequences of his/her actions are influenced by such strong factors as luck and fate.

When compared to individuals with external locus of control, individuals with internal locus of control are found to spend more time on intellectual and academic activities and achieve better results in school and competitions. Moreover, they are found to be more active in social activities, but determined against hardships as well as strongly objecting to self-limitations (Krause, Bochner, Duchesne & McMaugh,2007). These individuals perceive themselves as independent and assume responsibility. They are found to exhibit independence in their social

actions and possess entrepreneurial qualities as well as such other attributes as being consistent and judicious (O'Donnell, Reeve & Smith, 2009; Krause et al., 2007; Slavin, 2009; Woolfolk, 2007). On the other hand, individuals with external locus of control exhibit traits such as low self-esteem with increased depressive state, feeling of despair, loneliness, conformist and passive, not trusting the self and others, and aggressive (O'Donnell et al., 2009).

Several research studies have been conducted regarding teacher locus of control. Bernard Weiner is one of the main educational psychologists for relating attributed causes for successes or failures (Woolfolk, 2007:390). Locus of control can be very important in explaining a learner's performance. For example, several researchers have found that learners who are high in internal locus of control have better grades and test scores than do learners of the same intelligence who are low in internal locus of control (Pajares & Graham, 1999; Zimmerman, 2000 as cited in Ormrod, 2008:431).

According to Slavin (2009), in other studies it has been found that locus of control is the second most important predictor [after ability] of a learner's academic achievement. In yet another study, analysis has shown that teachers scoring high on a measure of internal-external control are significantly more likely to be perceived as high in overall teaching competence by a set of evaluators in comparison with teachers indicating a lesser degree of internal control orientation (Scheck & Rhodes, 2001:246). (More about studies pertaining teacher locus of control in a chapter two on literature review).

1.3.3 Relevance to the Study

Specifically, individuals with a high self-efficacy and internal locus of control believe that outcomes are a result of their own actions. Individuals possessing low self-efficacy and an external locus of control will conclude that external factors of which they had no control, such as luck, contributed to the specific outcome (Bandura, in Aerni 2009:34).

Against this backdrop, the researcher is of the view that teachers with high self-efficacy and an internal locus of control will impact positively on learner motivation to learn and thereby achieve the outcomes that are consistent with the new educational perspective characterized by teachers who are capable to promote learner Self-Expression, Individuality and Free Activity, Learning from Experience, World Awareness and Accomplishment at every level of learning.

The researcher argues, therefore, that all the types of qualities outlined above that relate to the kind of learners to be developed are not possible if teachers' sense of efficacy and locus of control are inappropriate. Teachers impact on learners' behaviour to learn because of their personal qualities such as teacher efficacy e.g. modelling enthusiasm, meeting the needs of belonging and relatedness by learners, and teacher expectations (Eggen & Kauchak, 2010). Also; teacher quality such as locus of control e.g., exerting effort and application of ability, impact on learners' motivation to learn (Slavin, 2009).

Hence, the intent of this study, to determine Perceived Levels of Teacher Efficacy and Locus of Control when teaching in the Further Education and Training (FET) phase at schools in Lejweleputswa District. It is hoped that the findings will enable the researcher to provide a

discussion and recommendation on how teachers can incorporate more of the new knowledge gained from the study into their efficacy and locus of control. In addition, the model that will be generated by the study will provide a strong theoretical rationale supporting the studies on teacher efficacy and locus of control. If these applications of the study are utilised, the outcome should be in accordance to the educational perspectives and societal expectations for our learners. Teachers would uplift their self-efficacies and would exude appropriate locus of control for learners to emulate and have improved achievement. Subsequently, learning for our learners would also be enhanced.

1.4 Research Hypotheses

The research hypotheses of this study include:

1. There is no statistical significant effect of gender on SELOC.
2. There is no statistical significant effect of experience on SELOC.
3. There is no statistical significant effect of subject discipline on SELOC.
4. There is no statistical significant effect of gender and experience on SELOC.
5. There is no statistical significant effect of gender and subject discipline on SELOC.
6. There is no statistical significant effect of experience and subject discipline on SELOC.
7. There is no statistical significant effect of gender, experience and subject discipline on SELOC.

1.5 Research Questions/Objectives

In light of the above, the following research question is formulated:

The Research Question to this study was:

1. What do teacher efficacy and locus of control entail?
2. What are the underlying perceptions and conceptions of participants regarding teacher efficacy and locus of control when teaching at the FET phase in the Lejweleputswa schools?
3. What are the underlying reasons for the levels of teacher efficacy and locus of control?
4. What is the impact of independent variables such as gender, experience and subject discipline on teacher efficacy and locus of control?

The objective of this study was to:

1. Determine what teacher efficacy and locus of control entail.
2. Determine the underlying perceptions and conceptions of participants regarding teacher efficacy and locus of control when teaching at the FET phase in the Lejweleputswa schools?
3. Determine the underlying reasons for the levels of teacher efficacy and locus of control.
4. Determine the impact of independent variables such as gender, experience and subject discipline on teacher efficacy and locus of control.

1.6 Methodology

The components of methodology in this study are: research design, research method, data collection techniques, data analysis and the population from which the sample of participants for the study was drawn.

1.6.1 Research Design

Planning an empirical analysis for research purposes requires the researcher to investigate various issues around the research design (Johnson & Christensen, 2008). For the purpose of this study, a mixed research paradigm (concurrent), employing a combination of both quantitative and qualitative research methodologies will be used. The researcher combined elements of qualitative and quantitative research approaches (e.g. use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and collaboration (Johnson, Onwuegbuzie & Turner, 2007:123).

The concurrent explanatory approach of the triangulation was applied in this study. McMillan and Schumacher (2010:403) specify that in concurrent explanatory triangulation; the quantitative and qualitative approach is undertaken simultaneously. This study, therefore, intends to apply the quantitative approach by, collecting quantitative data (through a questionnaire) and then, administering an interview schedule to determine the views and opinions of teachers in accordance to the specifications by the qualitative approach.

1.6.1.1 Quantitative Approach

The quantitative research design will enable the researcher to specify the phenomena under study and to quantify the relationships between and within variables of study being: Gender (M vs. F), Experience (Expert vs. Novice), and Discipline (Science vs. Humanities) as Independent Variables (IV) and Perceived Teacher Efficacy and Locus of Control Dependent Variables (DV) or Theoretical Frameworks of the study.

Quantitative research involves those studies in which data are categorized and analysed numerically (Leedy & Ormrod, 2010). The purpose of using a quantitative approach in this study was mainly to gain an understanding of the underlying perceptions and conceptions of participants, getting insights into the setting of the problem and formulating hypotheses to uncover prevalent trends, ideas and opinions of participants.

Creswell (2009) points out that quantitative research is “confirmatory and deductive in nature” and thus post-positivist and common to modern researchers. The methods of quantitative research ensure objectivity (questionnaire as an example), generaliseability and reliability; as well as ensuring that the researcher becomes an external factor to the actual study (Howell, 2010). Most importantly, quantitative results become replicable at any given setting (Creswell, 2009).

1.6.1.2 Qualitative Approach

Gay, Mills, and Airasian (2009) assert that when using a qualitative research design, the researcher needs to take note of the fact that qualitative research is a systematic, interactive and a

subjective approach used to describe life experiences and give them meaning. It is conducted in the natural setting where in the phenomenon under study is taking place. The researcher followed the prescripts of the latter authors to seek the views and opinions of the teachers regarding self-efficacy and locus of control.

1.6.2 Research Method

1.6.2.1 Descriptive Survey Method

A non-experimental method called descriptive survey was used to investigate attitudes and perceptions of the teachers regarding perceived teacher efficacy and locus of control. McMillan and Schumacher (2010:217) state that a “descriptive study asks *what is?* Or *what was?* It reports things the way they *are* or *were*. The researcher distantiated herself - without intervention - as would be the case in an experimental study.

It is on the basis of the apparent effectiveness of the descriptive method that the researcher found this method ideal to investigate the impact of the independent variables of the study on the two dependent variables from the current cohort of teachers teaching the Sciences and Humanities in Lejweleputswa.

1.6.2.2 Phenomenological Method

A phenomenological study was used in this study to describe the teachers’ perceptions regarding their teacher efficacy and locus of control. This type of method describes the meanings of a lived experience. The researcher puts aside all prejudgments and collects data on how individuals

make sense out of a particular experience or situation. The aim of the phenomenology is to transform lived experiences into a description of its essence, allowing for reflection and analysis. The typical research technique is for the researcher to conduct long interviews with the informants directed towards understanding their perspectives on their everyday lived experience with the phenomenon (McMillan & Schumacher, 2010:24).

1.6.3 Data Collection Technique and Analysis

Two data collection instruments were used to obtain information, namely quantitative data through questionnaires and qualitative data through interviews.

1.6.3.1 Quantitative approach

According to Johnson et al. (2008), a questionnaire can be described as a list of questions presented in written format and the participants indicate their responses on a form, mailed or completed in a particular place. Data for the study was collected through a questionnaire that entails items pertaining to perceived teacher efficacy and locus of control.

The questionnaire contained 30 questions ranging on a Likert scale from strongly disagree to strongly agree, as well as a number of demographic questions. The validity and reliability of the questions were tested through first, subjecting them to analyses for appropriateness by experts. The experts comprised five colleagues who studied educational psychology with the researcher. Furthermore, the reliability of the questionnaire items was subjected to factor analyses. Only items that had a loading of above 0.5 on the Eigen value of 1 were selected to constitute the final questionnaire.

1.6.3.2 Qualitative Approach

Semi-structured interviews are non-standardized and are frequently used in qualitative analysis. Johnson and Christensen (2008) explain semi-structured interviews as follows: The order in which the various topics are dealt with and the wording of the questions are left to the interviewer's discretion.

Within each topic, the interviewer is free to conduct the conversation as he/she thinks fit, to ask the questions he/she deems appropriate in the words he/she considers best, to give an explanation and ask for clarification, if the answer is not clear, to prompt the respondent to explain further if necessary, and to establish his/her own style of conversation.

1.6.4 Data Analyses

1.6.4.1 Quantitative Data Analyses

For the purpose of this study, a multivariate analysis (MANOVA) was used. This statistical technique was used to determine whether several groups differ on more than one dependent variable (Pagano, 2010). Each subject included in a MANOVA had a score on two or more dependent variables – which include teacher efficacy and locus of control. For the purpose of this study, the researcher combined the two dependent variables (DV) and named it SELOC (an acronym for Teacher Efficacy and Locus of Control). The different independent variables (IV) refer to gender, experience and discipline, defining the FET teachers in the Lejweleputswa district.

The MANOVA scores are represented by a mathematical expression called a vector. Each subject in the study has a vector score. Also, a mean vector score can be calculated for a group of subjects. This mean vector is called a centroid. The purpose of the MANOVA is to determine whether there are statistically significant differences between the centroids of different groups (Creswell, 2009).

The hypotheses formulated in this study were tested by means of a MANOVA. The level of significance was set at a numerical value as a result of the t-test computation of 0.05. The logic of the level of significance is to assume the null hypothesis is correct, alternatively indicative of the probability in being wrong in failing to accept the hypothesis. If, however, the results of none or one of the groups were above 0.05, the researcher failed to accept the hypothesis; if the results for both of the groups were below 0.05, the hypothesis was accepted.

1.6.4.2 Qualitative Data Analyses

Before appointments could be made for the interview sessions, the researcher met with the participants individually; and explained to them the purpose of the study. Once agreed upon, a date for the interviews was set and materialised at a place of choice by the interviewee. On the day of the interview, the researcher re-explained the purpose of the study, explained the issue of confidentiality, and afforded the interviewee the permission if he/she intends to continue or discontinue participation. The interview then proceeded.

A paper and pencil were used to note verbal and non-verbal responses of the interviewee. Simultaneously, the interviews were tape-recorded for analyses later, and a verbatim transcript of

the interviews was provided. The analysis was inductive. McMillan and Schumacher (2010) contends that analysis of qualitative data through inductive analysis is more apt and sensitive because it enables the researcher to distinguish emerging patterns or themes of opinions or views for the participants.

1.6.5 Population and Sample

A population comprises a target and accessible population. According to Johnson et al. (2008), a target population is a group of participants from whom the researcher wishes to collect the information required to address the research questions, objectives or hypothesis. The accessible population is the sub-population of the target population. The target population of this study referred to all the FET teachers in the Lejweleputswa Education District, teaching the Science and Humanities subjects.

For the *quantitative design*; stratified random sampling procedure was conducted to select a sample for the study. The sample was selected by means of determining the percentage of representative schools amongst the seven clusters in the Lejweleputswa district. There are 64 schools in the seven clusters of Lejweleputswa. Of the approximately 1 500 FET teachers, the researcher selected 320 teachers (inclusive of the principals) in 20 various schools according to a stratified sample to participate in the study. There were 16 teachers randomly selected per school according to the principals' judgement, consequently totalling the stratified sample to a total of 320 participants for this study. However, 45 participants in total did not return their questionnaires, consequently a total of 275 participants' responses were analysed.

For the *qualitative design*; purposeful sampling was chosen for the interviews. The sample consisted of 15 teachers. Participants in this group entailed teachers within the proximity of the researcher. Preference was given to expert teachers who, according to the researcher, had the capacity to provide deeper and broader insight and understanding of the quintessence of teacher self-efficacy and locus of control.

1.7 Significance of the Study

The aim in doing this study is to consider what research says about efficacious teachers and the extent of their locus of control. As a result, this study attempted to outline the challenges in terms of self-efficacy and locus of control, facing education with regard to delivering capable educational professionals committed to teaching as a profession. The study also ascertained the underlying reasons for the perceived levels of self-efficacy and locus of control with regard to classroom teaching among FET teachers in the Lejweleputswa district. If the findings of the study are utilised, they could enhance teaching and learning in our schools and; simultaneously, elevate our education system to a international competitive edge.

1.8 Limitations to the Study

This study resorts under the didactical field of education. It includes teachers in the Further Education and Training phase (FET), teaching the Sciences and Humanities disciplines, in the Lejweleputswa education district. The results of the study can, however not be generalized to teachers of Basic Education and those in the tertiary institutions.

1.9 Ethical Considerations

1.9.1 Permission to collect data

Permission to conduct interviews and administering questionnaires was obtained on provincial level as well as district level. A letter of permission was sent to the Head of Department, Department of Basic Education of the Free State.

1.9.2 Informed Consent

Prior to the distribution of questionnaires, consent was sought from each participant. Although no written consent was sought, each participant was informed that if they did not wish to participate, they would be free to hand back their uncompleted questionnaire.

1.9.3 Confidentiality and anonymity

To ensure confidentiality, respondents were reassured verbally and in writing (in the questionnaire) that the information will be treated with the utmost confidence. Although the research report will be published, it will contain figures, percentages and deductions based on the analysis and interpretation of the data provided without identifying any respondent personally.

1.10 Definition of Concepts

- ❖ **FET:** An abbreviation for Further Education and Training - means all learning and training programmes leading to qualifications at levels 2 to 4 of the National Qualifications Framework or such further education and training levels determined by SAQA and contemplated in the South African Qualifications Authority Act, 1995 (Act

No. 58 of 1995), which levels are above general education but below higher education. (Further Education and Training Colleges Act (16/2006)).

- ❖ **South African Educational Perspective (Outcomes Based Education – OBE)** a student-centered learning philosophy that focuses on empirically measuring student performance, which are called outcomes. OBE contrasts with traditional education, which primarily focuses on the resources that are available to the student, which are called inputs. While OBE implementations often incorporate a host of many progressive pedagogical models and ideas, such as reform mathematics, block scheduling, project-based learning and whole language reading, OBE in itself does not specify or require any particular style of teaching or learning. Instead, it requires that students demonstrate that they have learned the required skills and content. However in practice, OBE generally promotes curricula and assessment based on constructivist methods and discourages traditional education approaches based on direct instruction of facts and standard methods (Wikipedia: online)
- ❖ **Self-efficacy:** Self-efficacy is a person's belief that he or she can accomplish a task. The stronger the perceived self-efficacy, the higher the goal challenges set for themselves and the firmer their commitment to it (O'Donnell et al., 2009).
- ❖ **Teacher Efficacy:** The belief in one's ability to be an effective teacher even with unmotivated learners and a challenging teaching environment (Hergenhahn & Olson, 2010).

- ❖ **Locus of Control:** Refers to the extent to which individuals perceive events in their environment as being contingent on their own behaviour. Rotter in (O'Donnell et al., 2009)

- ❖ **Humanities discipline:** The subjects that will be grouped under the Humanities discipline for the purpose of this study will include: Languages, Dramatic Arts, Life Orientation, Consumer Studies, Business Studies, Economics, History, Geography, and Tourism.

- ❖ **Science discipline:** The subjects that will be grouped under the Science discipline for the purpose of this study will include: Mathematics, Physical Science, Life Sciences, Accounting, and Engineering Graphic and Design.

- ❖ **Scarce subjects:** The term scarce refers to deficient in quantity or number compared with demand: not plentiful or abundant. Scarce subjects will thus refer to those subject fields that are deficient in quantity when comparing them to other subject fields, e.g. Mathematics and Science, with regard to learners' subject choices.

1.11 Chapter Outline

Chapter 1: Introduction

This chapter provided an overview of the whole study with emphasis on the background to the study and the context of the problem. It included the following: Introduction, preliminary literature review, research question/objective and hypothesis, research design and methodology, significance of the study, ethical considerations, definition of terms, and relevance of the study.

Chapter 2: Literature Review

This chapter reviewed the related literature informing this study with regard to teacher efficacy and locus of control. This chapter also revealed the researcher's knowledge about the field of study and updated the reader with the most recent studies on the topic. It enabled the researcher to identifying the gaps: What are the conceptual and methodological strengths and weaknesses? What are the things we can say with confidence, and what is speculative and tentative? What is clearly established and what is missing?

Chapter 3: Research Methodology

This chapter provided the research design and methodologies used to gather and analyze the data. The first stage discussed the procedures related to get permission for the study, the participants and how they were selected as well as the sampling procedures employed. The second stage discussed the measures/instrumentation used in the research and how the research was conducted.

Chapter 4: Results of the Study

This chapter presented the findings, analysis, discussion and interpretation of the data gathered through the research. In *qualitative* research, the researcher presented the data in the form of lengthy narratives to illustrate and substantiate the researcher's interpretations. In *quantitative* research, the reporting was an objective presentation of results, through tables, statistical analysis and descriptive analysis.

Chapter 5: Conclusion and Recommendations

This chapter restated the research hypotheses and the levelled-down approach to analysis that was taken. It showed how the findings answered the hypothesis and research question. Conclusions and recommendations covering the whole research were forwarded and ended with suggestions for future research.

CHAPTER 2

LITERATURE REVIEW: TEACHER SELF-EFFICACY AND LOCUS OF CONTROL

Chapter 2 presents rich literatures on variables identified (focusing on the teacher's personal characteristics) for the assertive improvement of quality education. This study attempted to find the relationship between teacher performance versus teaching qualities inclusive of teacher self-efficacy and locus of control. The findings would be helpful in better preparing teachers and maintaining a supportive setting for them in which they can grow professionally and contribute to learner achievement. The literature review is grounded in the theoretical construct of Bandura's Social Cognitive theory and the Attribution theory.

2.1 Introduction

Teachers provide school education and teacher efficiency is reflected in the teaching process and practice. Ridnour (2006) maintains that the role of the teacher is to teach his or her learners through *interacting* with them. During this interaction, there are various factors that affect the effectiveness of the teacher. Some of these factors, amongst others, include influences of the environment, learner attitudes, the status of the teaching profession and *utmost the teacher's personal characteristics*.

The researcher is of the belief that teacher effectiveness ultimately determines the success of long lasting learning in the classroom. Teacher's successes are also displayed in learner outcomes. Combined with *teacher personal qualities*, teaching will pursue an educational perspective for the development of such learners that will perform to societal expectations,

demonstrating comprehensive academic skills for the promotion of quality education. Research shows that efficacious teachers are capable of changing learners' attitudes about school, increasing their motivation to learn, and boosting academic achievement (Richardson, 2011:13). The extent of the impact of motivation in the classroom is intimately linked to the teacher's characteristics that ultimately set the classroom climate. A learning-focused classroom is also determined by the extent of *locus on control* of the teacher (Yang, 2011). The attribution theory seeks to understand the explanations and excuses particularly to success and failure of an individual. This is supported by Woolfolk (2007:390), who in essence argues that these excuses are seen as being an internal or external cause, stable or unstable and as perceived or controllable.

Selaledi (1999:266-267) remarked that research has indicated that it makes good sagacity to focus on the promotion of *efficacy in teachers* if they are to bring about a positive change in the education of their learners. He argued that some teachers are naturally driven to give their best in their work; others need to be motivated to do so. The convoluted nature of teaching requires a commitment to ongoing growth if professional teachers are to continually engage and challenge increasingly diverse learners in a complex world. Teachers must recurrently assess their expertise, capabilities and accomplishments to hone their skills as reflective practitioners who actively seek to strengthen their professional skills, knowledge and perspectives (Penney, 2007:5).

Ashton (in Tai , Hu, Wang & Chen, 2012:77) argued that a potentially powerful paradigm for teacher education can be developed on the basis of the construct of *teacher efficacy* and suggested a number of modifications to teacher education programmes to enhance pre-service

teachers' efficacy beliefs. These modifications included many of the approaches recommended for the promotion of deep learning, especially the development of analytical problem-solving approaches from meaningful, context based learning. What attributes of teacher efficacy and locus of control are essential to influence learner achievement? Hence, this study will focus on Perceived Levels of *Teacher Efficacy* and *Teacher Locus of Control* when Teaching at Further Education and Training (FET) schools in Lejweleputswa School District.

This chapter presents a review of the literature on teacher self-efficacy and teacher locus of control. Considerations were given on the historical development of the various theories, followed by a discussion on how teacher self-efficacy and teacher locus of control were conceptualized. Thereafter an interpretive analysis of previous research done and some educational implications thereof are presented.

A conceptual model of the study is presented in Figure 1 below. It summarises the thought process the researcher followed in attempt to visualise how applied theories of learning and motivation impact on improving the quality of education in South Africa – with the key focus areas being teacher self-efficacy and locus of control.

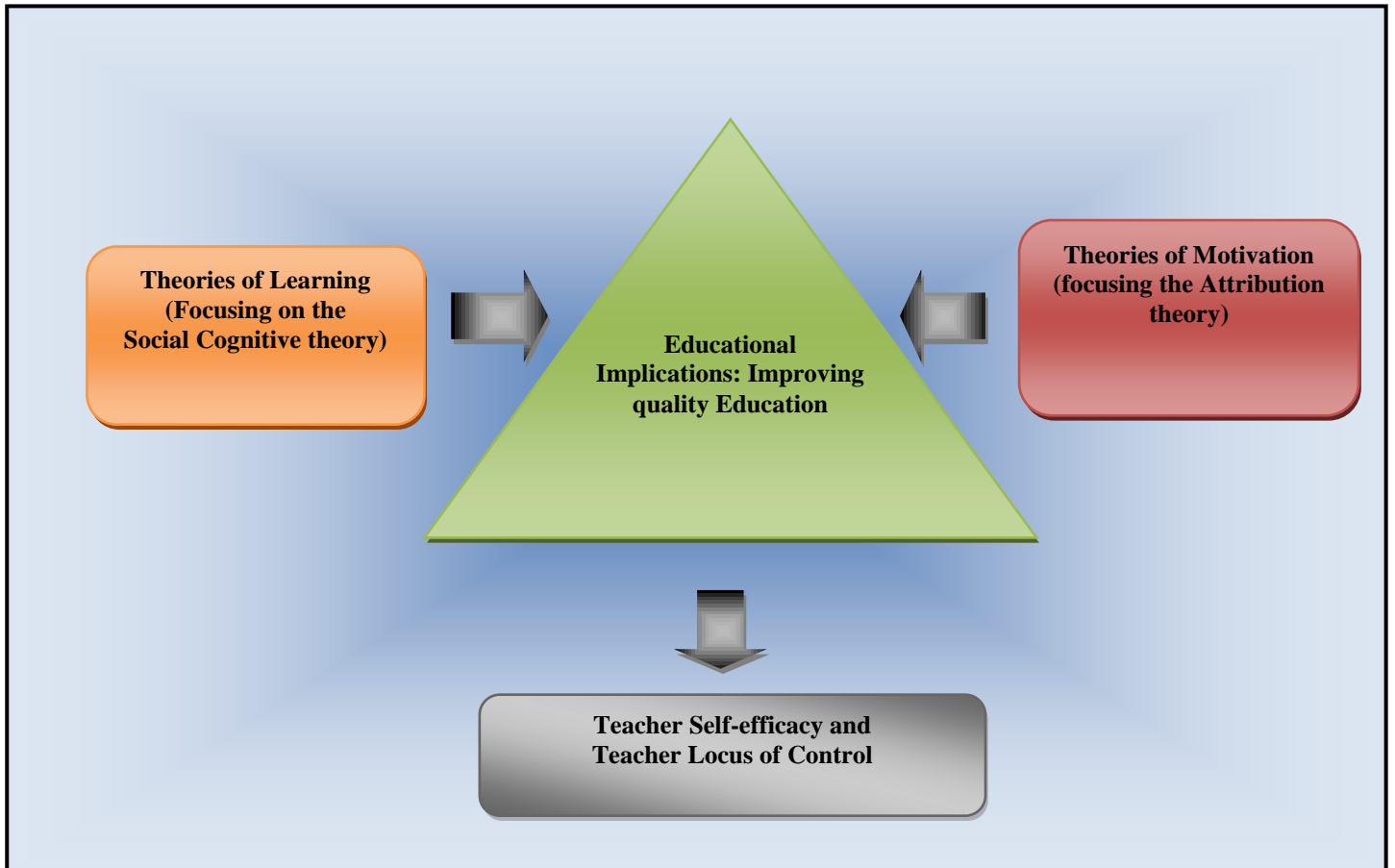


Figure 1: Conceptual Model of the Study

2.2 Historical Overview

2.2.1 Educational Psychology

For as long as educational psychology has existed – about 100 years – there have been debates about what it really is. Woolfolk (2007:8) stated that some people believe educational psychology is simply knowledge gained from psychology and applied to the activities of the classroom. Others believe it involves applying the methods of psychology to study classroom and school life. However, O’Donnell et al., (2009:2) affirmed that educational psychology is the scientific study of psychology in education. Its goals are to understand learners and to promote

their learning. It involves not only scientific research on the various dimensions of teaching and learning, but also the investigation of ways to apply psychological principles to educational contexts with the aim of enhancing teaching and learning quality (Krause et al., 2010). The researcher is convinced that there is, conversely, a close connection between educational psychology and teaching.

The field of educational psychology has grown dramatically over the past 100 years. It came into existence as a field of study through the writings of early psychologists, including E.L. Thorndike (1903, 1910, and 1913), William James (1912), John Dewey (1910), and others. Thorndike was a student of James, who wrote the first Educational Psychology text in 1903 and founded the Journal of Educational Psychology in 1910. Berlinger (in O'Donnell et al., 2009), postulates that these pioneers showed how psychological theories, such as the early learning theories, applied to educational settings.

At the turn of the twentieth century, much attention was focused on the impact of how human behaviour was affected by the idea of self and how one's self-perception affects behaviour. The American psychologist, William James (1912), believed that introspective observation is what we have to rely on first and foremost. In accordance, Pajares (2002) added that James was among the first psychologists to address "self-esteem," defining it as a feeling about one's self and what one thinks of personal accomplishments in relation to other members of society. While behavioural psychologists such as Pavlov and Skinner dominated the 1920s through 1940s with attention to stimuli and response, the idea of "self" lost interest. It wasn't until the 1950s that Abraham Maslow re-directed attention to the construct of self when he addressed a "motivational

process” in which individuals are motivated by unsatisfied needs. Motivation was increased by “the need to become self-actualized, that is, to achieve one’s potentialities, capacities and talents” (Pajares, 2002:3). As needs are met, other needs are identified as individuals proceed through the hierarchy of lower needs to higher needs as promulgated by Maslow.

Pajares (2002:4) further outlined that the humanistic movement led to a new enthusiasm for studying self-constructs and self-beliefs during the 1960s and 1970s. Schools’ attempts to nurture a positive self-concept and self-esteem in learners were mired by a lag between theory and practice. Clearly, much of the research on self-esteem and learner achievement provided findings that were inconclusive or provided unsettling results. Understandably, the enthusiasm for self-constructs began to diminish.

Lewandowski (2005:16) elaborated on the historical development by adding that the 1970s and 1980s brought about the “cognitive revolution” influenced greatly by technological advances such as the computer. Psychologists turned their attention to internal, mental tasking such as information processing, schema building, and problem-solving. Regardless of the movement, renown social cognitivist, Albert Bandura (1977) identified in his publication, *Self-efficacy: Toward a Unifying Theory of Behavioural Change*, what he believed was an instrumental aspect missing from all theories of the day, including his own social learning theory – “self-efficacy.” Describing individuals as having a perception of their capabilities that impact and help to determine choices of activities and persistence in reaching a goal, Bandura referred to these self-perceptions as self-efficacy.

Similarly, in his 1986 publication, *Social Foundations of Thought and Action*, Bandura subsequently discussed a social cognitive theory in which he described people as having beliefs about their own capabilities. It is these beliefs or self-perceptions that actually drive people to their accomplishment rather than their actual ability (Bandura, as cited in Pajares, 2002). Therefore it can be concluded that those who believe that they have the capabilities to be successful, make greater and lengthier attempts to achieve the desired outcome. From this point, many more theorists began to study the construct of self-efficacy. The history of scholarship on motivation at school also reflects many rich theoretical mores encompassing a variety of constructs. Wentzel and Wigfield (2009:1) mentioned that motivation theorists initially focused on drives and needs as the basis of motivation, along with the patterns of rewards and punishments individuals received in school and in other settings.

Over the last 30 years, social cognitive theories have dominated the field of educational psychology. These theories postulate that theoretical perspectives have focused on the motivational significance of individuals' beliefs about their abilities, self-efficacy, and expectancies for success; attributions and beliefs about intelligence; and sense of control over outcomes on individuals' effort, persistence, and subsequently performance. Various authors argued that theorists have similarly generated a rich and extensive literature on why individuals choose to achieve specific outcomes, focusing on constructs such as goals, standards for performance, values, interest, and orientations toward learning and performance (Wentzel & Wigfield, 2009). It can be derived that social cognitive views of learning and motivational theories to learning are intertwined. It refers to the continuous and dynamic reciprocal relationship between the environment, the person and behaviour as well as teachers'

characteristics with reference to the personal qualities they must possess that will increase a learner's motivation to learn (Woolfolk, 2007:330). This discussion is conceptualized further in terms of theories of learning subsequently discussed in the following section.

2.2.2 Learning Theories

The broadest definition of learning involves an interaction between the individual and the environment that results in some permanent change in behaviour (overt or covert). Figure 2 explains the relevant interaction:



Figure 2: Interaction for Learning

Behavioural, cognitive and social constructivist theories of learning place different degrees of emphasis on these three components (O'Donnell et al., 2009:195).

It became evident that Pavlov and Skinner dominated the field of behaviourism in the late 1800s and early 1900s. From a behavioural viewpoint, the most important relationship is between the environment and behaviour: Changes in the environment will result in changes in behaviour. Individual differences are less important to this view of learning, because the goal is to produce desirable behaviours or to reduce the frequency of undesirable behaviours. Individual differences may be seen as reflecting different histories of conditioning, reinforcement or punishment (O'Donnell et al., 2009).

In contrast, from a cognitive viewpoint, the individual plays a key role in learning. Two people can perceive the same environment differently, and as a result, the effects of their interactions with their environment on subsequent behaviour may vary. A social constructivist viewpoint stresses the nature of the environment and its relationship to behaviour. The environment is not just the physical environment, but includes the history of practice and expertise acquired by a community from which the individual might learn by becoming an apprentice in that community. It is concerned with the influence of the environment on the individual and his or her behaviour (O'Donnell et al., 2009: 196).

Social learning theory is a major outgrowth of the behavioural learning tradition. Developed by Albert Bandura (1977), this theory added new cognitive elements, in which an observer engages in processes such as attention, encoding, and retrieval of a model's behaviour - cognitive processes - whereby learning occurs from direct experience. Lewandowski (2005:15) mentioned that a key aspect of Bandura's model is that behaviour is not just the outcome of direct internal influences (that is, cognitive and personal) and external influences (such as instructional procedures and physical settings). Rather, it is the product of complementary interaction between these two aspects of behaviour, together with the influences of behaviour itself (for example, actions and utterances). Slavin (2009:146) further elaborated that social learning theory accepts most of the principles of behavioural theories but focuses to a much greater extent on the effects of cues on behaviour and on internal mental processes, emphasizing the effects of thought on action and action on thought. O'Donnell et al. (2009:295) supported this argument by stating that according to the social learning theory, individuals can learn vicariously from the experiences of others.

Amongst others, the researcher is of the belief that these qualities include personal teaching efficacy and locus of control. The next section focuses on the evolution of the social cognitive theory.

2.3 Social Cognitive Theory

2.3.1 Overview

O'Donnell et al. (2009:92) asserts that socio-cognitive development is the study of how other people (socio-) help develop our thinking (cognitive). In other words, social psychology involves itself in the understanding and the explanation of how our thoughts, feelings and behaviour are influenced by actual, imagined and implied presence of others. It defines our behaviour in relation to interactions with others.

With an initial glance at cognitive development, Piaget and Vygotsky have contributed significantly to this concept. Ormrod (2008:29) highlights that in the early 1920s, the Swiss biologist, Jean Piaget began to study children's responses and discovered a great deal about how children think and learn about the world around them. Krause et al. (2010:52) further explains that at the age of 21, he had published 25 scholarly papers. Similarly, Lev Semanovich Vygotsky conducted numerous studies of children's thinking from the 1920s until his premature death from tuberculosis in 1934 at the age of 37. Although Vygotsky never had the chance to develop his theory fully, his ideas have had a significant influence on our views of child development, learning and instructional practice today (Ormrod, 2008:39).

According to Piaget, learners are naturally curious explorers who constantly try to make sense of their surroundings. Through exploration, learners interact with their surroundings; they discover the world around them and develop three types of schemas – behavioural, symbolic and operations. New information requires that the learner adapt to it, as occurs through cognitive process of assimilation and accommodation. Through these processes, learners develop simple schemas into more numerous and more complex schemas (O'Donnell et al., 2009).

Slavin (2009:31) supported this argument by adding that Piaget's theory of cognitive development proposes that a child's intellect, or cognitive abilities, progresses through distinct stages. Each stage is characterized by the emergence of new abilities and ways of processing information. However, the neo-Piagetians have demonstrated that children's abilities to operate at a particular stage depend a great deal on the specific task involved, that training and experience – including social interactions – can accelerate children's development, and that culture has an important impact on development (Slavin, 2009:42).

According to Vygotsky, learners are young apprentices who benefit from conversations with competent members of their culture. Through social guidance, they acquire skills and knowledge they need to solve problems that are most important in their culture. Cognitive development is the gradual acquisition of new skills and knowledge, and it occurs in the context of guided participation and cooperative dialogue with peers, adults and cultural tools (O'Donnell et al., 2009).

Originally called social learning theory, social cognitive theory has its early roots in behaviourism and thus addresses the effects of reinforcement and punishment to some extent. Over the past decades, however, it has increasingly incorporated cognitive processes into its own explanations of learning – hence its current name, social cognitive theory – and it now include a blend of ideas from behaviourism and cognitive psychology (Ormrod, 2008:344). Social cognitive theory is thus a theory that adds concerns with cognitive factors such as beliefs, self-perceptions, and expectations to the social learning theory (Woolfolk, 2007:230).

Wentzel and Wigfield (2009:36) explain that social cognitive theory has developed in large part through the research efforts of Albert Bandura at Stanford University in 1986. Social cognitive theory is a socio-cognitive perspective that enables individuals to self-regulate cognitive processes and behaviours, rather than simply react to events. Pajares (2003) supported this by adding that this perspective ascribes to the belief that individuals are capable of exercising a degree of control over their thoughts, feelings, motivation, and actions after a self-interpretation of performance. This control impacts and has the potential to alter subsequent actions and behaviours.

Bandura believed that behaviour is more effectively predicted by the belief that individuals have regarding their capabilities rather than what they are actually capable of accomplishing. Therefore, an individual's self-belief is a driving force in his/her academic accomplishments. It is these beliefs that determine how well knowledge and skill are acquired (Pajares, 2003). Capa (2005:14) contends that social cognitive theory explains human behaviour in terms of a triadic reciprocal interaction of personal, behavioural and environmental influences. In other words,

people function as contributors to their own motivation, beliefs and behaviour within a network of reciprocally interacting factors. He further explains that Bandura (1986) labelled this theory as “cognitive” to stress the important influence of cognition in people’s capability to encode information, self-regulate and perform behaviours. The key assumptions of social cognitive theory, including reciprocal determinism, human agency and its capabilities are explained in the following section.

Triadic Reciprocal Determinism

Bandura (1986) outlines that social cognitive theory assumes that, human behaviour, environment, and personal factors mutually interact and serve as determinants of each other.

However, this principle of triadic reciprocal determinism (presented in Figure 3) does not imply that these factors are affecting each other simultaneously and equally. The strength of influence depends on activities, individuals and circumstances.

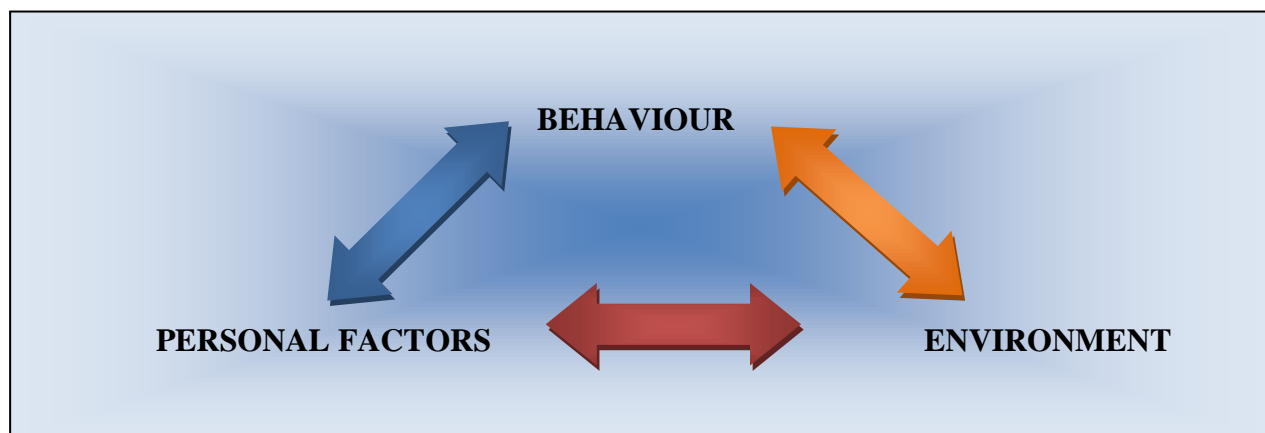


Figure 3: Theoretical Model of Triadic Reciprocal Determinism (Adapted from Bandura, 1977)

According to Figure 3, a bi-directional interaction occurs between behaviour and personal characteristics in the sense that while people’s belief, expectations and goals shape their

behaviour, the consequences of their behaviour will influence their personal characteristics, in turn (Bandura, 1986). The person-environment interaction of reciprocal determinism involves the two-way interaction between characteristics and environmental factors. Bandura (1986) expressed not only are peoples' expectations, beliefs and cognitive competencies developed and altered by their environment, but also their influence on the environment. Finally, the mutual interaction between behaviour and environment suggests that people are both producers and products of their environment. The important component of reciprocal determinism is the notion of human agency. Hence, the following section elaborates on human agency.

Human Agency

Agency refers to “acts done intentionally” (Bandura, 1977). Social cognitive theory assumes that people have power to influence and make changes in their actions. Bandura asserted that efficacy beliefs are the most influential characteristics of human agency. He suggested, “Unless people believe they can produce desired effects by their actions, they have little incentive to act. Efficacy is therefore the foundation of agency (Bandura, 1977).

Fundamental Capabilities of Human Agency

Social cognitive theory assumes that people have a number of basic capabilities that characterize them as a human (Bandura, 1986):

1. People have *symbolizing* capabilities that they can provide their lives with form, meaning, and persistence. For Bandura, “symbols serve as the vehicle of thought”. Through symbols such as mental images or words, they can develop new courses of action by testing possible solutions hypothetically rather than only inactively. This capability can

also allow for creation of internal models that would guide future actions and for communication with others.

2. People have *forethought* capability; i.e. people set goals for their actions and anticipate the likely consequences of these actions. Through these expectations, they choose actions likely to produce desired outcomes rather than detrimental ones.
3. People can learn *vicariously* by observing other's actions and consequences of their actions. This capability allows people to develop new behaviour without avoiding a time-consuming trial-and-error process of actually performing it.
4. People are capable of *self-regulation* that enables them to have personal control over their own motivations and actions. They develop personal standards, evaluate their performance against these standards continuously, and thus motivate themselves to work harder and change behaviour in their succeeding actions.
5. People are *self-reflective*; i.e. they analyse and evaluate their experiences and their own thought processes. By engaging in self-evaluation, they change their behaviour and thinking accordingly. One of the most significant types of self-reflection is self-efficacy, which is introduced in the next section.

2.3.2 Self-efficacy

Self-efficacy, which stands at the core of social cognitive theory, has generated a growing body of literature in psychology. As defined by Bandura (1986), self-efficacy refers to a person's belief that he or she can accomplish a task, people's judgment of their capabilities to organize and execute courses of action required to attain designated types of performance. He provided an excellent statement of the implications of this belief: "The stronger the perceived self-efficacy, the higher the goal challenges set for themselves and the firmer their commitment to it" (Bandura, 1993:119). He further clarified that self-efficacy is concerned not with the skills one has, but with judgments of what one can do with whatever skills one possesses.

Perceived self-efficacy beliefs may impact a person in either a positive, empowering way, or in a negative, demoralizing way. It is the individual's beliefs about being able to carry out the necessary actions to achieve a desired result that determines the impact. Efficacy judgments are concerned not with the number of skills you have, but with what you believe you can do with what you have under a variety of circumstances (Bandura, 1997:37). Pajares (2002) remarked in short, individuals who believe in their ability to perform a specific task will work harder and persist in order to successfully reach the goal than those who do not believe in their ability. Bandura (1997:9) stated: "It is largely through their actions that people produce the environmental conditions that affect their behaviour in a reciprocal fashion". Explanations that attempt to account for behaviour solely in terms of external influences are therefore inadequate in that they ignore the contribution made by personal factors and behaviour itself. This interactive, complementary system is termed reciprocal determinism.

Capa (2005) contends that efforts to clarify the definition of self-efficacy are sometimes clouded by similar or related constructs such as self-concept, self-esteem, and locus of control. Bandura (1997) points out that although they are self-referential, self-efficacy is clearly different from all other self-constructs in that it involves judgment of capabilities specific to a particular task. On the other hand, self-concept is a more global construct that contains many perceptions about the self, including self-efficacy. Self-concepts are assessed by having people rate descriptive statements of different characteristics according to their choices. Because of the specific property of self-efficacy, it has been shown that self-efficacy is a better predictor of behaviour than self-concept. Moreover, self-esteem refers to perceptions of self-worth and does not include judgments of capabilities. There is no present relationship between beliefs about one's capabilities and whether one likes or dislikes oneself. For example, one may judge himself as inefficacious in a given activity, but does not suffer any loss of self-esteem (Capa, 2005:18).

Bandura (in Pajares, 2002) cautioned researchers assessing self-efficacy beliefs that they should use assessments that correspond to the specific task and the domain of functioning being analysed. Otherwise, the resulting omnibus-type instrument would not only create problems of prediction, but also be unclear about what is being assessed. However, Pajares (2002) further stated that in educational research it is not uncommon to come across with global measures of efficacy that “de-contextualise self-efficacy-behaviour correspondence and transform self-efficacy beliefs into a generalised personality trait.” On the other hand, Pajares (2002) also cautioned researchers about the level of specificity in order not to lose generaliseability of the findings and practical utility.

It is not difficult to see how this concept is related to teaching. Teaching is a highly demanding occupation that requires a commitment to achieve goals in the face of sometimes daunting odds; it requires high levels of mental, physical, and interpersonal energy. Without a strong belief in one's ability to achieve one's instructional goals, it would be easy to give up and pursue a less strenuous career (O'Donnell et al., 2009:40). Bandura (1986) identified four key aspects that contribute to the interactive process inherent in his ideas about human behaviour and cognitive functioning. The key characteristic of social learning is its efficiency. These aspects are discussed in the next section.

2.3.2.1 Sources of Efficacy

According to Bandura (1997), there are four main sources of information upon which individuals base their self-efficacy beliefs: enactive mastery experiences, vicarious experiences, verbal persuasions and physiological states as indicated by Figure 4 below.

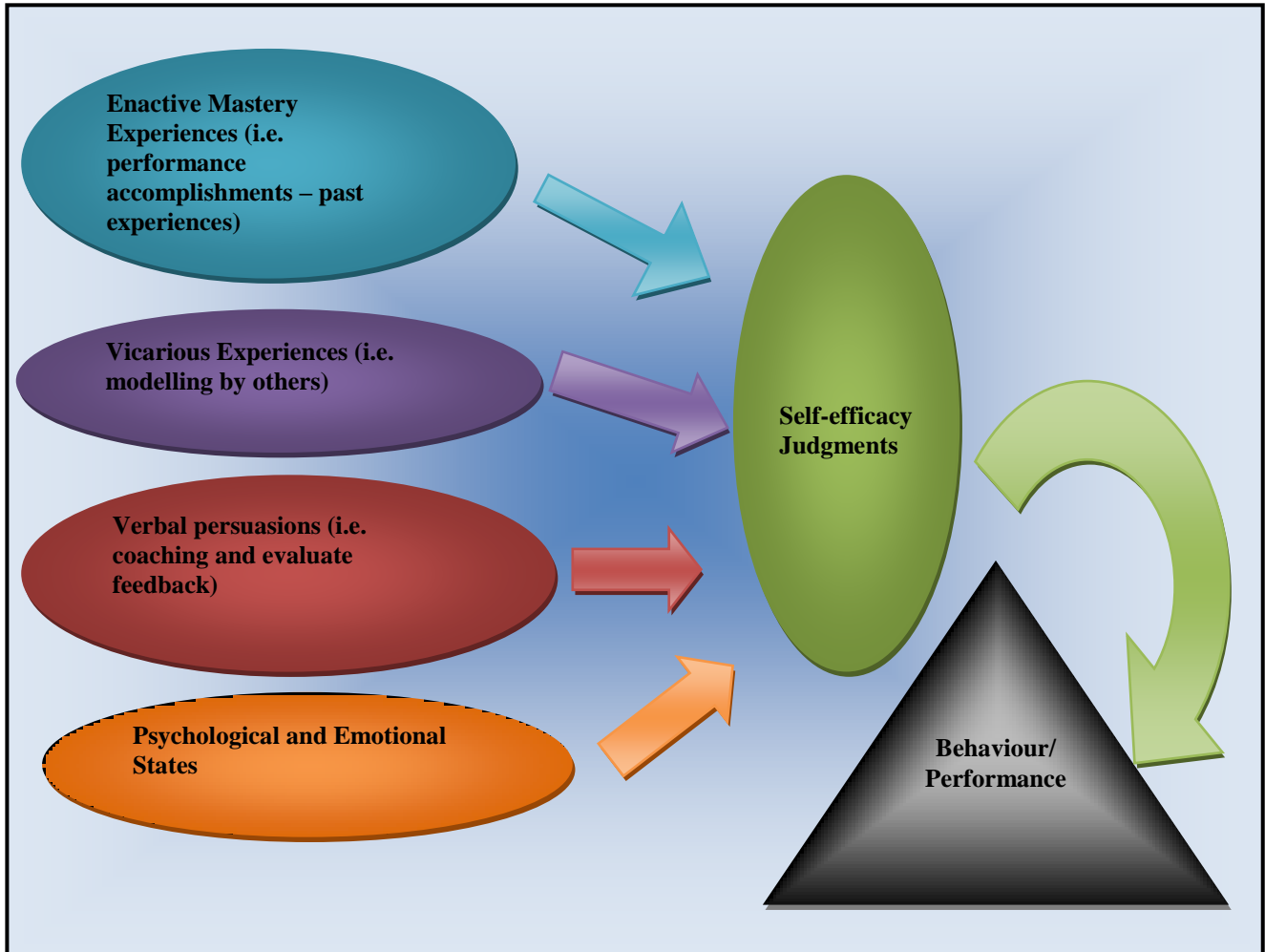


Figure 4: Sources of Self-efficacy (Bandura, 1982)

1. *Enactive mastery experiences.* The most influential source of information comes from mastery experiences because they provide the most realistic information to individuals on their ability to do whatever it takes to succeed. As individuals master skills, they tend to raise the expectation that they will be able to master those skills further. Success tends to raise self-efficacy, whereas failure tends to lower it (Bandura, 1997; Driscoll, 2000).

2. *Vicarious experiences.* Efficacy beliefs are also influenced by vicarious experiences mediated through modelled attainments. Thus, modelling serves another tool for promoting self-efficacy. The more closely the observer identifies with the model, the stronger the impact on efficacy. Observing others perform tasks successfully raises expectations of personal success on the same task (Bandura, 1997).

3. *Verbal persuasions.* The third means of modifying self-efficacy is verbal persuasions. This refers to “others persuading an individual that he or she is capable of succeeding at a particular task” (Driscoll, 2000:314). Bandura (1997) considers verbal persuasion as a weak method of altering efficacy beliefs. While verbal persuasion may be capable of influencing the individual to perform certain tasks, it tends to be disregarded by the individual if it is not verified to be successful.

4. *Physiological states.* Finally, emotional arousal serves as an indicator to the individual. For example, an individual can stop performing a task because they tend to associate emotional arousal such as anxiety or fear as signs of personal incapability (Bandura, 1997).

Bandura (in Lewandowski, 2005) contends that efficacy beliefs are developed by cognitively processing diverse sources of information. That is, individuals weight and integrate multidimensional information while making their efficacy judgments. In this weighting process, the value of each source of information and how to combine those sources change for each individual and for different situations. However, self-efficacy, stemming from verbal persuasion is not enduring; any sign of failure or obstacles will cause the individual’s self-efficacy to

weaken. Emotional arousal employs the individual's anxiety, steering the individual away from a feeling of avoidance.

This method is often used to help phobics overcome their fears. Shaking or sweating prior to attempting a task is often interpreted by the individual as a sign of incapability (Lewandowski, 2005:19).

If the task is not successfully completed, the individual's self-efficacy will be further influenced in a negative manner (Bandura, 1977, 1986, 1997; Smylie, 1990). Lewandowski (2005) concluded that in general, self-efficacy will improve with repeated successful tasks and decrease with failure of tasks.

2.3.2.2 Distinguishing Characteristics of Self-efficacy

Lewandowski (2005:19) points out those beliefs of self-efficacy differ in level, generality, and strength. Specifically, the perception of a task is affected by the level of task demands necessary to accomplish the task. Will the demands classify as simple, moderate, or difficult? Generality refers to the range of activities that are included in the perception. Areas are more generaliseable when activities are similar in degree, situations, and require the same capabilities. Strength varies with self efficacy beliefs. Those who have weak self-efficacy beliefs will allow negative experiences to weaken their self-efficacy as they "give up" working toward the goal. Those with strong self-efficacy beliefs will continue to strive for accomplishment, even if difficulties or obstacles become apparent (Bandura as cited in Lewandowski, 2005:19).

Lewandowski (2005) further explains that Bandura's self-efficacy theory distinguishes between outcome expectancy and efficacy expectation. The degree to which the individual believes the environment can be controlled is outcome expectancy. It deals with the general beliefs that a specific action produces a specific outcome. It does not refer to individuals' capabilities.

The conviction that the individual is personally capable of successfully executing actions that will result in the wanted outcome defines efficacy expectation (Bandura, 1986; Gibson & Dembo, 1984). It is efficacy expectation that predicates an individual's undertaking of a specific action. If the individual perceives the ability to successfully handle the task, he/she is more likely to engage in the task. Once engaged, the positive perception of self-efficacy and positive outcome expectancy will drive the individual to persist to completion. Upon successful completion of the task, the individual's positive self-efficacy will be affirmed or strengthened even more. Those who have a weak efficacy expectation and outcome expectancy will allow fear and apprehension of obstacles to turn them away. Should the individual with a weak self-perception attempt the task, this person is more likely to surrender in the presence of difficulties or obstacles, ultimately resulting in a lower self-efficacy (Lewandowski, 2005:21).

One of the most important contributions to psychology in the past 50 years is Bandura's concept of self-efficacy. When discussing self-efficacy, one must remember that the behaviour recognizes the wide spread ability of the human being. Efficacy alternates based on the function it refers to. Bandura (1997:45) postulates that efficacy beliefs involve different types of capabilities, such as management of thought, affect, action, and motivation. These beliefs affect how much effort people expend, how long they will persist in the face of difficulties, their

resilience in dealing with failures, and the stress they experience in coping with demanding situations. Self-efficacy was further qualified in the literature to include teachers. Hence, an explanation of teacher self-efficacy follows.

2.3.3 Teacher Self-Efficacy

Not long after Bandura introduced the concept of self-efficacy, researchers began to look at it from the standpoint of teaching (Ashton & Webb, 1986; Gibson & Dembo, 1984; Guskey, 1988; Woolfolk & Hoy, 2004). How does social cognitive theory and, more specifically, self-efficacy theory relate to teachers and their work environments?

Within the walls of their classrooms, teachers work to influence positive learner outcomes. Teachers evaluate their ability to carry out this task based on the skills they have and the circumstances with which they must work. Teachers' sense of efficacy, a teacher's belief that he or she can reach even difficult learners to help them learn, appears to be one of the personal characteristics of teachers that is correlated with learner achievement (Woolfolk, 2007:334).

Looney (2003:22) added that self-efficacy theory suggests that the efficacy beliefs that teachers formulate, develop from the cognitive processing of their direct accomplishments within the classroom, incidents in which they vicariously experience other teachers' success or failures, verbally persuasive encouragement and compliments from others about their teaching ability, and positive or negative physiological states - thus corresponding with Bandura's sources for influencing self-efficacy. Bandura (1977) identified teacher efficacy as a type of self-efficacy - the outcome of a cognitive process in which people construct beliefs about their capacity to

perform at a given level of competence. Woolfolk (2007:334) elaborates that teacher self-efficacy or instructional efficacy is a teacher's belief that he or she can reach even difficult learners to help them learn. Hergenhahn and Olson (2010) supported this statement by including that teacher self-efficacy also refers to the belief in one's ability to be an effective teacher even with unmotivated learners and a challenging teaching environment. Albert Bandura studied self-efficacy concepts in relation to a variety of concepts such as motivation (Schunk, 1994), and phobias (Bandura, 1982b). The studies noted that individuals develop ideas and self-perceptions of their capabilities. These capabilities drive individuals when interacting with their environment. Bandura (1977) refers to this control as perceived self-efficacy.

However, over the last 20 years, the construct of teacher efficacy has both evolved from J. B. Rotter's (1966) locus of control theory and Albert Bandura's (1977, 1986, 1997) social cognitive theory. Bandura (in Goddard, Hoy & Woolfolk, 2004) clarifies the difference between these two concepts. He explained that beliefs about one's capability to produce certain actions (perceived self-efficacy) are not the same as beliefs about whether actions affect outcomes (locus of control). Indeed, perceived self-efficacy and locus of control bear little or no empirical relationship with each other. The researcher has noted that the existence of the two separate but intertwined conceptual strands growing from two theoretical perspectives has contributed to some confusion about the nature of teacher efficacy. Some educators have assumed that Rotter's internal locus of control and Bandura's perceived self-efficacy are the roughly the same.

In an attempt to shed some light on the meaning and measure of teacher efficacy, Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) developed a model (see Figure 5) that brings together the two competing conceptual strands from previous teacher efficacy research and provides a more comprehensive look at how self-efficacy beliefs relate to teachers.

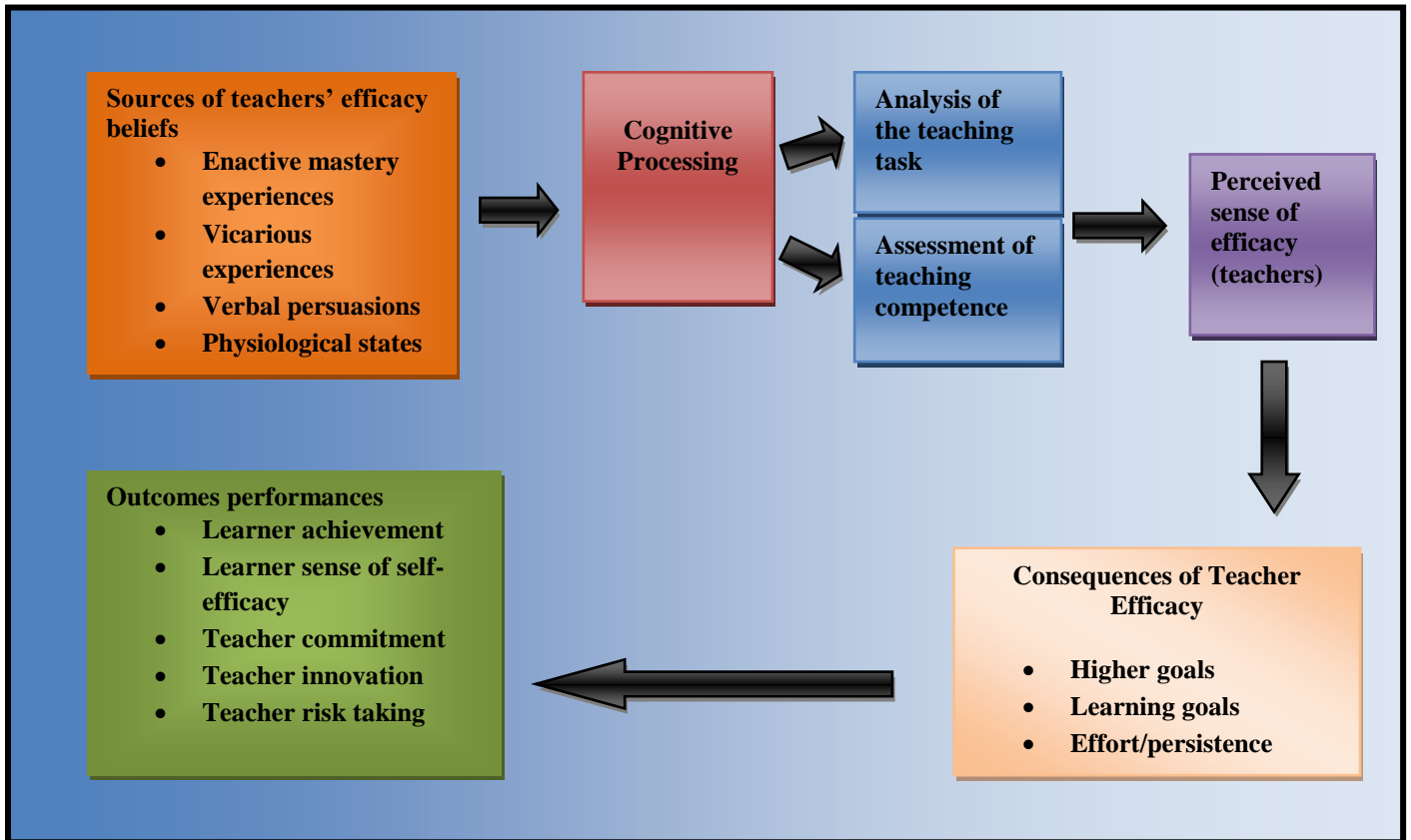


Figure 5: The Teacher's Sense of Self-efficacy Model (Tschannen-Moran et al., 1998)

Building on Bandura's (1977) theory of self-efficacy, Tschannen-Moran et al., (1998) argued that teacher efficacy is really a reflection of a teacher's analysis of the teaching task and assessment of his or her personal teaching competence. Consequently, they contend that cognitive processing of sources of efficacy information feed into teachers' assessment of these

joint functions, which determines their level of efficacy. Figure 5 explains the Teacher's Sense of Efficacy Model.

This notion of teacher efficacy builds from Bandura's (1986) contention that self-efficacy acts as a mediator between an individual's knowledge of their own skill set and the individual's future actions. This new model stipulates that when presented with a teaching task, teachers first give thought to what is involved in that task (i.e. duties and obstacles) and how they feel they could perform within those circumstances, given the skills they know they possess. Looney (2003:28) explains if a teacher believes he or she can affect learner performance after having reflected on what the task entails, he or she would be considered efficacious. This view of teacher efficacy is in line with Bandura's (1986) social cognitive theory, showing the interdependent nature of efficacy beliefs, environment, and behaviour. Bandura (1986) contends that beliefs related to self-efficacy allow people with a similar set of skills or attributes to perform the same function differently. Nonetheless, efficacy beliefs can only show true excelled performance if a skill set is available.

Research has shown that strong self-efficacy beliefs with regard to teaching lead to improved learner achievement (Goddard et al., 2004). Teachers who believe in their abilities are more likely to create learning environments that support the cognitive process (Bandura as cited in Hartfield, 2011:22). Teachers with a high sense of teacher self-efficacy believe that their efforts in the classroom will leave a lasting impact on the learner, no matter their background. High efficacious teachers create an atmosphere conducive to learning, work diligently with learners who struggle with content, spend more time on academic subject matters and praises learners for

succeeding and making gains (Hartfield, 2011:27). Teachers with a low sense of teacher self-efficacy feel incapable of teaching or motivating difficult learners, fail to provide adequate time for learners to answer and constantly criticizing the struggling learner. The researcher is of the opinion that having a basic understanding of teacher self-efficacy is relevant in supporting the education system, producing effective teachers, and the retention of good teachers.

Hoy and DiPaola (2007:142) suggested that teachers do not feel equally efficacious for all teaching situations and that teacher efficacy is context-specific. They explained that teachers feel efficacious for teaching particular subjects to certain learners in specific settings, and they can be expected to feel more or less efficacious under different circumstances. Even from one class period to another, teachers' level of efficacy may change. Therefore, in making an efficacy judgment, consideration of the teaching task and its context are required.

The researcher feels as a teacher, the number one goal is to allow the learner to learn. With a strong set of skills and self-efficacy, teachers can assist learners in the development of their cognitive capabilities. Selaledi (1999:268) supports this philosophy by adding that teachers with a high sense of efficacy tend to use praise and nonverbal signs of acceptance such as nodding positively or smiling at their learners when their learners provide favourable responses. They are effective in leading their learners to correct responses through their questioning. Such instructional strategies help to motivate their learners further. High efficacious teachers also tend to avoid those behaviours that can create a tense or negative climate, such as screaming at learners or punish them.

In contrast, teachers with a low sense of efficacy tend to adopt instructional strategies which contain and control the situation in the classroom. They view their work as a control mechanism rather than as teaching and learning. They do not spend much time in trying to teach low-achievers because they believe that such students cannot and would not learn. They criticise learners when they provide incorrect answers (Selaledi, 1999:267). By adopting such instructional strategies, teachers with a low sense of efficacy try to maintain their self-esteem.

This view is also motivated by Ashton and Webb (in Rangraje, 2002:44). They believe that teachers' efficacy expectations influence their thoughts and feelings, their choice of activities, the amount of effort they expend on the extent of their persistence in the face of obstacles. Sergiovanni and Starratt (1993) further added that teachers' sense of efficacy is also linked to their motivation, commitment to work, and learner achievement. This means that teachers who have a low sense of efficacy would doubt their ability to influence their learners to learn. As a result, such teachers would be reluctant to undertake activities that they feel may be beyond their capabilities. Instead, they ponder on thoughts of their perceived inadequacies (Rangraje, 2002:44). Such thoughts have a negative effect on their teaching capabilities in the classroom because they spend much of their time reflecting on their perceived personal incompetence. This is likely to raise their stress levels.

Figure 6 below illustrates the relationship between teachers' sense of efficacy, teaching and learning behaviours. It illustrates the direct relationship between the aspects mentioned. When a teacher believes that learners can learn when taught, the learner will respond with enthusiasm and positive interaction will take place between learning and teaching.

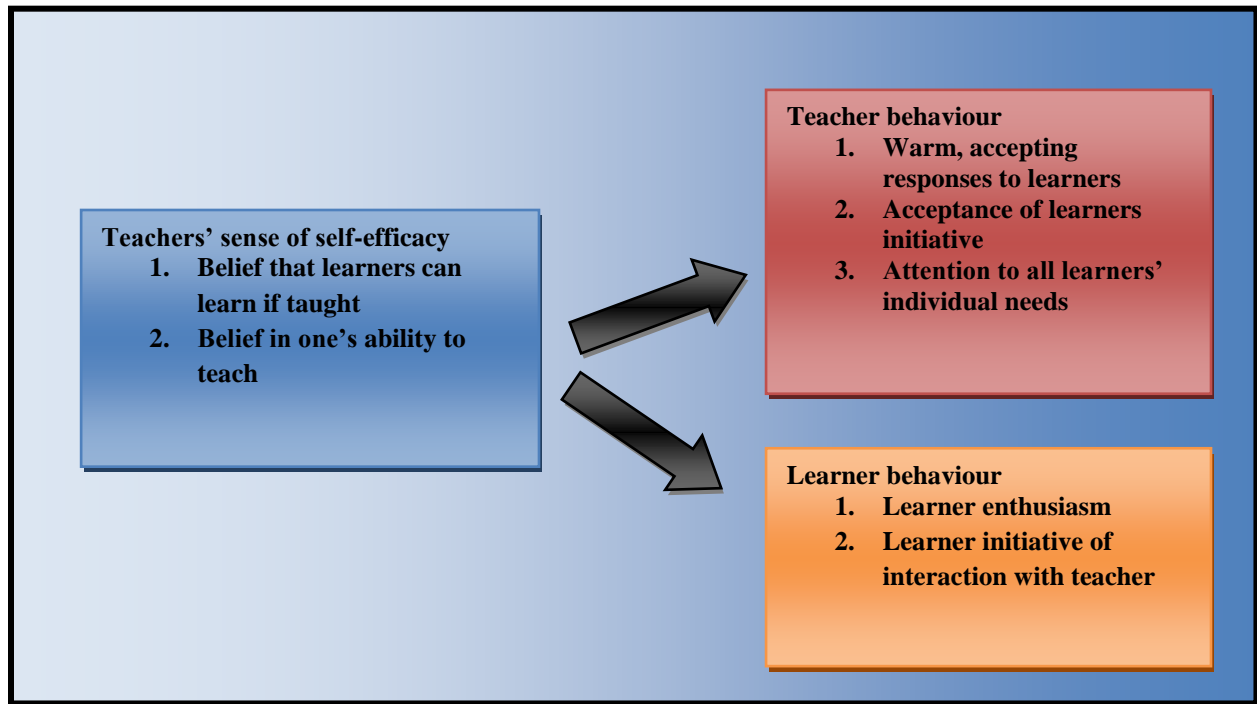


Figure 6: Relationship between teachers' sense of efficacy and teaching learning Behaviours (Sergiovanni & Starratt, 1993)

Self-efficacy is a situation-specific determinant of behaviour. This means that self-efficacy must be studied by analysing the contextual factors that affect teachers' sense of efficacy. Ashton and Webb (1986) identified some contextual factors that have an influence on teachers' sense of efficacy:

1. Teachers' subjective perceptions – the study of teachers' sense of self-efficacy requires an exploration of the subjective perceptions of teachers. The perceptions which teachers have of themselves are largely determined by their beliefs. Beliefs are products of teachers' personal discovery of meaning. The beliefs which teachers have, determine their goals, the things they do and their judgments.

2. Indirect influence – teachers’ sense of efficacy is affected by direct and indirect influences. Direct influences include the learners in the classroom and the principal – which is directly involved with the teacher. Indirect influences include the learners’ families, the school organization, the community, and culture play an important role in school life (Ashton & Webb, 1986).
3. Reciprocal influence – teachers’ sense of efficacy is reciprocally determined because it affects teachers’ behaviour and is, in turn, influenced by the teachers’ perceptions of the consequences of that behaviour (Ashton & Webb, 1986). Teachers’ sense of efficacy is likely to affect learner achievement, and in turn, learner achievement is likely to influence teachers’ sense of efficacy (Gibson & Dembo, 1984).
4. Influence of the environment – research has indicated that the environment in which the teacher works has an influence on his or her sense of efficacy (Ashton & Webb, 1986). As rational professionals, teachers have to constantly make judgments and carry out decisions in uncertain complex environments. The classroom context plays an important role in teachers’ perceptions of their effectiveness. There are various environmental features which affect the behaviour of teachers, such as, class size, personality of learners, school curriculum and the activity structure of the lessons.
5. Classroom behaviour – research on teacher effectiveness indicates that the amount of time spent on direct instruction is related to enhanced learner accomplishments (Gibson & Dembo, 1984). Teachers with low teaching efficacy spend more time in small group

instruction while high-efficacy teachers spend more time in whole-group instruction. Low-efficacy teachers are more likely than high-efficacy teachers to give the answer rather than to allow learners an opportunity to respond.

6. Opportunities for participation – schools should create opportunities for teachers to participate in the different structures that are present. Participation in such structures enhances efficacy of teachers. Beckman and Blom (2000) provide the following reasons for teacher participation:
 - a. It shows tolerance and respect for others.
 - b. It fulfils the teachers’ need for self-actualisation through recognition and participation in decision-making.
 - c. It is linked to fair outcomes.

Based on a multi-trait/multi-method analysis completed by Gibson & Dembo (1984), self-efficacy, with special attention to teacher self-efficacy, was found to have two distinct dimensions, teaching efficacy and personal teaching efficacy. This is also confirmed by Allinder (1994:86), Ashton and Webb (1986:3), Dembo and Gibson (1985:175), Selaledi (1999:266). Tschannen-Moran et al., (as quoted by Hope Benton-Borghi, 2006:54), affirm that teacher efficacy has become a viable construct of self-efficacy and has been effectively researched over the past 30 years, adding essential information to the knowledge base in education and psychology. Bandura’s social cognitive theory and his construct of self-efficacy are the basis for teacher efficacy and collective efficacy. Both of these are known predictors of learner achievement (Goddard et al., 2004). They posit further that for schools, collective efficacy refers

to the perceptions of teachers in a school that the efforts of the faculty as a whole will have positive effects on learners. Collective efficacy is the perceived capabilities of the group as a whole and, therefore, the unit of analysis. These dimensions are further discussed below.

2.3.3.1 Dimensions of Teacher self-efficacy

❖ *Sense of teaching efficacy*

Selaledi (1999:266) states that teacher efficacy refers to the teacher's beliefs about the general relationship between teaching and learning. This construct emphasizes that the teacher has specific expectations for specific learners in specific situations. The extent to which teachers believe that teaching can have an effect on learners' learning varies. Teachers who have a low sense of efficacy share the view that low-achieving learners will continue to perform poorly, irrespective of any intervention by the teachers to improve their performance. They believe this to be a reality that will not change.

Conversely, teachers who have a high sense of efficacy believe that all their learners are capable of learning (Rangraje, 2002:46). Teachers' sense of teaching efficacy is an expectancy construct. This means that teachers expect certain learning outcomes to be achieved from teaching the learners. This, in turn, has an effect on the performance of the learners. The reason for this is that the teachers' specific outcome expectations regarding the efficacy of teaching are filtered through their judgments of their own ability to influence learner achievement (Ashton & Webb, 1986:7). Teachers who experience a low sense of teaching efficacy go on to experience feelings of universal helplessness, believing that their low-achieving learners cannot be helped –

irrespective of how much they try to improve the situation. Figure 7 below explains that universal helplessness causes teachers to have negative expectations and doubts of their ability to motivate certain learners (Dembo & Gibson, 1984, as quoted by Rangraje, 2002:46).

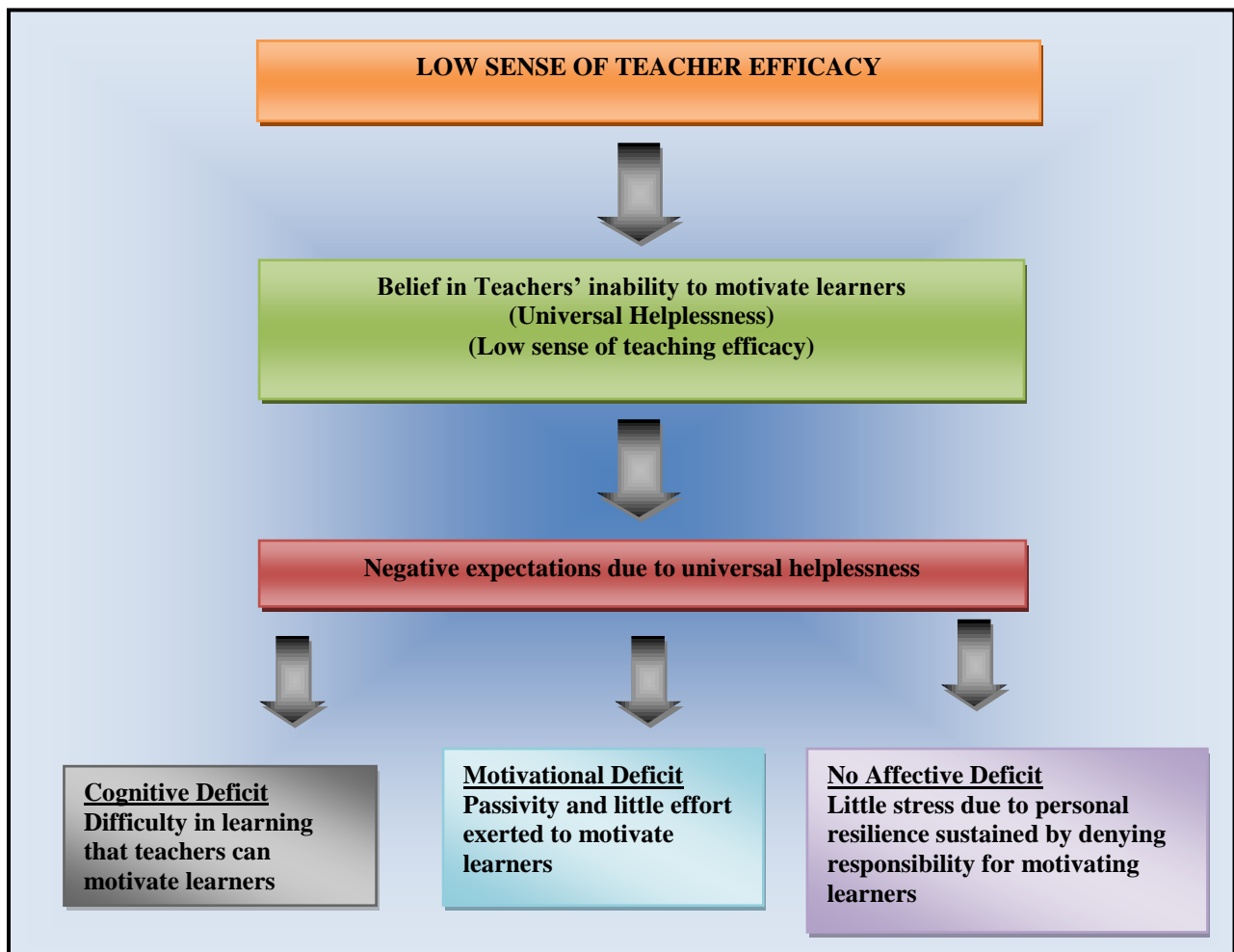


Figure 7: Teachers' sense of teacher efficacy (Ashton & Webb, 1986)

❖ *Sense of personal teaching efficacy (PTE)*

Gibson and Dembo (as cited in Rangraje, 2002:47), contends that this dimension refers to teachers' belief in their own ability to affect learning. Personal efficacy is concerned with the

conviction that one can successfully execute behaviour required to produce outcomes. Selaledi (1999) postulates that, PTE refers to the individual teacher's assessment of his or her own teaching competence. The perceptions that teachers have of their own teaching capabilities influence their work performance. Teachers with a low sense of personal efficacy will usually avoid situations in which they lack the confidence in their ability to perform successfully. Teachers who perceive themselves to be incompetent spend so much of time worrying about their incompetence that they are unable to perform well in the classroom. Such feelings of doubt could cause them to become stressed.

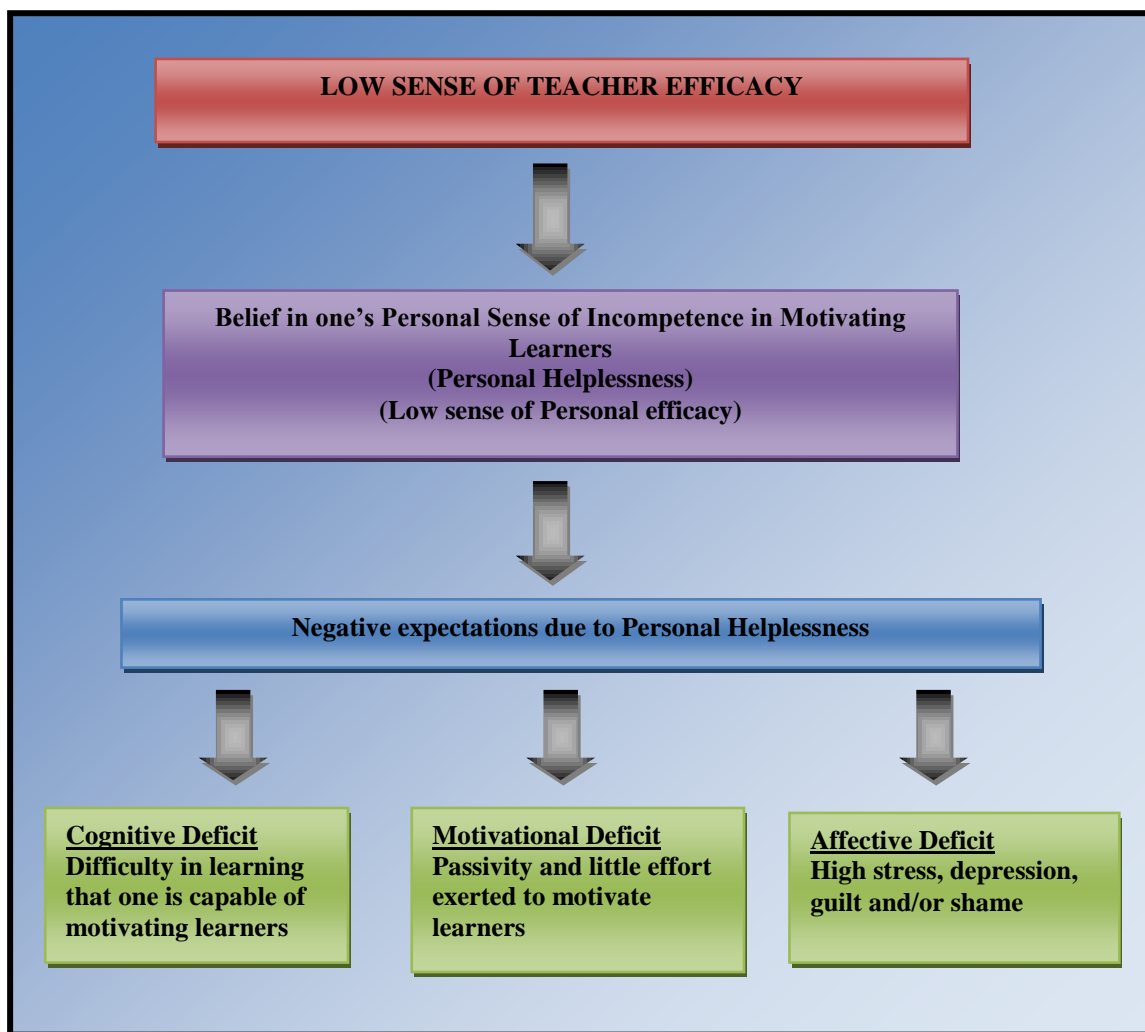


Figure 8: Teachers' sense of Personal Teaching Efficacy (Ashton & Webb, 1986)

According to Ashton and Webb (cited in Rangraje, 2002:48), teachers who experience a low sense of personal teaching efficacy are most likely to experience feelings of personal helplessness.

As illustrated in Figure 8, feelings of personal helplessness are likely to produce in teacher's high stress, guilt and shame (Gibson & Dembo, 1984). Therefore, they avoid the task of teaching low-achieving learners because it may cause them to suffer a high degree of stress and a loss of professional self-esteem. These teachers do not hold the learners responsible for their poor performance. They may believe that although learners can learn, they themselves do not have the skills or resources to teach them. Such teachers believe that low-achieving learners would learn if they were better teachers who were more knowledgeable, talented and dedicated.

Teachers' sense of personal teaching efficacy is an integrating construct that mediates the relationship between teachers' expectations about the efficacy of teaching specific learners and teachers' classroom interactions with those learners. Bandura (1986) maintains teachers who are unsure of their instructional efficacy, devote little time towards academic activities, do not spend extra time on weaker learners, and do not hesitate to criticise their learners when such need arises. Such attitudes are detrimental to the development of cognitive skills in learners.

❖ *Collective efficacy*

In the educational setting, perceived collective efficacy refers to the judgment of teachers in a school that the faculty as a whole can organize and execute the courses of action required to have a positive effect on learners (Goddard et al., 2004:4). Collective efficacy operates in a parallel

manner to self-efficacy. Bandura (as cited in Penney, 2007:27) states that the shared beliefs of members of a group in their collective power to achieve mutual goals are a major element of collective agency. The constructs of school climate and culture are useful for examining how collective efficacy interacts with teaching practices and educational outcomes. Teachers' collective efficacy is reinforced by a school climate dedicated to the belief that teachers have the power to make a positive difference in learners' lives (Woolfolk Hoy, 2004). Schools where teachers work together to find ways to address learning, motivation, and behaviour problems of the learners are like to enhance teachers' feelings of efficacy (Tschannen-Moran & Woolfolk Hoy, 2001).

2.3.4 Research on Teacher efficacy

Over the past 25 years, numerous studies have been conducted linking teachers' sense of efficacy to instructional effectiveness (Berman & McLaughlin, 1977; McLaughlin & Marsh, 1978; Armor et al., 1976; Dembo & Gibson, 1985; Ashton & Webb, 1986; Hoy & Woolfolk, 1993). Because of this, experts acknowledge that a link does exist between improved teachers' self-efficacy and improved learner achievement.

Ashton and Webb (1986: 1-2) conducted a study to determine factors that impact on a teacher's motivation and self-esteem. Teachers who have a strong sense of efficacy believe that they are capable of having a positive effect on learner performance. In another study, Armor et al., (1976:24) reported that teacher's sense of efficacy was strongly and significantly related to increases in reading. In yet another study; Berman and McLaughlin (1977:137) reported strong

relationship between teachers' sense of efficacy and the percentage of project goals achieved, improved learner performance, and teachers' maintenance of innovations.

In 1977, the Rand Corporation studied planned change over a period of four years. The Change Agent Study looked closely at the change process and teacher growth. It was found that teacher efficacy was the most significant teacher attribute to growth and change throughout these studies. However, teacher efficacy was considered in a broad sense that combined beliefs about teachers in general with beliefs about individual ability. Research by McLaughlin and Marsh (1978) found teacher efficacy to positively impact: achievement of a project goal; the amount of adjustment made by the teacher throughout the project; learner achievement; and, continued use of project methods and materials (McLaughlin & Marsh, 1978; Smylie, 1990).

Providing support to the construct of teacher-efficacy are the indirect investigations by Brookover (1978), Brophy and Evertson (1977). Brookover (1978) studied social-psychological variables that set schools of similar socioeconomic standards and racial composition apart, based on learners' academic performance. It was found teachers who demonstrate a great instructional commitment to learners and practice positive reinforcement, nurture higher achieving students (Brookover, 1978). The Brophy and Evertson study of 1977 revealed students of teachers with high learner expectations and strong feelings of responsibility to the learners made higher academic gains (Brophy & Evertson, 1977; Dembo & Gibson, 1985; Gibson & Dembo, 1984).

Another study that involved 20 Los Angeles elementary schools participating in the Preferred Reading Program focused on the classroom practices of those who successfully improved

reading scores. It was shown that teacher efficacy, identified as their sense of being able to get through to learners, their commitment and morale positively affected black children's reading scores (Armor et al., 1976). Yet another study, connecting teachers' self-efficacy to learner achievement was carried out by Berman and McLaughlin (1977).

Penney (2007) remarks that the characteristics of teaching associated with academic success are identified in research on teacher efficacy. Dimopoulou (2012) further expresses that the task of creating learning environments, conducive to development of cognitive competencies, rests heavily on the talents and self-efficacy of teachers. Yang (2011) supported this argument by stating that teacher efficacy has proven to be an important variable in effective teaching. Research shows that teachers who have a strong sense of efficacy persist longer when questioning individual learners during instruction, are more pragmatic about teaching, and are more receptive to implement new practices.

Various research studies on teacher efficacy have been conducted by various researchers over the years to determine factors impacting on teacher's own assessment of a sense of competence in the classroom. Highly efficacious teachers believe that they can help even the most difficult or unmotivated learners (Gibson & Dembo, 1984). Such teachers usually choose those tasks which they find challenging. In the classroom, they are highly motivated and become engrossed in their work. Rangraje (2002:43) added that teachers are not easily deterred when faced with obstacles, but rather approach them with a rational mind.

Recently, Tai et al., (2012:77) investigated the impact of teacher self-efficacy on learning outcomes. An effective teaching and learning model was devised and constructed through a review of the literature. In addition, in order to achieve its goal, five hypotheses were proposed, tested and accepted: 1) teacher self-efficacy has a positive effect on student learning satisfaction; 2) teacher self-efficacy has a positive effect on student learning outcomes; 3) the teaching process has a positive effect on student learning satisfaction; 4) the teaching process has a positive effect on student learning outcomes; and 5) student learning satisfaction has a positive influence on student learning outcomes.

2.3.5 Teaching and Educational Implications of Teacher efficacy

According to Green (in O'Donnell et al., 2009:35), teachers' beliefs are propositions that individuals believe to be true. They have been a subject of research in educational psychology for decades. Richardson (in O'Donnell et al., 2009) argues that teachers' beliefs stem from three main sources:

1. Personal experience – the activities, events and understanding that are a part of everyday Life,
2. Experiences with schooling and instruction – the experiences that teachers had when they were learners,
3. Experiences with formal knowledge – including knowledge gained from academic subjects and pedagogical knowledge gained in teacher education programmes.

Thus, what teachers believe about the efficacy of teaching would depend in part on their own experience in life, what happened to them in school, and what they were taught about teaching in

teacher education courses (O'Donnell et al., 2009). Beliefs shape expectations of what will happen, and we prepare to respond to events based on those expectations. Teachers will thus act on their beliefs about what good teachers do. Errington (2004) argues that teachers' beliefs are probably the most important factor in determining the success or failure of their approach to teaching.

For this reason, Ormrod (2008:13) outlines the following strategies on developing teacher effectiveness:

1. Teachers should continue in taking courses in teacher education.
2. Teachers must learn as much as they can about the subject matter they teach.
3. Teachers to learn as much as they can about specific strategies for teaching the particular subject.
4. They should believe that they can make a difference in learners' lives – with reference to teacher self-efficacy.

He further postulates that when teachers have a high self-efficacy belief about their effectiveness in the classroom, they influence learners' achievements in several ways:

1. These teachers are more willing to experiment with new teaching strategies that can better help learners to learn.
2. These teachers have higher expectations regarding, and set higher goals for, learners' performance.
3. These teachers put more effort into their teaching and are more persistent in helping learners to learn.

Hoy and DiPaola (2007:141) remark that teachers who possess stronger perceptions of self-efficacy tend to display specific observable behaviours for themselves such as effort, persistence, enthusiasm, and confidence. These teachers use teaching time differently and engage learners in learning for longer periods of time. Teachers with strong self-efficacy exemplify warmth and responsiveness to all learners, especially those of lower ability. As David Kearns (in Woolfolk, 2007) acknowledged, failure to change the willingness of all teachers to make a positive impact on all learners and for teachers to believe in their own ability, is failure to deal with a critical issue in education today. Teachers must believe in themselves and their learners if educational strides are to be made. Hence, teachers who believed that they could influence learner achievement and motivation were seen as assuming that they could control the reinforcement of their actions and thus having a high level of efficacy (Hoy & DiPaola, 2007:141).

O'Donnell et al. (2009:14) further elaborates on effectiveness of teaching. Mindful habits of effective teachers include the ability to engage in critical thinking and active reflection about one's practice. It is described as mindful because this reflection is deliberate, intentional and purposeful. Outstanding teaching combines knowledge about the teaching-learning process and a host of other attributes, including:

1. Expertise in the subject matter being taught,
2. Belief in one's ability to teach and learner's ability to learn,
3. Sensitivity to the needs of different kinds of learners,
4. Planning and organizational skills,
5. Interpersonal and leadership skills,
6. A great deal of hard work.

Teaching is not something one can do alone. It is reciprocal by its very nature: Teaching implies learning; teachers imply learners (O'Donnell et al., 2009:33). Teaching is the interpersonal effort to help learners acquire knowledge, develop skill and realise their potential. Both the Piagetians and Vygotskians perspectives on cognitive development offer important contributions to the practice of education. As for which theory teachers should apply, it seems that both have merit and both offer useful recommendations. Combining the two theories implies that Piaget's ideas help teachers formulate instructional strategies to promote self-discovery, and Vygotsky's ideas help them to formulate instructional strategies to promote social guidance and instructional conversations (O'Donnell et al., 2009:99).

Table 1: The influence of Self-efficacy on Motivation (Eggen & Kauchak, 2010:299)

The influence of Self-efficacy on Motivation		
	High self-efficacy Learners	Low self-efficacy Learners
Task orientation	Accept challenging tasks	Avoid challenging tasks
Effort	Expend high effort when faced with challenging tasks	Expend low effort when faced with challenging tasks
Persistence	Persist when goals are not initially reached	Give up when goals are not initially reached
Beliefs	Believe they will succeed Control stress and anxiety when goals are not met Believe they are in control of their environment	Focus on feelings of incompetence Experience anxiety and depression when goals are not met Believe they are not in control of their environment
Strategy use	Discard unproductive strategies	Persist with unproductive strategies

Performance	Perform higher than low- efficacy learners of equal ability	Perform lower than high- efficacy learners of equal ability
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Self-efficacy also strongly influences motivation to learn (Eggen & Kauchak, 2010:299), as outlined in Table 1. For instance, compared to low-efficacy learners, high-efficacious learners accept more challenging tasks, exert more effort, persist longer, use more effective strategies, and generally perform better.

Promoting self-efficacy should be an important goal for teachers. Experts suggest that increases in self-efficacy perceptions, in task effort and persistence, and in ultimate performance levels can be achieved by encouraging learners to set specific and challenging, but attainable goals (Brophy, 2004:65).

Teachers can promote learner self-efficacy in several ways (Eggen & Kauchak, 2010:333):

1. Begin lessons with open-ended questions that assess learners' current understanding and promote involvement.
2. Use a variety of high quality examples that develop background knowledge and promote understanding.
3. Develop lessons with questioning, together with prompting learners when they have difficulty in answering.
4. Provide scaffold practice before expecting learners to do work on their own.
5. Make assessment an integral part of the teaching-learning process, and provide detailed feedback about the learning process.

These guidelines are supported by Krause et al., (2007:107) whereby they expressed enhancing a learners' self-efficacy is central to teaching and preparing learners for life beyond school. Slavin (2009:7) contends that research finds that one of the most powerful predictors of a teacher's impact on learners is the belief that what he or she does makes a difference.

With experience, hard work, and good support, most teachers have more time to experiment with new methods and materials. Finally, as confidence grows, seasoned teachers can focus on the needs of their learners. At this advanced stage, teachers judge their success by the success of their learners. Codell (2009) postulates that the difference between a novice and an experienced teacher is that the novice teacher asks, 'How am I doing?' and the experienced teacher asks, 'How are the learners doing?' In the next section, a focus on motivation will be related to learning behaviour and teacher qualities.

2.4 Attribution Theory

2.4.1 Overview

Slavin (2009) maintains that psychologists define motivation as an internal process that activates, guides, and maintains behaviour over time. Motivation theories seek to explain why people are motivated to do what they do. With reference to education, motivation plays an integral part in teachers' and learners' attempts to achieve academic success. Eggen and Kauchak (2010) assert that academic achievement is interestingly an important issue; a fundamental premium upon which all teaching-learning activities are measured using some criteria of excellence e.g. good academic performance, poor academic performance and academic failure. Academic

achievement, as previously mentioned, has special importance for both the learners and the teacher.

This brings us to yet another cognitive factor that is very important in motivation - the extent to which individuals make mental connections between the things they do and the things that happen to them. Individuals' beliefs about what behaviours and other factors influence various events in their lives – including their perceptions about the causes of their success and failures – are known as attributions (Ormrod, 2008:429). Causal attributions influence motivation through personal beliefs. Those teachers, who perceive them to be highly competent, blame their failure on insufficient effort on their part. Rangraje (2002) supports these arguments by stating those who perceive themselves to be highly incompetent, attribute their failure to a low ability level.

Bernard Weiner is one of the main educational psychologists responsible for relating attribution theory to school learning (Woolfolk, 2007:390). He developed a theoretical framework that has become very influential in social psychology today. Attribution theory assumes that people try to determine why people do what they do, that is, interpret causes to an event or behaviour. A three-stage process underlies an attribution:

1. behaviour must be observed/perceived;
2. behaviour must be determined to be intentional; and
3. behaviour attributed to internal or external causes.

Weiner's attribution theory is mainly about achievement. According to him, the most important factors affecting attributions are ability, effort, task difficulty, and luck (Slavin, 2009:301).

Attributions are classified along three causal dimensions:

1. locus (location of the cause);
2. stability (whether the cause is likely to stay the same in the near future or can change);
and
3. controllability (whether the person can control the cause).

When one succeeds, one attributes successes internally ("my own skill"). When a rival succeeds, one tends to credit external (e.g. luck). When one fails or makes mistakes, we will more likely use external attribution, attributing causes to situational factors rather than blaming ourselves. When others fail or make mistakes, internal attribution is often used, saying it is due to their internal personality factors. There are many explanations people can give why they fail or succeed.

Table 2: Wiener's Model of Attributions (Woolfolk, 2007)

<i>Dimension classification</i>	<i>Reason for Failure</i>
Internal-stable-uncontrollable	Low aptitude
Internal-stable-controllable	Never studies
Internal-unstable-uncontrollable	Sick the day of exam
Internal-unstable-controllable	Did not study for particular test
External-stable-uncontrollable	School has hard requirements
External-stable-controllable	Instructor is biased
External-unstable-uncontrollable	Bad luck
External-unstable-controllable	Friends failed to help

In Table 2, eight reasons representing eight combinations of locus, stability and responsibility are outlined. One concept that is central to the attribution theory is locus of control, developed by Rotter in 1954 (Slavin, 2009:301).

Furthermore, Ormrod (2008:438) is of the view that when teachers have high expectations of learners, they present more course material and more challenging topics, interact with learners more frequently, provide more opportunities for learners to respond, and give more positive and specific feedback. In contrast, when teachers have low expectations for learners, they present few, if any, challenging assignments, ask easier questions, offer fewer opportunities for speaking in class, and give less feedback about learners' responses.

Ormrod (2008:431) explains the attributions for learner success or failure vary as follows:

1. Locus: Internal versus External – learners sometime attribute the causes of events to internal things – factors within themselves. Thinking that a good grade is due to a learner's own hard work and believing that a poor grade is due to his or her lack of ability are examples of internal attributions. At other times learners attribute events to external things – to factors outside themselves. Concluding that a learner won a spelling quiz only because he or she was asked to spell easy words and interpreting a classmate's scowl as a sign of her bad mood (rather than a response to something you might have done) are examples of external attributions.

2. **Stability: Stable versus Unstable** – sometimes learners believe that events are due to stable factors – to things that probably will not change much in the near future. For example, if a learner believes that he or she will do well in a science test because of his or her innate intelligence or that the learner has trouble making friends because he or she is overweight, then a learner attributes events to stable, relatively long-term causes. Sometimes learners believe that events result from unstable factors – things that can change from one time to the next. Thinking a learner won a tennis game because of a lucky break and believing he or she got a bad test grade because he or she were tired when the test was taken are examples of attributions involving unstable factors.

3. **Controllability: Controllable versus Uncontrollable**: on some occasions learners attribute events to controllable factors – things they (or perhaps someone else) can influence and change. For example, if a learner thinks a classmate invited him or her to his birthday party because the learner always smile and say nice things to him, and a learner thinks that he or she probably failed a test simply because he or she did not study the right things, then attributions to these events are controllable factors. On other social occasions learners attribute events to uncontrollable factors – things over which neither they nor others have influence. If a learner thinks that he or she was chosen for the lead role in the school play only because he or she looked right for the part or that a learner played a lousy game of rugby because he was sick, then the attributions to these events are uncontrollable.

Hence, locus of control will be subsequently discussed in the following section.

2.4.2 Locus of control

Bandura (in Slavin, 2009) commented though self-efficacy and locus of control are viewed as the same construct, they correspond to entirely different phenomena. Originally developed under the umbrella of Rotter's social learning theory, the locus of control construct refers to the degree to which an individual believes the occurrence of reinforcements is contingent on his or her own behaviour. The factors involved with reinforcement expectancy are labelled "internal" and "external" control (Capa, 2005:18).

Capa (2005) further contends that the locus of control focuses on causal beliefs of actions and outcomes, and whether the outcomes and actions are controlled internally or externally. Specifically, individuals with an internal locus of control believe that outcomes are a result of their own actions. Individuals possessing an external locus of control will conclude that external factors of which they had no control, such as luck, contributed to the specific outcome (Bandura, 1997, Marsh & Weary, 1995). However, a strong internal locus of control will not guarantee a strong self-efficacy for an individual. For example, those who believe themselves to be inept to perform specific activities may contribute to an inefficacious locus of control and a weak self-efficacy (Bandura, 1977, 1997; Smylie, 1990).

Furthermore, Woolfolk (2007) remarks perceived self-efficacy is a much stronger predictor of behaviour than locus of control. Rotter's scheme of internal-external locus of control is concerned primarily with causal beliefs about the relationship between actions and outcomes, not with personal efficacy. One may believe that a particular outcome is internally controllable, that

is, caused by the actions of the individual, but still have little confidence that he or she can accomplish the desired actions.

The researcher is of the opinion that individuals' acquisition of certain personality traits develops through social learning. The social learning approach involves personal and environmental aspects, and the interaction between these two. Bandura (1986) points out those individuals would always be in a constant state of change towards harmony, regardless of the transient effects left on them if their behaviour was determined by external rewards and punishments. This idea indicates that behavioural changes are not determined solely by individual factors. The condition for social learning lies in individuals' realization that other people's behaviours and the outcomes of these behaviours are rewarded and punished.

In this way, Bandura (1977) defines character as the interaction of personal variables such as behaviour, environment, and perception. And, Bandura (1997) further comments on the significance of the interaction by saying that mutual interaction between these personal variables increases ambiguity within society and diversification, encourages individuals to develop their potentials and gives them a chance to select, change, or shape their surroundings. In this process of interaction, personality traits such as locus of control, help better understand the effects of self-awareness and environmental factors on behaviour (Taylor, 2003).

Sahin, Serin, and Serin (2010) argue in this regard that in relation to an individual's personal qualities, the locus of control is a personality trait developed through social learning. Rotter (1966) upholds that an individual has an internal locus of control if she/he is influenced by

his/her own actions and initiatives, and she/he has an external locus of control if consequences of his/her actions are influenced by such strong factors as luck and fate. He further stated that when compared to individuals with external locus of control, individuals with internal locus of control are found to spend more time on intellectual and academic activities and achieve better results in school and competitions. Moreover, they are found to be more active in social activities, but determined against hardships as well as strongly objecting to self limitations. These individuals perceive themselves as independent and assume responsibility. They are found to exhibit independence in their social actions and possess entrepreneurial qualities as well as such other attributes as being consistent and judicious.

On the other hand, individuals with external locus of control exhibit traits such as low self esteem with increased depressive state, feeling of despair, loneliness, conformist and passive, not trusting the self and others, and aggressive (Yesilyaprak, 2004). When we closely examine the personality traits of individuals with internal locus of control, we can see positive aspects in them. Teachers, in particular, possess all of these positive personality traits, thus, they are supposed to assume more active roles in social activities as they appreciate and respect them. This type of teacher is regarded by Hendersen (as quoted by Sahin et al., 2010) as "a noble."

Table 3 below presents the attitudes displayed by internal and external locus of control according to the behavioural qualities.

Table 3: The differences among individuals with External and Internal Locus of Control (Kutanis et al., 2011)

<i>Variables</i>	<i>Internal Locus of Control</i>	<i>External Locus of Control</i>
Abilities	Individuals with internal locus of control have a tendency to choose the activities in which they can display their abilities.	Individuals with external locus of control prefer the activities in which they can show the role of chance on their lives.
Responsibility	They feel that they are responsible for their own decisions, and they perceive that their fate is not affected by the factors out of their control, but by their own decisions.	They try to increase good conditions in their life; on the other hand they make an effort to reduce the level of bad conditions.
Change	Their belief that they have the control over their fate prevents them from getting suspicious of the changing period since they feel responsible for their own actions.	They usually view change as a danger as they do not feel the control of the forces affecting their lives. They prefer to be at a status where they can be passive in case of a change.
Environment	They use more control in their environment and they display a better learning performance. When the information is about their own conditions, they actively search for new information. Also, they use the information better if	They display fewer compliance attitudes than individuals with internal locus of control.

	they are in need of solving a complicated problem.	
Stress	It can be concluded that possessing internal locus of control can help individuals cope with the stress and other difficulties in a situation.	Individuals with external locus of control cannot cope with the stress and difficulties in a proper way.
Job satisfaction	Job satisfaction of individuals with internal locus of control is higher than a person with external locus of control. They tend to improve or progress faster in their career.	External locus of control has a negative correlation with job satisfaction; it is in a positive correlation with mental and physical health.
Work motivation	They mostly believe that their efforts will end with a good performance. They are more self confident and they trust their abilities. They have more expectation that their good performances will be awarded and they tend to perceive that their status in business is more proper and fair	If there is no prize for performance, they do not have a different performance prize expectation from the individuals with internal locus of control.

One of the differences between individuals with internal and external locus of control is the issue of looking for information about their environment. The people with internal locus of control

have been observed to feel the need to acquire more information about their environment, and be more active to seek and achieve justice in social activities when compared with the ones with external locus of control (Demirkan, 2006). A person's locus of control can be a driving influence on personality and behaviour. Observed and imitated behaviours are either reinforced through reward or extinguished through punishment. Locus of Control falls on a continuum, with those who believe that their life is largely controlled by outside forces (externals) falling on one end of the spectrum while those who believe that by and large they control their own lives (internals) falling on the other end (Halpert & Hill, 2011:6). Individuals lay out two control attitudes as internal and external by considering that the reinforcements they have from their previous experiences result from their own attitudes or external forces (Kutunis, Mesci & Ovdur, 2011).

2.4.3 Teacher Locus of Control

Inspired by developed models of teacher expectancy influences, there has been a resurgence of interest in the behaviours and attitudes of effective and successful teachers. Among the attitudinal variables receiving increasing attention are teacher's perceptions of personal control over or responsibility for learner achievement. Whether or not teachers see themselves as capable or incapable - influences the achievement of learners (Woolfolk, 2007).

When we think about the roles assumed by teachers within and outside the school, it becomes evident that teachers need to set a good example for learners, co-workers, administrators, parents, their own family members, and other people. In this respect, teachers, who assume the role of teacher in the classroom, father/mother in the family, educator in society, are obliged to

act non-preferentially, but impartially towards people, foster independence and impart knowledge to others. Fulfilment of these obligations calls for a teacher who believes in democratic values (Woolfolk, 2007). In this sense, the term "democratic teacher" entails believing in the equality of every person in the society, in basic human rights and liberties, and in absolute justice for all (Sahin et al., 2010).

Bandura and Schunk (in Slavin, 2009) state that in the classroom, learners receive constant information concerning their level of performance on academic tasks, either relative to others or relative to some norm of acceptability. This feedback ultimately influences learners' self-perceptions (Bandura, 1997). Attribution theory is important in helping teachers understand how learners might interpret and use feedback on their academic performance and in suggesting to teachers how they might give feedback that has the greatest motivational value (Slavin, 2009:302).

2.4.4 Research on Locus of Control

Several research studies have been conducted regarding teacher locus of control. Bernard Weiner is one of the main educational psychologists for relating attributed causes for successes or failures (Woolfolk, 2007:390). Locus of control can be very important in explaining a learner's performance. For example, amongst several researchers, Zimmerman (2002) have found that learners who are high in internal locus of control have better grades and test scores than do learners of the same intelligence who are low in internal locus of control as cited in Ormrod (2008:431).

According to Slavin (2009), in other studies it has been found that locus of control is the second most important predictor [after ability] of a learner's academic achievement (e.g., Bong, 2001; Pajares & Miller, 1994; Pietsch, Walker, & Chapman, 2003; Zimmerman & Bandura, 1994). Scheck and Rhodes (in Slavin 2009) mentioned yet in another study, analysis has shown that teachers scoring high on a measure of internal-external control are significantly more likely to be perceived as high in overall teaching competence by a set of evaluators in comparison with teachers indicating a lesser degree of internal control orientation.

The concern for improving academic achievement has increased in recent years. A study conducted by Adeyinka, Adedeji and Olufemi (2011) indicated that a significant relationship exists between self- efficacy, locus of control and academic achievement. The study also revealed that self- efficacy and locus of control predict learners' academic achievement well. The implications of these findings on stakeholders in educational industry, curriculum planners, educational psychologists and practitioners were suggested (Adeyinka, Adedeji & Olufemi, 2011). Researchers (Adeyemo 2001, 2005; Aremu, 2000; Yoloye, 2004; Zimmerman, 2000; Bong and Skaalvik, 2003) have reported that academic achievement is associated with socio-psychological variables such as locus of control amongst others (Adeyinka et al., 2011).

It is also seen that the first empirical studies on locus of control in literature (Phares, 1957; James and Rotter, 1958) appeared to find an answer to the question of whether individuals' expectations are related to their abilities or chance (Sardogan, 2006). In present literature there have been many studies on locus of control. Some of these studies have been presented in Table 4 below.

Table 4: Studies conducted on Locus of Control

<i>Author(s)</i>	<i>Year</i>	<i>The Purpose of the Study</i>	<i>The Method of the Study</i>	<i>The Findings and the Results of the Research</i>
Chen and Silverthorne	2008	To observe the effects of locus of control, work performance, job satisfaction and stress scale on attitude	Quantitative	In scales of locus of control it has come out that performance, job satisfaction and stress are effective in people's responsibilities. Moreover, individuals with high internal control have high work performance, content and low stress.
Aube et. al.	2007	To test the effects of the perceived organizational support, work autonomy, the facets of organizational participation (active, normative, etc.) and locus of control	Quantitative	It has come out that there is a positive correlation between organizational support, and normative participation, and activities. Also, it has been concluded that locus of control and work autonomy have a considerable effect on organizational support and active participation.
Coban and Hamamci	2006	To examine the decision making strategies used	Quantitative	At the end of the research, it has come to a conclusion that the individuals with internal

		by the individuals with different locus of control		locus of control mostly use logical decision making strategy. It has been found that there is a negative and low correlation between logical decision making strategy and locus of control. It has also been revealed that the individuals with internal locus of control use logical decision making strategies more than ones with external locus of control and they encounter less hesitation.
Basim and Sesen	2006	To analyse the tendency of the locus of control to display assisting and courtesy attitudes	Quantitative	It has been identified that most of the participants who have been subjects of the study have the internal locus of control; they also have more tendencies to show help and courtesy attitudes when compared to the ones with external locus of control
Sardogen et. al.	2006	To observe the effect of 10-session Human Relations Skills Education	Quantitative	At the end of the study; it has been concluded that 10-session Human Relations Skills Education Program is effective on the locus of

		Program on University students' level of locus of control		control levels of university students
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In Table 4, the studies of literature related to locus of control are presented. The effects of the internal and external facets of locus of control on individuals' attitudes have been observed in the studies. At the end of the study, it has been ascertained that internal locus of control has a much bigger impact on individuals than the external locus of control. Moreover, it has been emphasized that the individuals with internal locus of control have more active work motivation and portray more effective work performance; they have also more control on the environment. Additionally, the individuals with external locus of control have been determined to have higher work content about their colleagues than the ones with internal locus of control (Kutunis et al., 2011). Amongst these, other studies include Selart (2005), Chiu, Chien, Lin and Hsiao (2005), Patten (2005) and Klein and Warnet (2000), which all refer to the important role that the internal facet of locus of control plays in influencing the experiences in people's lives.

2.4.5 Teaching and Educational Implications of Locus of Control

Attributions are an excellent example of knowledge construction in action: learners interpret new events in light of existing knowledge and beliefs about themselves and the world, and then they develop what seems to be a reasonable explanation of what has happened. Teachers thus need to communicate to their learners the expectation that they can learn (Slavin, 2009:310).

Weiner (in Ormrod, 2008) argues that teachers communicate their attributions for learners' success and failures in more subtle ways as well – for instance, through the emotions they convey. If teachers repeatedly give learners low-ability messages, the learners may begin to see themselves as the teacher see them, and their behaviour may then mirror their self-perceptions. In such cases teachers' expectations and attributions may lead to a self-fulfilling prophecy: what teachers expect learners to achieve becomes what learners actually do achieve. Table 5 below presents the relationships among the three dimensions of attributions.

Table 5: Relationships among Dimensions of Attributions (Eggen and Kauchak, 2010:301)

<i>Relationships among the Dimensions of Attributions</i>			
<i>Attributions</i>	<i>Locus (location of cause)</i>	<i>Stability (of cause)</i>	<i>Control (of learning situation)</i>
Ability	Inside the learner	Stable (cannot change)	Learner out of control
Effort	Inside the learner	Unstable (can change)	Learner in control
Luck	Outside the learner	Unstable (can change)	Learner out of control
Task difficulty	Outside the learner	Stable (cannot change)	Learner out of control

These relationships among the dimensions of attributions of success and failure - being ability, effort, luck and task difficulty – highlights that the learner is in control of his/her effort and can be effectively managed by teacher. It is thus vital that teachers have high expectations of learners, as they facilitate learning and thus motivate learners to achieve at high levels when having optimistic expectations for their performance (within realistic limits, of course) and when teachers attribute their success and failures to things over which either the teacher or learner have control (learners' effort, teachers' instructional methods, etc.).

Ormrod (2008:440) further suggests several strategies that can help teachers form productive expectations and attributions:

1. Teachers can definitely make a difference – if teachers have high expectations of learners, they will perform accordingly.
2. Look for strengths in every learner – to optimize learning, it is essential that teachers should look for the many unique qualities and strengths that learners inevitably have.
3. Consider multiple possible explanations of learners' low achievement and misbehaviour – low achievement can be due to a variety of factors, many of which the teacher might be able to address.
4. Communicate optimistic and controllable attributions – teachers should attempt in making positive attributions regarding learner performance. Attributions for failures should focus on effort and learning (internal locus of control) rather than on low natural ability (external locus of control).

2.5 Summary

Research knowledge is needed to inform practice in the field of education. It is known that teacher factors, learner factors and community factors all have an impact upon the educational process. Because teacher factors are known to be significant and have a major impact upon a learner's achievement in school, they are being focused on in this study.

What makes a good and effective teacher? What methods and strategies could be used to improve learner results? How will we motivate learners to be the best that they can be? If we have to formulate a quotation that will deliver quality teachers and learners in the Lejweleputswa district, how will it look like? The challenges in meeting the demand for highly qualified teachers cannot be overstated. The results of this study will be useful to teachers, and guide them to ultimately provide a climate that is conducive to teaching and learning.

In agreement to what Penney (2007) postulated, research has inspired me to understand that education was created to serve mankind in one's continual pursuit of knowledge construction and learning for eternal redemption. Euclid, a Greek mathematician, who lived around 300 B.C. and wrote the first geometry textbook, was asked by his king whether there were any shortcuts the king could use to learn geometry, as he was a very busy man. "I'm sorry," Euclid replied, "but there is no royal road to geometry." As written in Viktor Frankl's book, *Man's Search for Meaning*, "Life ultimately means taking responsibility to find the right answer to its problems and to fulfil the tasks which it constantly sets for each individual".

Teachers provide school education and teacher efficiency is reflected in the teaching process and practice. Teachers provide a vital role to learners – how they act, feel and think! Prof Robert Coles (1990), at Harvard University postulates "Their voices are in my head and are part of my voice ... I'm sure! Their thoughts and values inform what I consider and call my own thoughts and values" (in Woolfolk 2007:7).

To conclude, teachers communicate their attributions for learners' success and failures through the emotions they convey (Ormrod, 2008:438). Teachers are most likely to facilitate learning and motivate learners to achieve at high levels when they have optimistic expectations for their performance (within realistic limits) and when teachers attribute their success and failures to things over which either the learners or teachers have control (their effort, out instructional methods etc.).

The role of a teacher is one of being most important in providing the very best climate in the classroom for the maximum growth and development of each learner ... who needs more or less light, more or less water, or who needs to have weeds pulled up from around them (Bullough, 2008:197). Outstanding teaching combines knowledge about the teaching-learning process and a host of other attributes, including: expertise in subject matter thought, belief in one's ability to teach and learners' abilities to learn, sensitivity to the needs of different kinds of learners, planning and organizational skills, interpersonal and leadership skills and a great deal of hard work. In recent years, there has been a considerable proliferation of research concerned with teacher self-efficacy and locus of control which could be directly and indirectly attributed to learner performance and academic achievement.

This chapter examined the meaning of efficacy and locus of control, as well as the dynamics which affect these variables. Results have shown that teachers with a high sense of efficacy and internal locus of control are generally strongly motivated, persevere when faced with obstacles, maintain good classroom discipline and attempt to bring out the best in learners. Conversely, teachers with a low sense of efficacy and external locus of control give up easily when faced

with obstacles, are afraid to accept challenges, feel inadequate in the classroom and harbour feelings of guilt and trepidation when their learners perform poorly. Hence, this study attempts in finding the relationship between teacher performance versus teaching qualities inclusive of teacher efficacy and locus of control. The findings would be helpful in better preparing teachers and maintaining a supportive setting for them in which they can grow professionally and contribute to learner achievement.

Perfecting the art of teaching entails the following perception "... a seed planted in soil untainted, can flourish beyond the contours of anticipated greatness. Wisdom is not the mocking remnants of old age, projected on the growing strands of youthful naivety. Wisdom shines through voices of educators, echoes that fill the days of knowledge captured as it is lived. From the seed of knowledge planted by a voice so akin to this of a parent, the educator's voice is the guiding light that opens the way to knowledge, to experience, to wisdom, to richness. The educator's voice reflects an all encompassing strand of wisdom which is watered by life experience. And nourishing the very soil that gives life to the seed of knowledge and wisdom is perfecting the art of teaching." (Davids, in The Teacher Development Summit, (2009: online)).

The focus now turns to methodology in Chapter 3. The 'how' and 'why' of the methods used in this study. It will describe methodological considerations related to the current research. It will be devoted to the planning of the empirical research to investigate the ways and means in which teacher efficacy and locus of control could be promoted.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

According to Archer, Sharp, Stones and Woodiwiss (in Kovach, 2006:44), all realism rests on the same ontological assumption, namely, that reality exists independently of our thoughts about it. The consequence of this is that research is therefore an absolutely mandatory requirement for all realists.

The goal of a sound research design is to collect data and ultimately provide results from it that are judged to be credible (McMillan & Schumacher, 2010:102). Limiting the data of any phenomenon – substantial or insubstantial – impose that those data may be interpreted and, ultimately, compared to a particular qualitative or quantitative standard (Leedy & Ormrod, 2010:21). Data is the link between Absolute Truth and the researcher's inquiring mind. Furthermore, data is like ore: they contain pieces of the truth but are in a rather unrefined state. To extract meaning from the data, we employ what is commonly called research methodology (Leedy & Ormrod, 2010:93).

Research methodology is thus systematic and purposeful and refers to a plan for selecting subjects, research sites, and data collection procedures to answer research questions and hypothesis in the quest for new knowledge. The design shows which individuals will be studied

and when, where, and under which circumstances they will be studied (McMillan & Schumacher, 2010:20). In the preceding chapter, the theoretical framework pertaining to teacher efficacy and locus of control of the teacher were discussed. This chapter described the research methodology which was used to investigate the level of teacher efficacy and locus of control in the Lejweleputswa FET phase.

3.2 Research Design

Planning an empirical analysis for research purposes requires the researcher to investigate various issues around the research design (Johnson & Christensen, 2008).

3.2.1 Mixed Method

For the purpose of this study, a mixed research paradigm, employing a combination of both quantitative and qualitative research methodologies was used. The researcher combined elements of qualitative and quantitative research approaches (e.g. use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and collaboration (Johnson et al., 2007:123).

Concurrent Triangulation Design

The concurrent explanatory approach of the triangulation was applied in this study. McMillan *et al.* (2010:403) specifies that in a concurrent explanatory triangulation; the researcher simultaneously gathers both quantitative and qualitative data, merges them using both quantitative and qualitative data analysis methods, and then interprets the results together to provide a better understanding of the phenomenon.

Subsequently, the quantitative and qualitative approach was followed simultaneously. This study, therefore, applied the quantitative approach, by collecting quantitative data (through a questionnaire) and then, administered an interview schedule to determine the views and opinions of teachers regarding teacher efficacy and locus of control in accordance to the specifications by the qualitative approach. Thus, the qualitative phase was used to augment the statistical data and thus explain the practices (McMillan and Schumacher, 2010:25).

3.2.2 Quantitative Approach

The non-experimental quantitative research design enabled the researcher to have specified the phenomena under study and quantified the relationships between and within variables of study.

Quantitative research involves those studies in which data are categorized and analysed numerically (Leedy & Ormrod, 2010). The purpose of using quantitative approach in this study was mainly to gain understanding of the underlying perceptions and conceptions of participants, getting insights into the setting of the problem and formulating hypotheses to have uncovered prevalent trends, ideas and opinions of participants.

Creswell (2009) points out that quantitative research is “confirmatory and deductive in nature” and thus post-positivist and common to modern researchers. The methods of quantitative research ensure objectivity (questionnaire as an example), generaliseability and reliability; as well as ensuring that the researcher becomes an external factor to the actual study (Howell, 2010). Most importantly, quantitative results become replicable at any given setting (Creswell, 2009).

3.2.3 Qualitative Approach

Gay, Mills, and Airasian (2009) assert that when using a qualitative research design, the researcher needs to take note of the fact that qualitative research is a systematic, interactive and a subjective approach used to describe life experiences and give them meaning. It is conducted in the natural setting wherein the phenomenon under study is taking place. The researcher followed the precepts of the latter authors to have sought the views and opinions of the teachers regarding teacher efficacy and locus of control.

3.3 Research Method

3.3.1 Descriptive Survey Method.

A non-experimental method called descriptive survey was used to investigate attitudes and perceptions of the teachers regarding perceived teacher efficacy and locus of control. McMillan and Schumacher (2010:217) state that a “descriptive study asks *what is?* Or *what was?* It reports things the way they *are* or *were*. Furthermore, the researcher distanced himself or herself without intervention as would have been the case in an experimental study.

It is on the basis of the apparent effectiveness of the descriptive method that the researcher found this method ideal to investigate the impact of the independent variables of the study on the two dependent variables from the current cohort of teachers teaching the Sciences and Humanities in Lejweleputswa.

3.3.2 Phenomenological Method

A phenomenological study was used in this research to describe the teachers' perceptions regarding their self-efficacy and locus of control. This type of method describes the meanings of a lived experience. The researcher put aside all prejudgments and collected data on how individuals make sense out of a particular experience or situation. The aim of the phenomenological study was to transform lived experiences into a description of its essence, allowing for reflection and analysis. The typical research technique allowed the researcher to conduct long interviews with the informants directed towards understanding their perspectives on their everyday lived experience with the phenomenon (McMillan & Schumacher, 2010:24).

3.4 Description of Variables

A variable is a noun or characteristic that represents numerical or categorical variation (Trochim, 2006). The variables identified in this study comprised of the following:

3.4.1 Independent Variables (IV)

According to Siegle (2012), an independent variable refers to that factor which is measured, manipulated, or selected by the experimenter to determine its relationship to an observed phenomenon. "In a research study, independent variables are antecedent conditions that are presumed to affect a dependent variable. They are either manipulated by the researcher or are observed by the researcher so that their values can be related to that of the dependent variable. The IV's of this study include Gender (Male vs. Female), Experience (Expert vs. Novice), and Subject Discipline (Science vs. Humanities).

3.4.2 Dependent Variables (DV) or Theoretical Frameworks of the study.

Siegle (2012) states that the dependent variable which is observed and measured to determine the effect of the independent variable, i.e., that factor that appears, disappears, or varies as the experimenter introduces, removes, or varies the independent variable. "In a research study, the independent variable defines a principal focus of research interest. It is the consequent variable that is presumably affected by one or more independent variables that are either manipulated by the researcher or observed by the researcher and regarded as antecedent conditions that determine the value of the dependent variable. For the purpose of this study, the DV refer to Perceived Teacher Efficacy and Locus of Control.

3.5 Research Hypotheses

The research hypotheses of this study includes:

1. There is no statistical significant effect of gender on SELOC.
2. There is no statistical significant effect of experience on SELOC.
3. There is no statistical significant effect of subject discipline on SELOC.
4. There is no statistical significant effect of gender and experience on SELOC.
5. There is no statistical significant effect of gender and subject discipline on SELOC.
6. There is no statistical significant effect of experience and subject discipline on SELOC.
7. There is no statistical significant effect of gender, experience and subject discipline on SELOC.

3.6 Research Questions and Objectives

In light of the above, the following research question was formulated:

The Research Question to this study was:

1. What do teacher efficacy and locus of control entail?
2. What are the underlying perceptions and conceptions of participants regarding teacher efficacy and locus of control when teaching at the FET phase in the Lejweleputswa schools?
3. What are the underlying reasons for the levels of teacher efficacy and locus of control?
4. What is the impact of independent variables such as gender, experience and subject discipline on teacher efficacy and locus of control?

The objective of this study was to:

1. Determine what teacher efficacy and locus of control entail.
2. Determine the underlying perceptions and conceptions of participants regarding teacher efficacy and locus of control when teaching at the FET phase in the Lejweleputswa schools?
3. Determine the underlying reasons for the levels of teacher efficacy and locus of control.
4. Determine the impact of independent variables such as gender, experience and subject discipline on teacher efficacy and locus of control.

3.7 Population and Sampling

3.7.1 Population

A population is a group of individuals that conform to specific criteria and to which we intended to generalise the results of the research (McMillan and Schumacher, 2010:129). This group is also referred to as the target and accessible population. According to Siegle (2012), a target population as a group of participants from whom the researcher wishes to collect the information required to address the research questions, objectives or hypothesis and the accessible population is the sub-population of the target population. The target population of this study was all the FET teachers in the Lejweleputswa Education District teaching the Science and Humanities subjects.

3.7.2 Sampling

For the *quantitative design*; stratified random sampling procedure was conducted to select a sample for the study. The sample was selected by means of determining the percentage of representative schools amongst the seven clusters in the Lejweleputswa district. There are 64 schools in the seven clusters of Lejweleputswa. Of the approximately 1 500 FET teachers, the researcher selected 320 teachers (inclusive of the principals) in 20 various urban schools according to a stratified sample to participate in the study. A total of 16 teachers per school were randomly selected according to the principals' judgement, which brought the stratified sample to a total of 320 participants for this study. However, 45 participants did not return their questionnaires, subsequently only 275 participants' responses were statistically analysed.

For the *qualitative design*; a purposeful sampling was chosen for the interviews. Participants in this group entailed teachers within the proximity of the researcher. Preference was given to expert teacher who, according to the researcher, would have capacity to provide deeper and broader insight and understanding of the quintessence of teacher self-efficacy and locus of control. A total of 10 participants were chosen for this purpose.

Purposive sampling occurs when a researcher selects sample members to conform to some criterion (Cooper & Schindler, 2003:201). The sample was therefore purposively selected by the researcher in attempt to obtain the most accurate and relevant responses regarding their perception of teacher efficacy and locus of control. Pudi (2006:105) states that, in a situation where purposive sampling is employed, previous information assists the researcher in assuming that the selected sample would be representative of the population. To obtain maximum variation, two stratifying variables, achievement (high and low) and location (urban and rural) were used.

3.8 Data Collection

Two data collection instruments were used to obtain information, namely quantitative data through questionnaires and qualitative data through interviews.

3.8.1 Quantitative approach:

According to Johnson and Christensen (2008), a questionnaire can be described as a list of questions presented in written format and the participants indicate their responses on a form,

mailed or completed in a particular place. Data for the study were collected through a questionnaire that entailed items pertaining to perceived teacher efficacy and locus of control.

The initial questionnaire comprised seventy-five (75) items. After having conducted a pilot test which consisted of 15 participants, these questions were subjected to principal component factor analysis. After factor analysis, seventeen (18) questions loaded at above 0.5 eigenvalue of 1, and were identified as questions pertinent to teacher efficacy. Eleven (12) questions which were identified relevant to locus of control, also loaded above 0.5 eigenvalue of 1. Of the remaining questions loading below 0.5 of 1 eigenvalue, ten (10) were selected and adapted for interview questions. As a result, forty one (41) questions were discarded because of being double-barrelled and ambiguous. The participants concurred with the researcher by saying some of the items of the questionnaire which were discarded seemed philosophical, and therefore did not lend themselves to practical application.

As a result, the final questionnaire (Appendix F) was designed to determine the levels of teacher efficacy and locus of control of FET teachers. In order to obtain the information needed for the purpose of this study, the questionnaire contained two sections:

- Section A contained 17 demographic questions concerning the respondents.
- Section B focused on 30 questions on promoting teacher efficacy levels and locus of control in FET teachers.

The Likert Scale is popularly used in survey questionnaires and it is used to determine the strength of the attitude being measured. Likert devised a method of using a series of strongly

favourable and strongly unfavourable statements about a topic. Respondents are required to indicate on a five-point scale, the extent of their agreement or disagreement with each statement (Rangraje, 2002:151). In analysing responses, identical response categories are used for several items intended to measure a given variable. This helps to score each item in a uniform manner.

In this research, a Likert-type scale was used. The questionnaire contains statements to which one of the following responses would apply: 'strongly disagree', 'disagree', 'neutral', 'agree' and 'strongly agree'. With these five response categories in the questionnaire, scores of 1 to 5 were assigned.

3.8.2 Qualitative Approach

Semi-structured interviews are non-standardized and are frequently used in qualitative analysis. Johnson and Christensen (2008) explain semi-structured interviews as follows: The order in which the various topics are dealt with and the wording of the questions are left to the interviewer's discretion. Within each topic, the interviewer is free to conduct the conversation as he thinks fit, to ask the questions he deems appropriate in the words he considers best, to give explanation and ask for clarification if the answer is not clear, to prompt the respondent to explain further if necessary, and to establish his own style of conversation. The researcher used the latter for the purpose of this study. See Appendix G for the Interview Schedule and Appendix K for the Main themes and categories emerging from these themes.

3.9 Procedures

3.9.1 Permission

Prior to implementing this research, application for approval of the project was obtained from the Department of Education, Free State (Appendix C). The application letter to DoBE Free State (Appendix A), together with the application letter to DoBE Lejweleputswa district (Appendix D), was also enclosed. The relevant questionnaire (Appendix F), Interview schedule (Appendix G), letter to the District office (Appendix D) and the letter to the principals (Appendix E) were also attached.

As a result, a letter from the Department of Education Free State was received confirming the registration and approval of the research project (Appendix C). The researcher then met with the Lejweleputswa District Office in obtaining the relevant permission letter to conduct research in the approved schools amongst the seven clusters in Lejweleputswa.

3.9.2 Pilot test

Once a set of possible items was developed, the researcher conducted a pilot study. The validity and reliability of the questions were tested through subjecting them to analyses for appropriateness by experts. The experts comprised of five colleagues who studied educational psychology with the researcher. Based on the responses of these experts, the research instrument and relevant items were revised for clarity purposes and the content to have gathered evidence for validity.

Once the items were revised, the researcher created a draft questionnaire with headings and directions. A pilot study was conducted whereby a sample of subjects was selected with characteristics similar to those that will be used in the study. The sample consisted of 15 participants. The researcher discovered that some of the statements were ambiguous and had to be reformulated. The pilot test further indicated that the content complied adequately with the requirements of the study.

Ultimately the reliability of the questionnaire items were subjected factorial analyses. Only items that had a loading of above 0.5 on the Eigen value of 1 were selected to constitute the final questionnaire.

3.9.3 Distribution of questionnaires

By appointment, the researcher then visited principals of selected schools with the approval letter from the Department of Education and the district office. The researcher explained the purpose of the study.

During the appointment, the questionnaires were distributed together with the relevant documents which included:

- 1) Permission Letter from the Department of Education, Free State.
- 2) Permission Letter from the District Office, Lejweleputswa.
- 3) Letter to the Principal.
- 4) Copy of the questionnaire.

The principals were requested by the researcher to issue the questionnaires to relevant teachers in the school based on his/her judgment. Follow-up appointments were made with the principals for collection of the completed questionnaires.

3.9.4 Conducting Interviews

After analysing the results of the questionnaire, the researcher scheduled appointments with ten interviewees in attempt to further qualify the results of the quantitative results. Each participant was informed about the purpose of the interview and the researcher pointed out that participation in this study is voluntarily. Each teacher interviewed was given the opportunity to express his/her opinion regarding the statement appearing on the interview schedule (Appendix G).

3.10 Data Analysis

3.10.1 Quantitative Data Analyses

For the purpose of this study, a multivariate analysis (MANOVA) was used. This statistical technique was used to determine whether several groups differ on more than one dependent variable (Pagano, 2010). Each subject included in a MANOVA had a score on two or more dependent variables – which included teacher self-efficacy and locus of control. For the purpose of this study, the researcher grouped these two dependent variables together by referring to it as SELOC. The different groups or subjects referred to gender, experience and subject discipline pertaining to the independent variable – FET teachers in the Lejweleputswa district.

These scores were represented by a mathematical expression called a vector. Each subject in the study had a vector score. Also, a mean vector score was calculated for a group of subjects. This mean vector is called a centroid. The purpose of the MANOVA was to determine whether there are statistically significant differences between the centroids of different groups (Creswell, 2009)

The hypotheses formulated in this study were tested by means of a MANOVA. The level of significance was set at a numerical value as a result of the t-test computation of 0.05. The logic of the level of significance was to assume the null hypothesis is correct, alternatively indicative of the probability in being wrong in failing to accept the hypothesis. If, however, the results of none or one of the groups were above 0.05, the researcher failed to accept the hypothesis; if the results for both of the groups were below 0.05, the hypothesis was accepted.

3.10.2 Qualitative Data Analyses

Before appointments were made for the interview sessions, the researcher met with the participants individually; and explained to them the purpose of the study. If agreed, a date for the interviews was set and took place at a place of choice by the interviewee. On the day of the interview, the researcher re-explained the purpose of the study, explained the issue of confidentiality, and afforded the interviewee the permission if he/she intended to continue or discontinue participation. The interview then proceeded.

A paper and pencil were used to note verbal and non-verbal responses from the interviewee. Simultaneously, the interviews were tape-recorded for analyses later, and a verbatim transcript of the interviews was provided. Analysis was inductive. McMillan and Schumacher (2010)

contends that analysis of qualitative data through inductive analysis is more apt and sensitive because it enables the researcher to distinguish emerging patterns or themes of opinions or views for the participants.

3.11 Reliability and Validity of Instruments and Analysis

Validity and reliability of the measurement instruments influence the probability of obtaining statistical significance in the data analysis, and the extent to which meaningful conclusions can be drawn from data (Tirivangana, 2013:34). The validity and reliability of the questions was tested through first, subjecting them to analyses for appropriateness by five experts who studied Educational Psychology with the researcher. Seventy five items were retained and subjected to factor analysis. Further statistical tests were conducted on the reliability and validity of the questionnaire, inclusive of the Cronbach's Alpha test, Kolmogorov-Smirnov test and Levene's Test of homogeneity of variances.

3.12 Limitations to the study

This investigation was restricted by the following factors which may have had an influence on the validity and reliability of the questionnaire:

- Although respondents were assured of anonymity, it may have been possible that they might not have been frank and honest in their responses.
- The sensitive nature of some statements in the questionnaire may have elicited false or

misleading responses, thereby influencing the reliability of the results.

- To restrict the investigation to manageable proportions, the researcher limited the study to 275 FET teachers in 20 schools in the Lejweleputswa school district. The alternative would have been to conduct the research in all 64 schools in the district including all the teachers available. This would have resulted in an unmanageable number of respondents for the statistical programme used by the researcher together with time and financial constraints in executing the study.
- In all probability, the questionnaire was completed by FET teachers at school during their free time. It is possible that the respondents may have collaborated with their colleagues when completing the questionnaire and biased responses could be indicated.
- The researcher trusted the respondents' intellectual level in completing the questionnaire and the information provided as being accurate.
- Limited in terms of geographical context. Responses from participants in other contexts might be different.

3.13 Summary

This chapter described the procedural methods used throughout this mixed-method study. The research design which was applied in the empirical investigation was discussed. The focus was on the questionnaire as a research instrument conducting the quantitative method, and the semi-structured interview as qualitative data collection instrument. The presentation of results of the findings collected are analysed in the following chapter.

CHAPTER 4

RESULTS AND FINDINGS OF THE STUDY

4.1 INTRODUCTION

There is a renewed interest at all levels of education for decisions to be data driven and based on hard evidence. This has resulted in a greater need for all educators to understand, conduct, and use research findings (McMillan & Schumacher, 2010:2). A more objective approach to educational research is called for, but we need to be clear about the role of human judgment which is indeed critical to research. Yet, there are principles of *evidence-based thinking* that make such judgments more accurate (McMillan and Schumacher, 2010:3).

This chapter presents the findings of the study. Data gathered through concurrent sequential research design are analysed, interpreted and discussed with reference to the application of Teacher Efficacy and Locus of Control levels of FET teachers as measured by the Teacher Efficacy and Locus of Control Scale (*SELOC*); designed by the researcher. In *quantitative* research, the reporting was an objective presentation of results, through tables, statistical analysis, descriptive and inferential analysis as an interpretation of the statistical significance. In *qualitative* research, the researcher presented the data in the form of lengthy narratives to illustrate and substantiate the researcher's interpretation of the implied practical significance of the study pertinent to teaching and learning. Furthermore, the results were also projected in graphs.

4.2 PURPOSE OF THE STUDY

This study attempted to determine the extent of teacher performance in relation to qualities of the level of teacher efficacy and locus of control of teachers in the Lejweleputswa School District based on teachers' perceptions. The findings would be helpful in better preparing teachers and maintaining a supportive setting for them in which they can grow professionally and contribute to learner achievement. In addition, the model that was generated by the study will provide a strong theoretical rationale supporting the studies on teacher efficacy and locus of control.

Against this backdrop, the researcher is of the view that teachers with high self-efficacy and an internal locus of control will impact positively on learner motivation to learn. If these applications of the study are utilised, the outcome should be in accordance with the South African educational perspectives and societal expectations for our learners to a competitive international advantage. Equally important, teachers with qualities of being highly efficacious and possessing an internal locus of control, might be more capable to promote learner Self-Expression, Individuality and Free Activity, Learning from Experience, World Awareness and Accomplishment at every level of learning as it is required by our South African educational perspective.

4.3 ASSUMPTIONS FOR STATISTICAL ANALYSIS

Garson (2012:7) asserts that all statistical procedures have underlying assumptions. An expected component of quantitative studies is establishing that the data of the study meet these assumptions of the procedure. Shumba (2013:145) could not agree more by outlining the importance of meeting the conditions of a particular statistical procedure before data analysis is

done. Parametric tests are significant tests which assume a certain distribution of the data (usually a normal distribution), assume an interval level of measurement and assume homogeneity of variances when two or more samples are being compared. Most common significance tests are parametric (Garson, 2012:8). However, it has been long established that moderate violations of parametric assumptions have little or no effect on substantive conclusions in most instances as quoted by Cohen (in Garson, 2012). The researcher conducted these tests before analysing data in this study to ascertain whether these conditions were met.

According to the Learning Resource Center (s.a.: online), multiple regression is an example of more complex multivariate statistics (an analysis of more than one, usually three or more, dependent variables) that analyzes the effects of two or more *independent variables* (the one that is manipulated and is believed to cause or influence the dependent variable) on the *dependent variable* (the outcome variable that is predicted or hypothesized and is the presumed effect of the independent variable). Osborne and Waters (2002) affirm that several assumptions of multiple regressions are not robust to violation, and that researchers can deal with if violated.

4.3.1 Normality

O'Neil (2009:8) affirms that it is assumed that the data gathered for statistical analysis is from a normally distributed population. As inferential statistics is done to prove that some or the other results are applicable to the entire population, it is a given that the population's distribution should also be normal. O'Neil (2009:9) also outlines that the analysis for normality should include statistics pertaining to skewness, kurtosis, Kolmogorov-Smirnov (K-S) and Q-Q plots amongst others to check for normality of the data distribution.

Osborne and Waters (2002) states that regression assumes that variables have normal distributions. Non-normally distributed variables (highly skewed or kurtotic variables, or variables with substantial outliers) can distort relationships and significance tests. In cases where data is non-normally distributed, it could be as a result of outliers. An outlier is a score different from the rest of the data (Field, 2012:1). Outliers can be identified either through visual inspection of histograms or frequency distributions.

However, the normal distribution assumption in this study may have been distorted by the impact of outliers. According to www.utexas.edu/courses/schwab/sw388r7/solving_problems, outliers can distort the regression results. When an outlier is included in the analysis, it pulls the regression line towards itself. This can result in a solution that is more accurate for the outlier, but less accurate for all of the other cases in the data set. Nevertheless, failing to satisfy the assumption does not mean that the answer is wrong. It means that the solution may be under-report the strength of the relationships.

Garson (2012:20) stresses that when the sample size is larger, these technically significant deviations from normality may be unimportant, and for this reason it is necessary to use alternative bases of judgment such as frequency distributions and normal Q-Q plots. According to Field (2012:7), in practical terms, as long as the sample is fairly large ($n = 275$), outliers are a more pressing concern than normality. He further states that according to the central limit theorem, there are instances where we assume normality regardless of the shape of our data. A good indicator refers to the confidence intervals – the central limit theorem tells us that in large

sample, the estimate will have come from a normal distribution regardless of what the sample or population data looks like.

According to McMillan and Schumacher (2010), when conducting a t-test or ANOVA, the assumption is that the distribution of the sample means is normally distributed. One way to guarantee this is for the distribution of the individual observations from the sample to be normal. However, even if the distribution of the individual observations is not normal, the distribution of the sample means will be normally distributed if your sample size is about 30 or larger. This is due to the “central limit theorem” that shows that even when a population is non-normally distributed, the distribution of the “sample means” will be normally distributed when the sample size is 30 or more. Since the sample size is larger in this study (n=275), the latter was adopted.

Table 6 to Table 11 below; include the Statistical table for the Kolmogorov-Smirnov (K-S) tests. The normal Q-Q plots and relevant boxplots are also included to substantiate the test of normality done for the IV’s for each DV (see Figure 9 to Figure 28).

Table 6: K-S Test of Normality for Teacher Efficacy (TE) for Gender

Tests of Normality							
	Respondents’ Gender	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Average respondents’ rating of Teacher Efficacy	Male	.139	96	.000	.956	96	.003
	Female	.084	179	.004	.987	179	.099

a. Lilliefors Significance Correction

Since the sample was greater than fifty (n > 50), the Kolmogorov-Smirnov statistical test for the purpose of normality was used in this study. The p-value for males was statistically significant at

$t = 0.139$, $df = 96$, $p = .000$ ($p < 0.05$) and therefore the distribution is probably not normal. However, adopting the central limit theorem, including the strong evidence for the sig. value ($p > 0.05$) from the Anova statistics and Homoscedasticity, a normal distribution is assumed. For further clarification, the normality output was also graphically displayed by means of Q-Q plots and the box plot.

The p-value for females was statistically significant at $t = 0.084$, $df = 179$, $p = .004$ ($p < 0.05$) and therefore the distribution is probably not normal. However, adopting the central limit theorem, including the strong evidence for the sig. value ($p > 0.05$) from the Anova statistics and Homoscedasticity, a normal distribution is assumed. For further clarification, the normality output was also graphically displayed by means of Q-Q plots and box plots as evident from the graphs in Figure 9 to Figure 11 below.

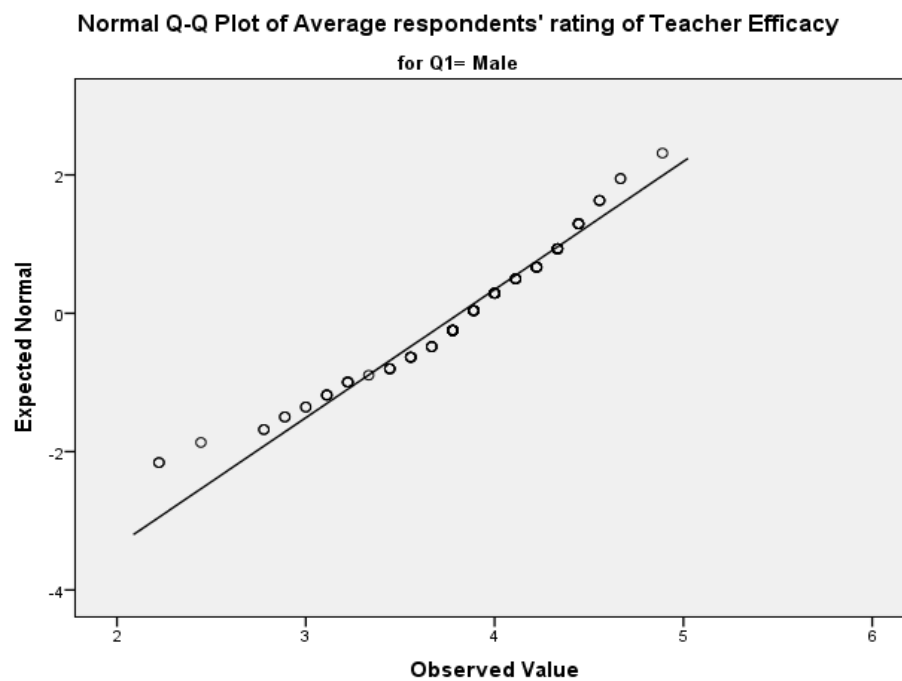


Figure 9: Normal Q-Q Plot of Average Respondents' rating of Teacher Efficacy for Male teachers

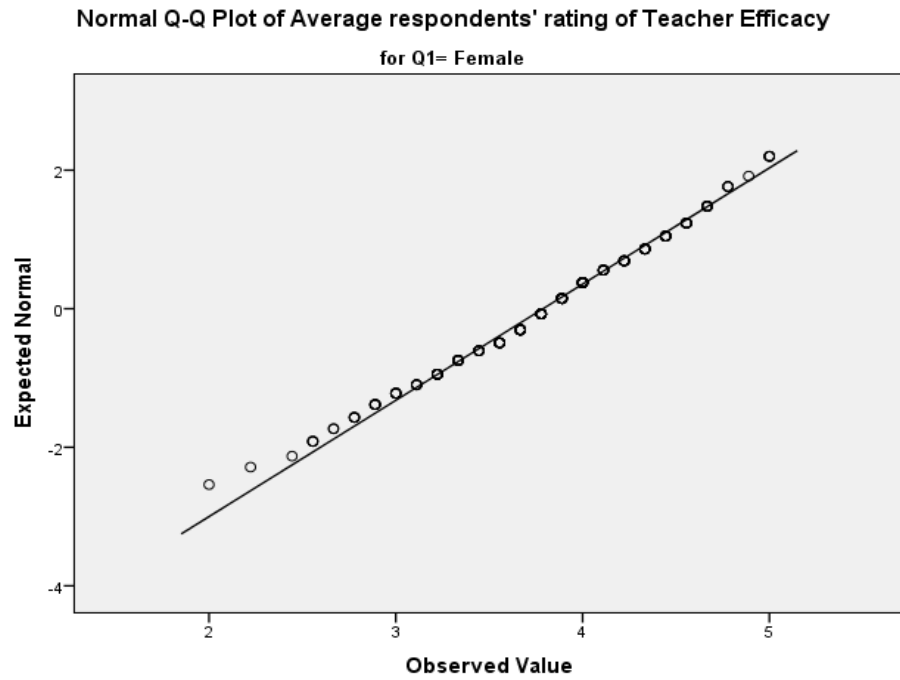


Figure 10: Normal Q-Q Plot of Average Respondents' rating of Teacher Efficacy for Female teachers

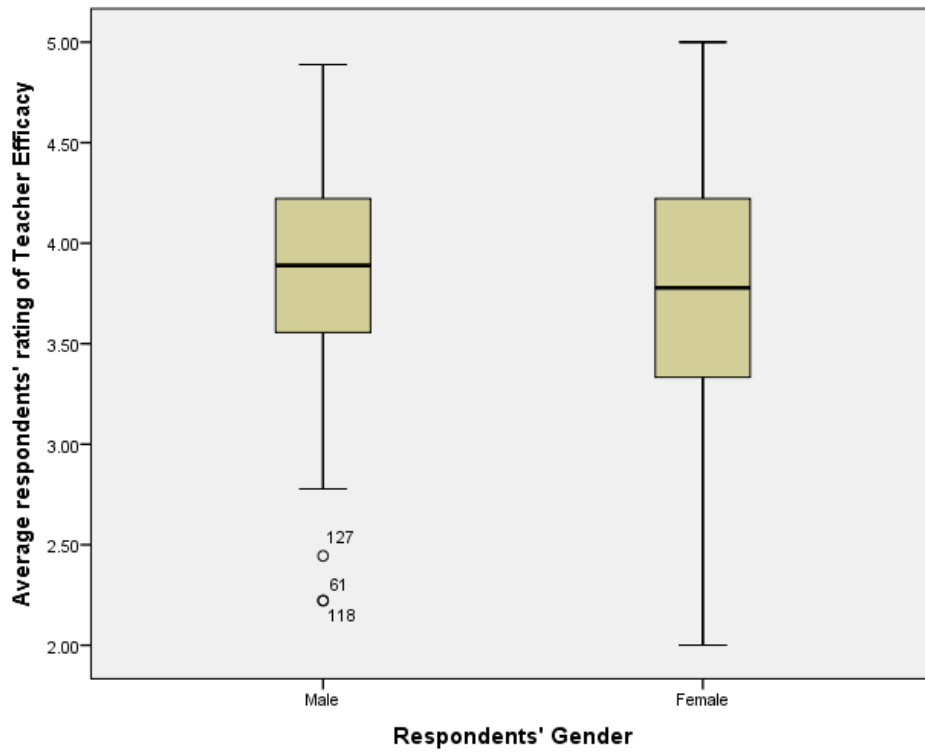


Figure 11: Boxplot of Average Respondents' rating of Teacher Efficacy for Male and Female teachers

Table 7: K-S Test of Normality for Locus of Control for Gender

	Respondents' Gender	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Average respondents' rating of Locus of Control	Male	.082	96	.108	.957	96	.003
	Female	.067	179	.050	.971	179	.001
a. Lilliefors Significance Correction							

Since the sample was greater than fifty ($n > 50$), the Kolmogorov-Smirnov statistical test for the purpose of normality was used in this study. The p-value for males was statistically not significant at $t = 0.082$, $df = 96$, $p = 0.108$ ($p > 0.05$) and therefore the distribution is probably normal. For further clarification, the normality output was also graphically displayed by means of Q-Q plots and the box plot. The p-value for females was statistically significant at $t = 0.067$, $df = 179$, $p = .050$ ($p = 0.05$) and therefore the distribution is statistically not normal. However, adopting the central limit theorem, including the strong evidence for the sig. value ($p > 0.05$) from the Anova statistics and Homoscedasticity, a normal distribution is assumed. For further clarification, the normality output was also graphically displayed by means of Q-Q plots and box plots as evident from graphs in Figure 12 to Figure 14.

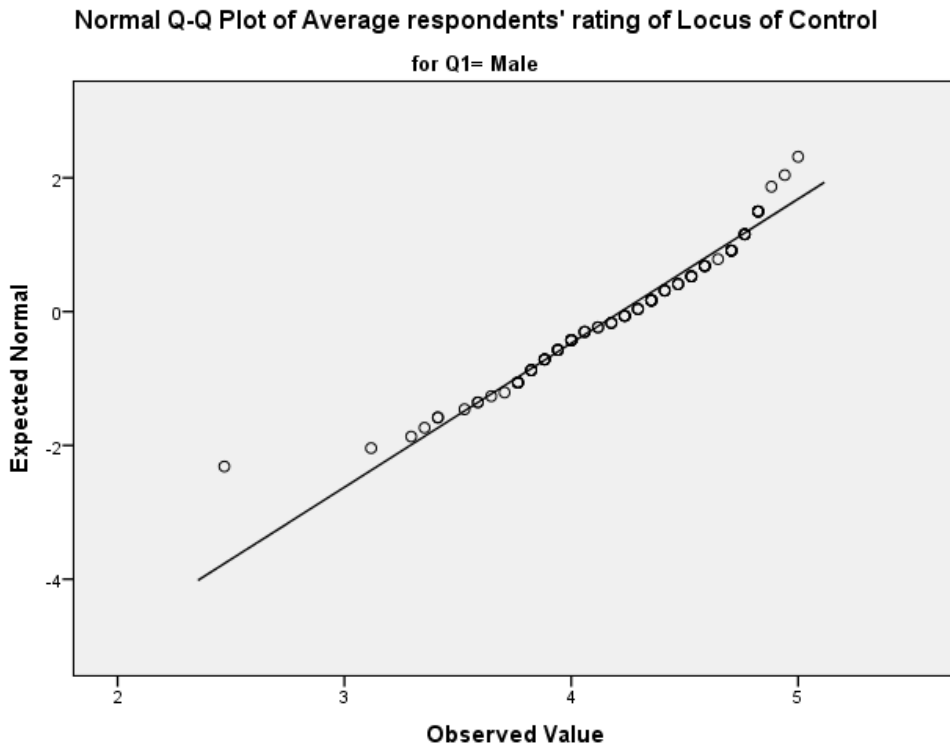


Figure 12: Normal Q-Q Plot of Average Respondents' rating of Locus of Control for Male teachers

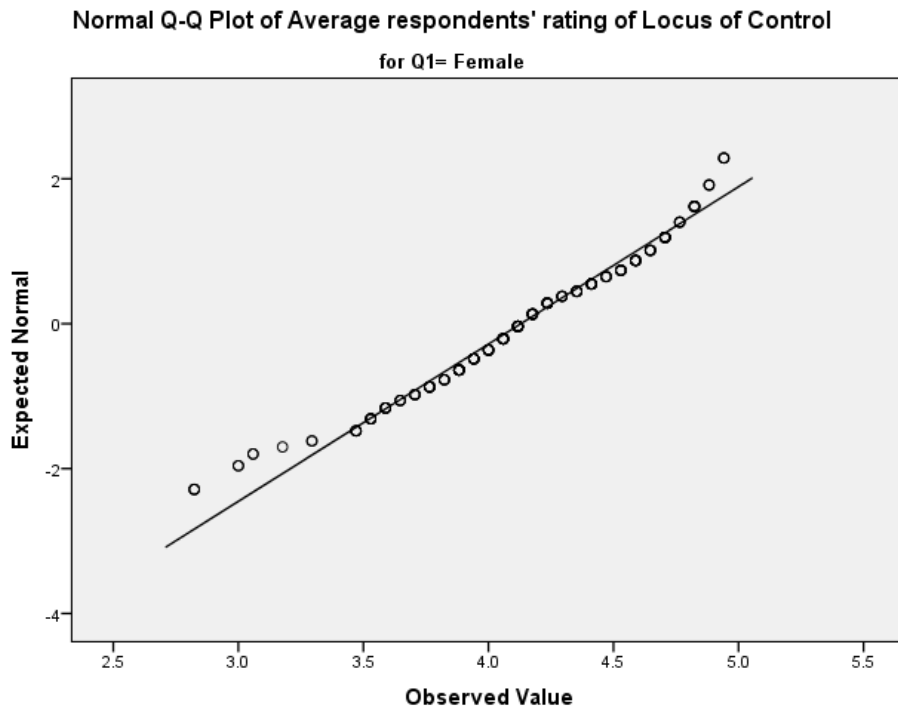


Figure 13: Normal Q-Q Plot of Average Respondents' rating of Locus of Control for Female teachers

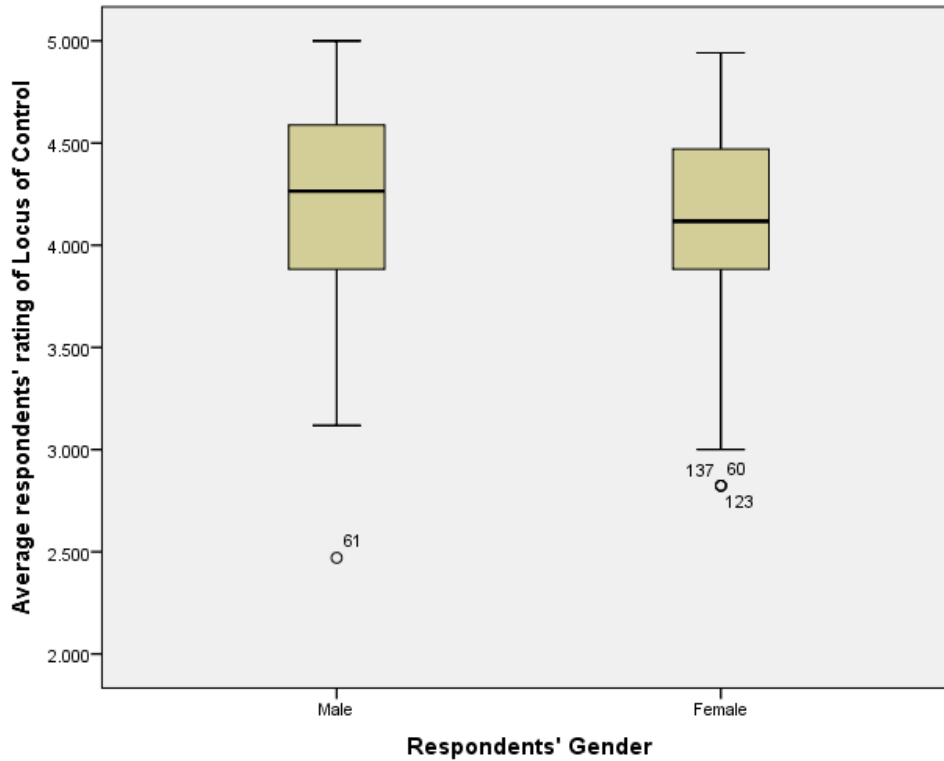


Figure 14: Boxplot of Average Respondents' rating of Locus of Control for Male and Female teachers

Table 8: K-S Test of Normality of Teacher Efficacy for Experience

Tests of Normality							
	Respondents' Teaching Experience	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Average respondents' rating of Teacher Efficacy	Less than 5 years	.112	48	.170	.971	48	.288
	5 Years or more	.105	227	.000	.978	227	.001

a. Lilliefors Significance Correction

Since the sample was greater than fifty ($n > 50$), the Kolmogorov-Smirnov statistical test for the purpose of normality was used in this study. The p-value for novice (less than 5 years teaching experience) was statistically not significant at $t = 0.112$, $df = 48$, $p = 0.170$ ($p > 0.05$) and therefore the distribution is probably normal.

For further clarification, the normality output was also graphically displayed by means of Q-Q plots and the box plot. The p-value for experienced teachers (5 years or more teaching experience) was statistically significant at $t = 0.0105$, $df = 227$, $p = .007$ ($p < 0.05$) and therefore the distribution is probably not normal. However, adopting the central limit theorem, including the strong evidence for the sig. value ($p > 0.05$) from the Anova statistics and Homoscedasticity, a normal distribution is assumed. For further clarification, the normality output was also graphically displayed by means of Q-Q plots and box plots as evident from graphs in Figure 15 to Figure 17.

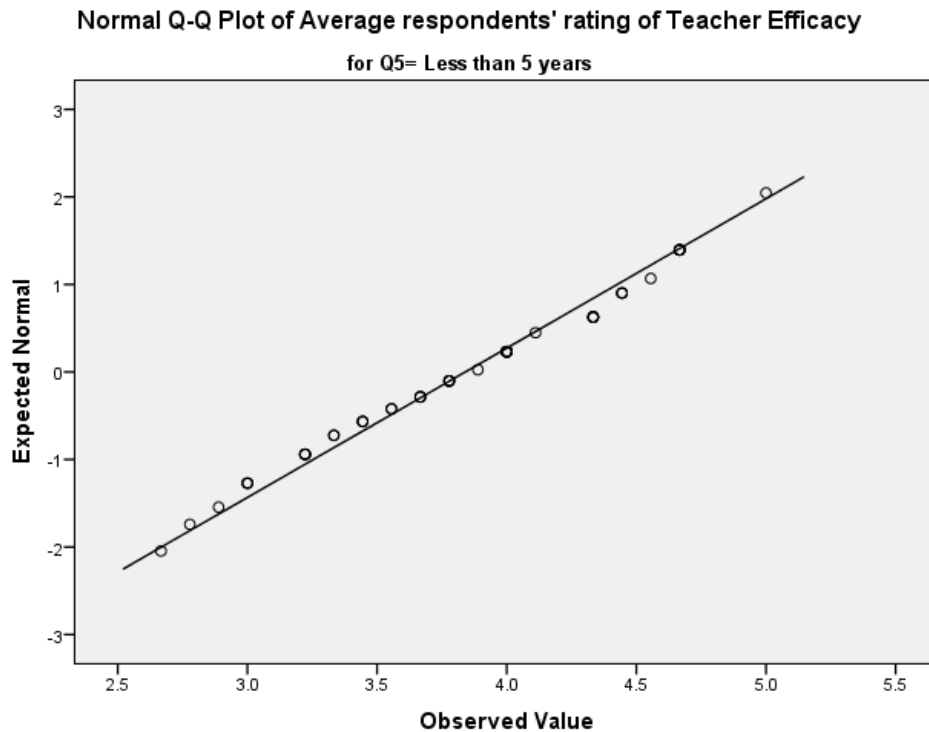


Figure 15: Normal Q-Q Plot of Average Respondents' rating Teacher Efficacy for Novice teachers

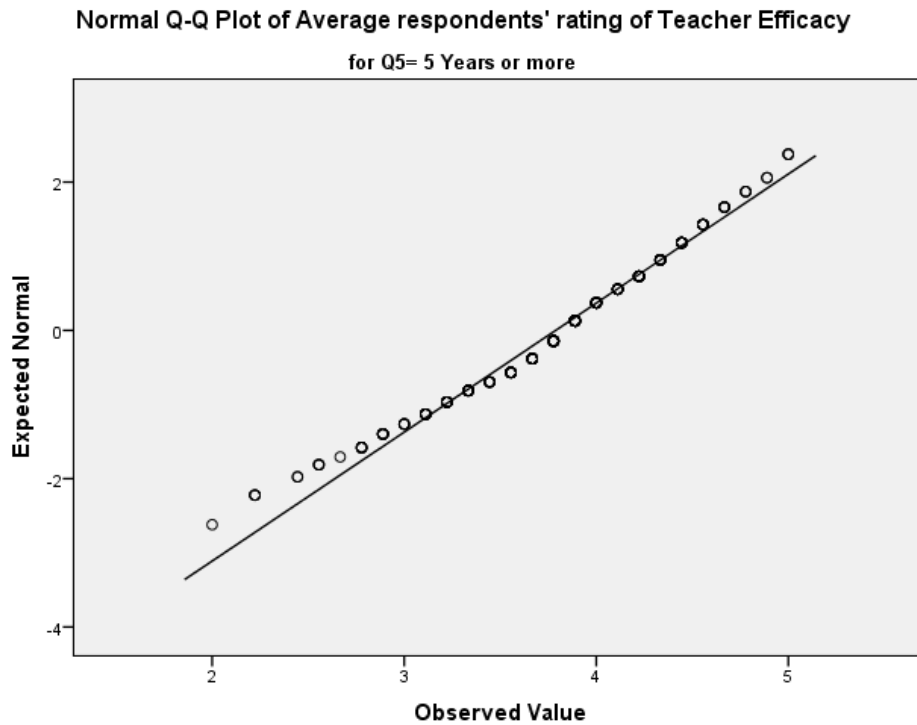


Figure 16: Normal Q-Q Plot of Average Respondents' rating of Teacher Efficacy for Experienced teachers

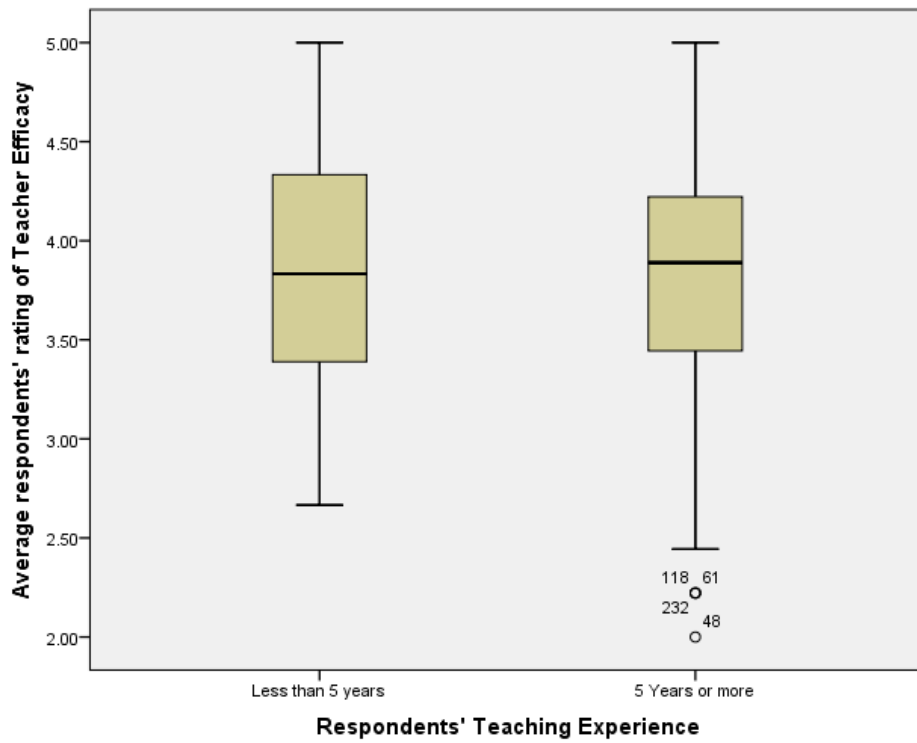


Figure 17: Boxplot of Average Respondents' rating of Teacher Efficacy for Experienced and Novice teachers

Table 9: K-S Test of Normality for Locus of Control for Experience

Tests of Normality							
	Respondents' Teaching Experience	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Average respondents' rating of Locus of Control	Less than 5 years	.106	48	.200*	.955	48	.065
	5 Years or more	.062	227	.037	.969	227	.000

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Since the sample was greater than fifty ($n > 50$), the Kolmogorov-Smirnov statistical test for the purpose of normality was used in this study. The p-value for novice (less than 5 years teaching experience) was statistically not significant at $t = 0.106$, $df = 48$, $p = 0.200$ ($p > 0.05$) and therefore the distribution is probably normal. For further clarification, the normality output was also graphically displayed by means of Q-Q plots and the box plot.

The p-value for experienced teachers (5 years or more teaching experience) was statistically significant at $t = 0.062$, $df = 227$, $p = .037$ ($p < 0.05$) and therefore the distribution is probably not normal. However, adopting the central limit theorem, including the strong evidence for the sig. value ($p > 0.05$) from the Anova statistics and Homoscedasticity, a normal distribution is assumed. For further clarification, the normality output was also graphically displayed by means of Q-Q plots and box plots as evident from graphs in Figure 18 to Figure 20.

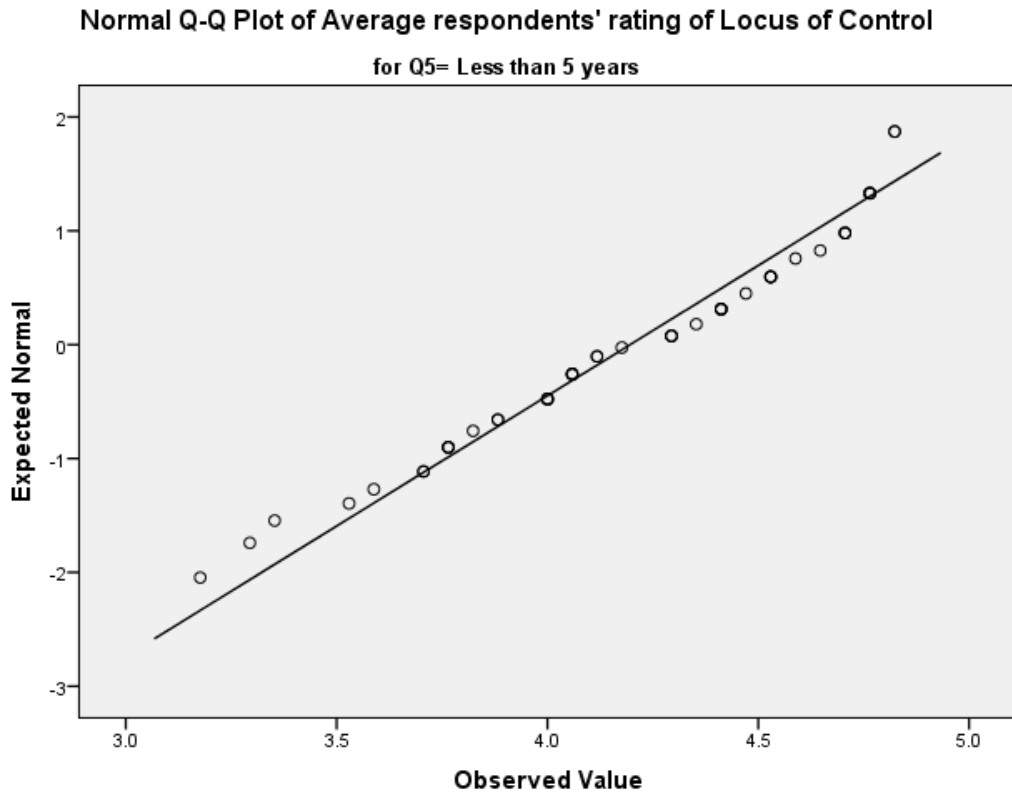


Figure 18: Normal Q-Q Plot of Average Respondents' rating of Locus of Control for Novice teachers

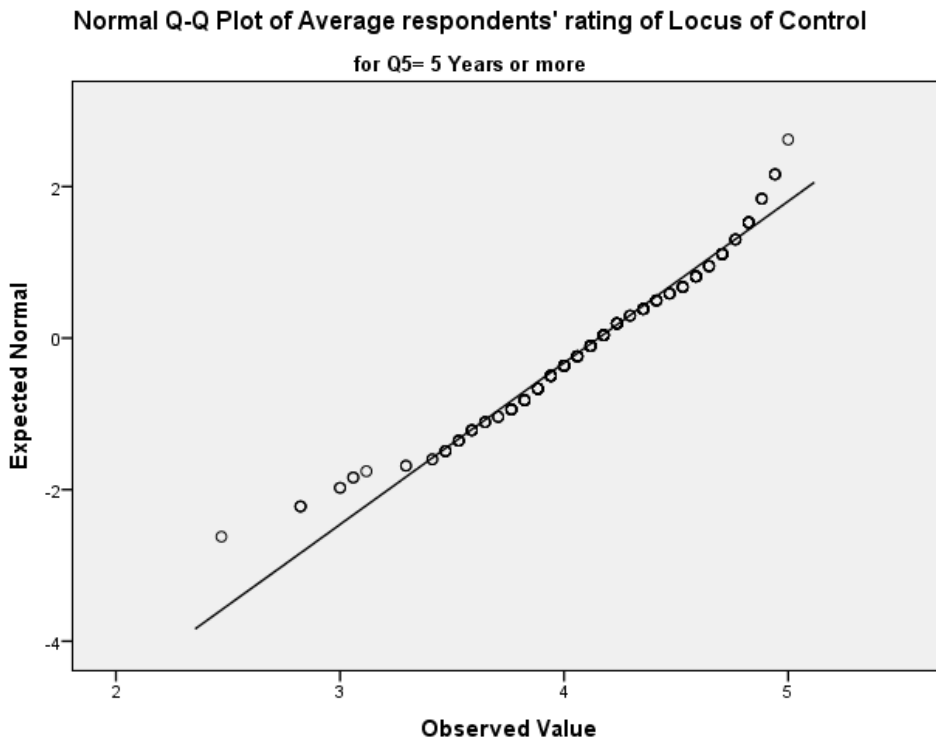


Figure 19: Normal Q-Q Plot of Average Respondents' rating of Locus of Control for Experienced teachers

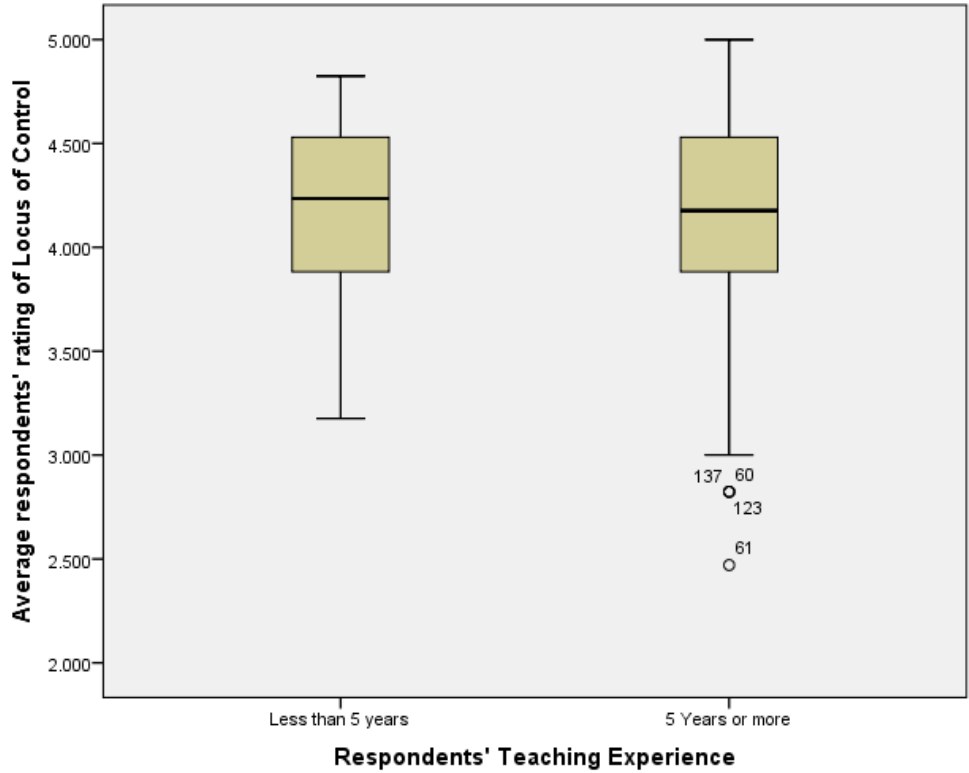


Figure 20: Boxplot of Average Respondents' rating of Locus of Control

Table 10: K-S Test of Normality for Teacher Efficacy for Subject Discipline

Tests of Normality							
	Respondents' Subject Field Discipline	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Average respondents' rating of Teacher Efficacy	Humanities	.093	149	.003	.978	149	.016
	Sciences	.092	92	.052	.976	92	.092
	Both	.139	34	.093	.963	34	.306

a. Lilliefors Significance Correction

Since the sample was greater than fifty ($n > 50$), the Kolmogorov-Smirnov statistical test for the purpose of normality was used in this study. The p-value for humanities was statistically significant at $t = 0.093$, $df = 149$, $p = 0.003$ ($p < 0.05$) and therefore the distribution is probably not normal. However, adopting the central limit theorem, including the strong evidence for the

sig. value ($p > 0.05$) from the Anova statistics and Homoscedasticity, a normal distribution is assumed. For further clarification, the normality output was also graphically displayed by means of Q-Q plots and box plots.

The p-value for sciences was statistically not significant at $t = 0.092$, $df = 92$, $p = .052$ ($p > 0.05$) and therefore the distribution is probably normal. However, adopting the central limit theorem, including the strong evidence for the sig. value ($p > 0.05$) from the Anova statistics and Homoscedasticity, a normal distribution is assumed. For further clarification, the normality output was also graphically displayed by means of Q-Q plots and box plots.

The p-value for both was statistically not significant at $t = 0.139$, $df = 34$, $p = .093$ ($p > 0.05$) and therefore the distribution is probably normal. However, adopting the central limit theorem, including the strong evidence for the sig. value ($p > 0.05$) from the Anova statistics and Homoscedasticity, a normal distribution is assumed. For further clarification, the normality output was also graphically displayed by means of Q-Q plots and box plots as evident from graphs in Figure 21 to Figure 24.

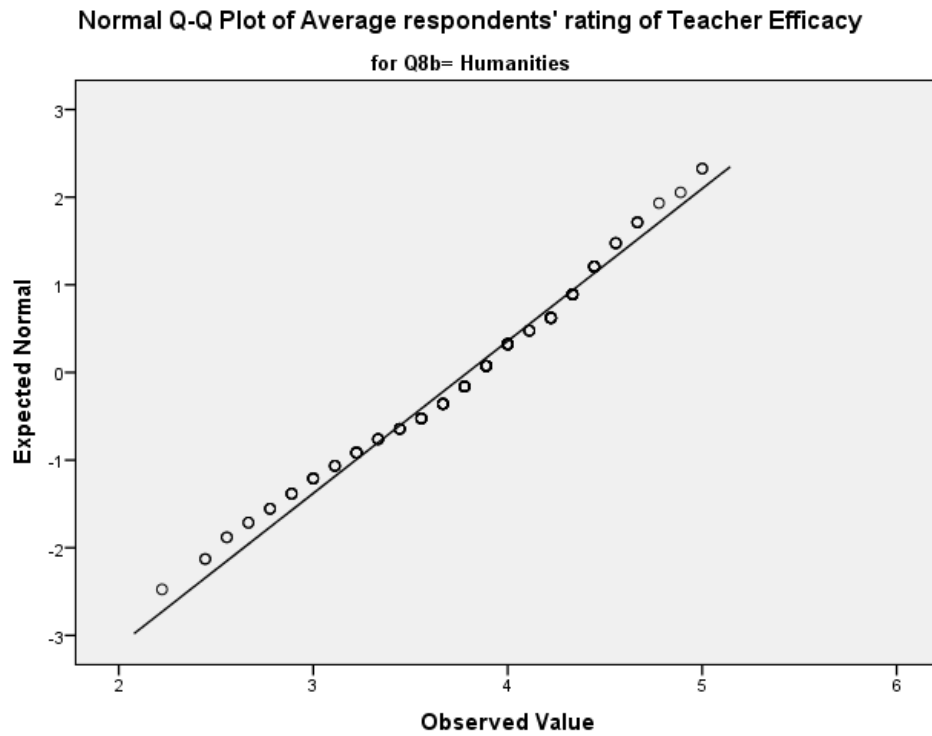


Figure 21: Normal Q-Q Plot of Average Respondents' rating of Teacher Efficacy for Humanities

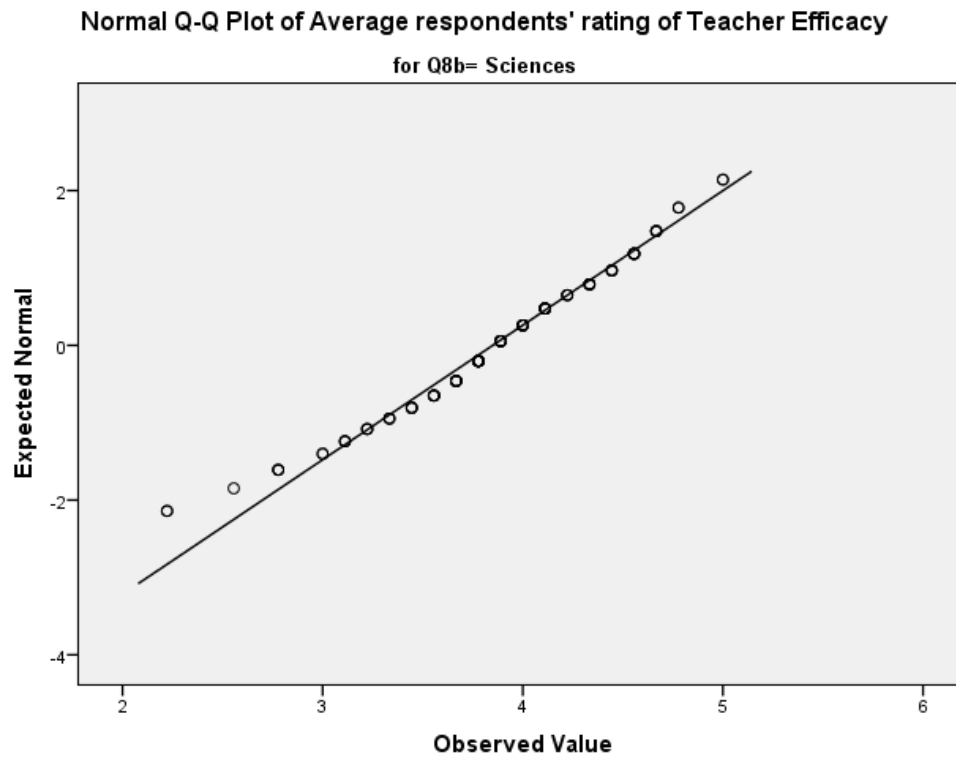


Figure 22: Normal Q-Q Plot of Average Respondents' rating of Teacher Efficacy for Sciences

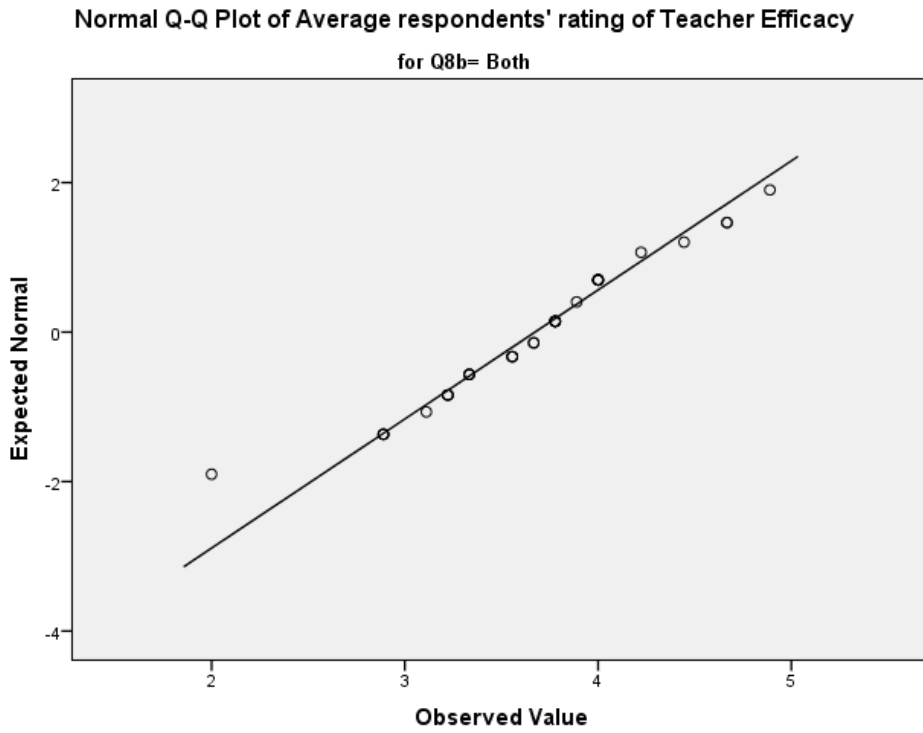


Figure 23: Normal Q-Q Plot of Average Respondents' rating of Teacher Efficacy for Humanities and Sciences

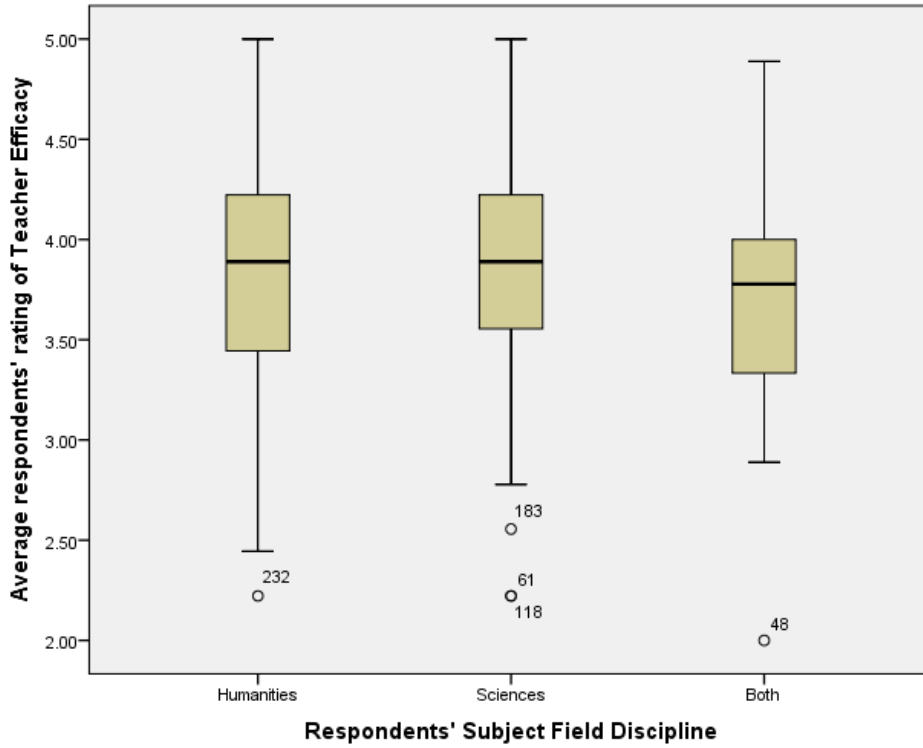


Figure 24: Boxplot of Average Respondents; rating of Teacher Efficacy for Humanities, Sciences and Both

Table 11: K-S Test of Normality for Locus of Control for Subject Discipline

Tests of Normality							
	Respondents' Subject Field Discipline	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Average respondents' rating of Locus of Control	Humanities	.071	149	.063	.960	149	.000
	Sciences	.097	92	.033	.961	92	.008
	Both	.097	34	.200*	.970	34	.470
*. This is a lower bound of the true significance.							
a. Lilliefors Significance Correction							

Since the sample was greater than fifty ($n > 50$), the Kolmogorov-Smirnov statistical test for the purpose of normality was used in this study. The p-value for humanities was statistically not significant at $t = 0.071$, $df = 149$, $p = 0.063$ ($p > 0.05$) and therefore the distribution is probably normal. For further clarification, the normality output was also graphically displayed by means of Q-Q plots and box plots.

The p-value for sciences was statistically significant at $t = 0.097$, $df = 92$, $p = .033$ ($p < 0.05$) and therefore the distribution is probably not normal. However, adopting the central limit theorem, including the strong evidence for the sig. value ($p > 0.05$) from the Anova statistics and Homoscedasticity, a normal distribution is assumed. For further clarification, the normality output was also graphically displayed by means of Q-Q plots and box plots.

The p-value for both was statistically not significant at $t = 0.097$, $df = 34$, $p = .200$ ($p > 0.05$) and therefore the distribution is probably normal. For further clarification, the normality output was also graphically displayed by means of Q-Q plots and box plots as evident from graphs in Figure 25 to Figure 28.

Normal Q-Q Plot of Average respondents' rating of Locus of Control
for Q8b= Humanities

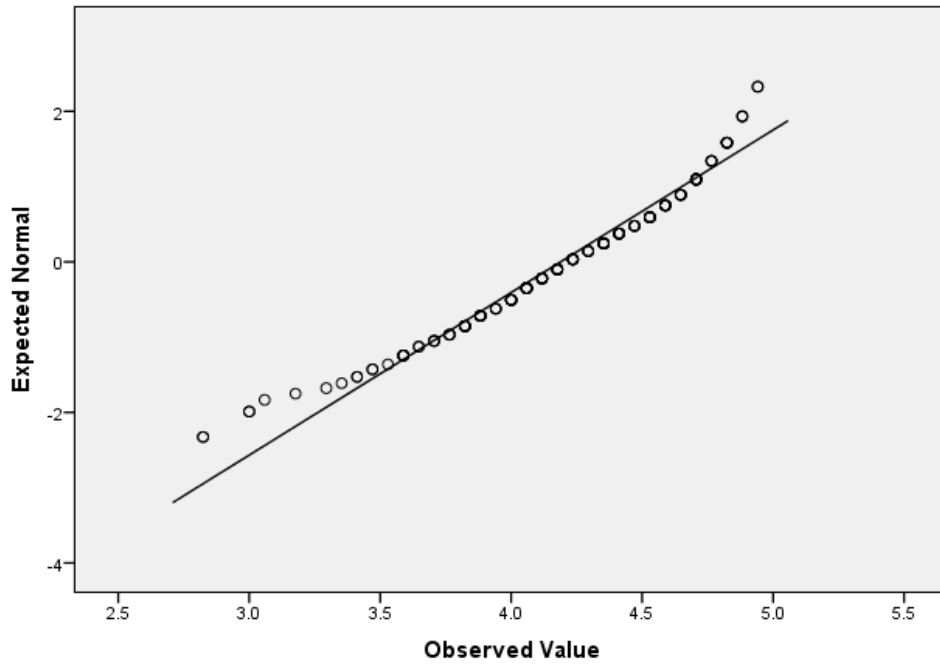


Figure 25: Normal Q-Q Plot of Average Respondents' rating of Locus of Control for Humanities

Normal Q-Q Plot of Average respondents' rating of Locus of Control
for Q8b= Sciences

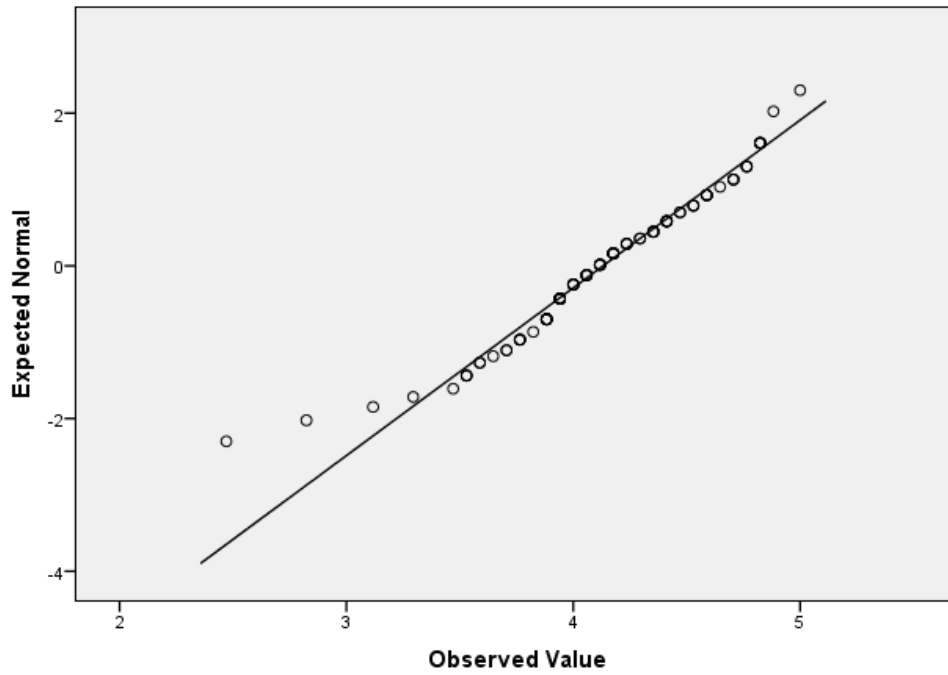


Figure 26: Normal Q-Q Plot of Average Respondents' rating of Locus of Control for Sciences

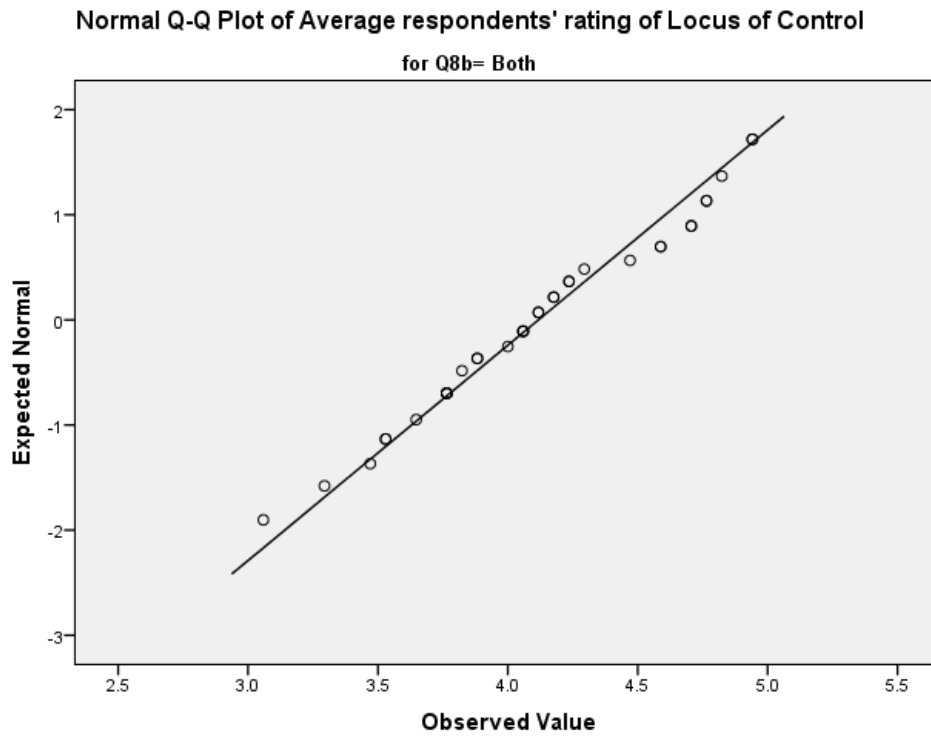


Figure 28: Normal Q-Q Plot of Average Respondents' rating of Locus of Control for Both

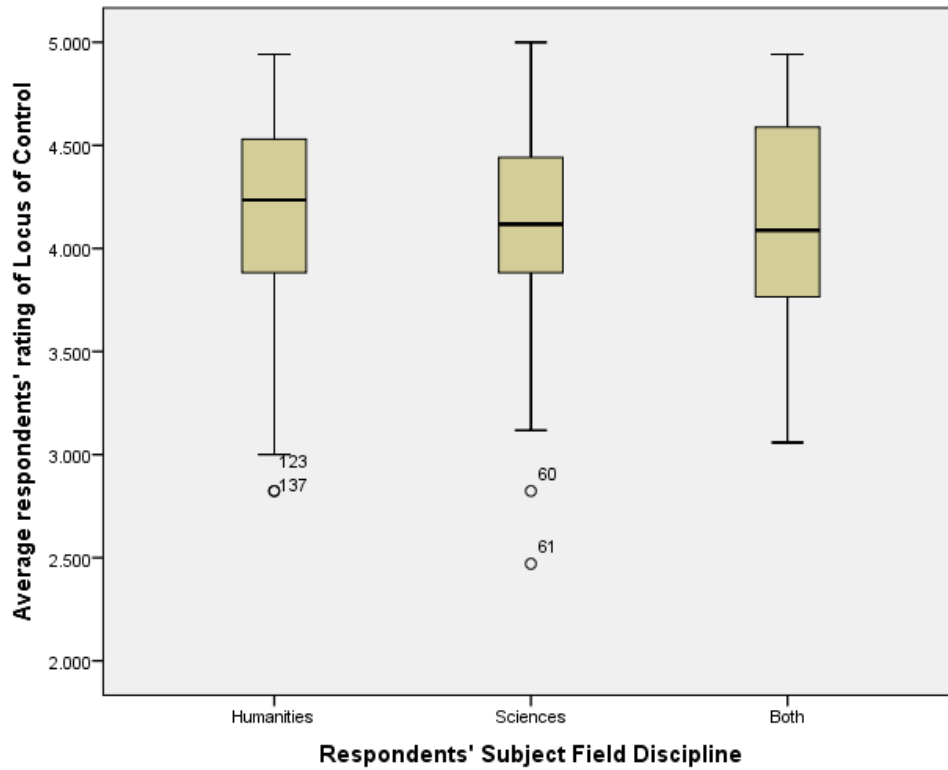


Figure 29: Boxplot of Average Respondents' rating of Locus of Control for Humanities, Sciences and Both

4.3.2 Homoscedasticity

Homogeneity of variances (homoscedasticity) assumes that the dependent variables exhibit equal levels of variance across the range of predictor variables. Heteroscedasticity refers to the circumstance in which the variability of a variable is unequal across the range of values of a second variable that predicts it (Taylor, 2013). Table 12 and Table 13 indicate the descriptive statistics and test done for homoscedasticity.

Table 12: Descriptive Statistics for Homogeneity of Variances (n=275)

Group Statistics					
	Gender	N	Mean	Std. Deviation	Std. Error Mean
TE	Male	96	30.5417	4.4554	0.4547
	Female	179	30.3855	4.9095	0.3670

Table 13: Levene's Test for Equality of Variances

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff	Std. Error Diff	95% Confidence Interval of the Difference	
									Lower	Upper
TE	Equal variances assumed	1.1892	0.2765	0.2596	273	0.7954	0.1562	0.6017	-1.0284	1.3408
	Equal variances not assumed			0.2673	211	0.7895	0.1562	0.5843	-0.9957	1.3080

This test for homogeneity of variance provides an F statistic and a significance value (p -value). We are primarily concerned with the significance level - if it is greater than 0.05, our group variances can be treated as equal. However, if $p < 0.05$, we have unequal variances and we have violated the assumption of homogeneity of variance. Following the Levene's statistic for this study, homogeneity of variances is not met (Homoscedasticity) as evident from the table ($t = 0.267$, $df = 211$, $p = 0.789$), $p > 0.05$. Therefore, heteroscedasticity is reported for unequal variances from statistical significant results evident from the Levene's test of homogeneity of variances.

4.4 RESULTS OF THE STUDY

The results of this study are presented as quantitative results in Section A and qualitative results in section B.

4.4.1 Section A

For the quantitative design of the study, inferential statistics was used to analyse data that were gathered. The inferential statistics enabled the researcher to determine the estimates, which were used to make inferences about the population. According to McMillan and Schumacher (2010:294), inferential statistics are often used because many research questions require the estimation of population characteristics from an available sample. Furthermore, the authors contend that calculations in inferential statistics are used to make inferences about variables, and not simply to describe the data that are captured from the sample.

In pursuance of the trustworthiness of the inferential statistics results; the researcher determined and justified the following aspects: the variables of the study, the reliability and validity of the measuring instrument, comprising content validity and internal reliability of the questionnaire.

4.4.1.1 Variables

A variable refers to an attribute or characteristics of a person or an object that varies within the population under investigation (McMillan and Schumacher, 2010:54). The term variable refers to a property whereby the members of a group being studied differ from one another. Labels or numbers may be used to describe the way in which one member of a group is the same or different from another (Ross, 2005:38). For example gender is labelled 'male' and 'female'; experience is labelled 'experienced' and 'novice' and discipline is labelled 'humanities' and 'sciences'. Variables may also be classified according to the type of information which different classifications or measurements provide. There are four main types of variables: nominal, ordinal, interval, and ratio. An ordinal variable is similar to a categorical variable. The difference between the two is that there is a clear ordering of the variables (McMillan and Schumacher, 2010).

Variables may either be dependent or independent. According to Tirivangana (2013:38), the independent variable refer to the input or stimulus variable; is the variable that is manipulated by the researcher and is an antecedent condition preceding a particular consequence.

For the purpose of this study, the researcher selected the following as independent variables:

- Gender of respondents.
- Experience of respondents.
- Discipline field taught by respondents.

The dependent variable is the reputed effect, which varies concomitantly with changes or variation in the independent variable. It is the variable that is not manipulated by the researcher, and is predicted to. A dependent variable is held to be causally affected by an independent variable (Bryman & Liao, 2004). In statistics, ordinal data is a statistical data type consisting of numerical scores that exist on an ordinal scale, i.e. an arbitrary numerical scale where the exact numerical quantity of a particular value has no significance beyond its ability to establish a ranking over a set of data points (Wikipedia, online). A variable on which the data are ordinal is known as an ordinal variable. An ordinal variable is similar to a categorical variable. The difference between the two is that there is a clear ordering of the variables (McMillan & Schumacher, 2010).

In this study, the dependent variables were teacher efficacy and locus of control. These variables are evident from the range of questions in Section B of the questionnaire (Appendix F). These DVs are ordinal and categorical by nature.

4.4.1.2 Reliability and Validity of SELOC

Reported tests of reliability and validity estimates are necessary to determine the adequacy of the research instruments' psychometric properties. According to Drost (2011), an important part of

social science research is the quantification of human behaviour — that is, using measurement instruments to observe human behaviour. The measurement of human behaviour belongs to the widely accepted positivist view, or empirical-analytic approach, to discern reality (Smallbone & Quinton, 2004).

Because most behavioural research takes place within this paradigm, measurement instruments must be valid and reliable. In pursuance of the latter standards of validity and reliability, the researcher used content validity to determine the internal consistency (ability to interpret results with reasonable certainty) of the instrument by first requesting judges for their appropriate evaluation of content and secondly, computation of factor analysis to extract the categories of the content. Subsequently, validity and reliability tests and procedures are discussed in the following sections.

a) Content validity

Validity is concerned with the meaningfulness of research components. When researchers measure behaviours, they are concerned with whether they are measuring what they intended to measure (Drost, 2011). According to the Learning Resource Center (s.a.:online), instrument validity is the degree to which an instrument measures what it is intended to measure. It is inferred from the evidence presented, and cannot be said to be proven or established. The researcher validates the application of an instrument, not the instrument, itself. Problems of validity relate to whether one really is measuring the attribute one thinks is being measured. Content validity refers to the sampling adequacy of the content areas being measured. It asks the question “How representative of all questions that could be asked are the questions actually

being asked in the instrument?” Does the instrument, in other words, adequately represent the domain of the variables being measured (Learning Resource Center, s.a: online). The researcher applied factor analysis for establishment of content validity.

Factor analysis is a form of exploratory multivariate analysis that is used to either reduce the number of variables in a model or to detect relationships among variables. All variables involved in the factor analysis need to be interval and are assumed to be normally distributed. The goal of the analysis is to try and identify factors which underlie the variables. There may be fewer factors than variables, but there may not be more factors than variables (Institution for Digital Research and Education, online).

During the *pilot survey*, the initial questionnaire comprised 75 questions and was subjected to principal component factor analysis using Varimax Rotation and a plot of 1 eigenvalues. Two factors were extracted and called Teacher Efficacy and Locus of Control. Only the items that loaded at 0.5 and above eigenvalue of 1 were included in the final questionnaire (see Appendix F). After factor analysis, eighteen (18) statements loaded at above 0.5 eigenvalue of 1, and were identified as questions pertinent to teacher efficacy. Twelve (12) statements which were identified relevant to locus of control, also loaded above 0.5 eigenvalue of 1. Of the remaining questions loading below 0.5 of 1 eigenvalue, six (6) items were selected and adapted for interview questions. Forty one (41) questions were discarded because of being double-barrelled and ambiguous. The final questionnaire (comprising 30 items) was further tested for reliability and validity estimates.

The following section explains the appropriate action taken by the researcher for reliability of the study to be ensured.

b) Internal Reliability

Tirivangana (2013:34) asserts that reliability of academic research can be measured internally and externally. He explains that internal reliability refers to the extent to which data collection, analysis and interpretation are consistent given the same conditions while external reliability is the extent to which independent researchers can replicate studies in the same or similar conditions. Drost (2011) supported this view by stating that reliability is the extent to which measurements are repeatable –when different persons perform the measurements, on different occasions, under different conditions, with supposedly alternative instruments which measure the same thing. In sum, reliability is consistency of measurement or stability of measurement over a variety of conditions in which basically the same results should be obtained.

Internal consistency concerns the reliability of the test components (Drost, 2011). Internal consistency measures consistency within the instrument and questions how well a set of items measures a particular behaviour or characteristic within the test. For a test to be internally consistent, estimates of reliability are based on the average intercorrelations among all the single items within a test. The most popular method of testing for internal consistency in the behavioural sciences is coefficient alpha. Coefficient alpha was popularised by Cronbach (1951), who recognised its general usefulness. As a result, it is often referred to as *Cronbach's alpha*.

For the purpose of this study, the Cronbach's alpha was used to measure the internal consistency of the research instrument for this study. According to George and Mallery (2003:231), Cronbach's alpha reliability coefficient normally ranges between 0 and 1. The closer Cronbach's alpha coefficient is to 1.0 the greater the internal consistency of the items in the questionnaire. Furthermore, Gliem and Gliem (2003:87) provide the following rules of thumb regarding reliability values: “_ > .9 – Excellent, _ > .8 – Good, _ > .7 – Acceptable, _ > .6 – Questionable, _ > .5 – Poor and _ < .5 – Unacceptable”. Of these, an alpha of .8 is regarded as a reasonable goal. Notwithstanding, George and Mallery (2003:231) assert that while a high value for Cronbach's alpha indicates good internal consistency of the questionnaire, it does not mean that it is unidimensional. The reliability of this final questionnaire is 0.92 which, according to George and Mallery (2003:231) is regarded as excellent, indicative of a high level (92%) of internal consistency for the questionnaire requiring response on a Likert scale. This researcher named the final questionnaire *SELOC* (an acronym for Teacher Efficacy and Locus of Control DV's identified after factor analysis). See Table 14 below for the Cronbach's Alpha analysis.

Table 14: Cronbach's Alpha Analysis

Cronbach's Alpha Analysis		
Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.9237	0.92	30.00

The aforementioned paragraphs outlined the psychometric characteristics of the instrument by referring to validity and reliability tests. Furthermore, most statistical tests rely upon certain assumptions about the variables used in the analysis. The following section provides the procedures taken to ensure these assumptions for statistical analysis were met.

4.4.1.3 Statistical Analysis

Statistical analysis comprises two categories namely *descriptive statistics*, which are used to describe the researcher's data set (observation and analysis) and *inferential statistics*, which permit inference from the data about a particular sample to conclusions or relationships about a larger population (Learning Resources Center, s.a.:online). The following section focuses on the descriptive statistics for this study.

a) Descriptive statistics for quantitative data

As a first step in analysing the data, descriptive statistics have been calculated to summarise the characteristics of the data. The findings in this chapter are based on the descriptive data. Section A of the questionnaire consisted of seventeen (17) questions about the demographics of the respondents (see Appendix F) for the tables depicting the results of analysis of demographics in accordance to gender, population group, age group, highest qualification, teaching experience, socio-economic status of school families, average class size and school location.

The graphs in Figure 29 to Figure 31 outline the descriptive statistics for the three IV's (gender, experience and subject discipline) for this study. Further tables for descriptive evidence can be found in Appendix I. The following section turns the focus to the inferential statistics of this study.

b) MANOVA analysis

Seven hypotheses were designed to test the effect of the IV's on the two DV's with the IV's being 'gender', 'experience' and 'discipline' and; the DV's being 'teacher efficacy' and 'locus of control'. Haber and LoBiondo-Wood (2010:39) asserts that a hypothesis is a statement that specifies an assumed relationship between two or more phenomena or variables. It should be testable by applying logical and conceptual reasoning. Researchers should be able to confirm or refute a research hypothesis. A single hypothesis allows for only one implication to be confirmed or disconfirmed. Ilakovac (2009) postulates in behavioural research, the statistical hypothesis are usually a null hypothesis. Statistical inference is a procedure for rejecting the null hypothesis so that the alternative hypothesis can be confirmed. The alternative can only be accepted if the null is rejected and there is no better alternative. The null hypothesis and its alternative must be mutually exclusive, that is, when one is true, the other one must be false.

The null hypotheses of this study included:

1. There is no statistical significant effect of gender on SELOC.
2. There is no statistical significant effect of experience on SELOC.
3. There is no statistical significant effect of subject discipline on SELOC.
4. There is no statistical significant effect of gender and experience on SELOC.
5. There is no statistical significant effect of gender and subject discipline on SELOC.
6. There is no statistical significant effect of experience and subject discipline on SELOC.
7. There is no statistical significant effect of gender, experience and subject discipline on SELOC

For this study, the hypotheses were tested using multivariate analysis (MANOVA). A MANOVA has more than one dependent variable with a number of independent variables (McMillan & Schumacher, 2010). The goal of this analysis was to look for an effect of one or more IVs on several DVs at the same time. The familiar “general linear model” command in SPSS was utilised for the purpose of this study. Tests for MANOVA used in this study are Wilks' Lambda, Pillai's Trace, Hotelling's Trace, and Roy's Largest Root. All four tests indicate the same probability p value.

According to Fausset, Rodger and Fisk (2009:26), these different tests subsequently entail the following:

1. Wilks' λ refers to a pooled ratio of error variances to effect variance plus error variance. This is the most commonly reported test statistic, but not always the best choice. It gives an exact F-statistic.
2. Hotelling's trace refers to a pooled ratio of effect variance to error variance.
3. Pillai-Bartlett criterion refers to a pooled effect variances. It is often considered most robust and powerful test statistic. It gives the most conservative F-statistic.
4. Roy's Largest Root refers to the largest eigenvalue. It gives an upper-bound of the F-statistic. It also disregard if none of the other test statistics are significant.

MANOVA HYPOTHESIS

Hypothesis H₀ (1):

There is no statistical significant effect of gender on SELOC. Table 15 presents the multivariate tests (Manova) on Gender.

Table 15: MANOVA Statistics of Gender - Application of SELOC

Effect		Value	F	Hypothesis df	Error df	Sig.	Noncent. Parameter	Observed Power ^b
G	Pillai's Trace	0.006	.759 ^a	2.000	262.000	0.4690	1.519	0.178
	Wilks' Lambda	0.994	.759 ^a	2.000	262.000	0.4690	1.519	0.178
	Hotelling's Trace	0.006	.759 ^a	2.000	262.000	0.4690	1.519	0.178
	Roy's Largest Root	0.006	.759 ^a	2.000	262.000	0.4690	1.519	0.178

As can be deduced from the Manova; the probability of these tests for the independent variable ‘gender’ is 0.4690. Since the probability p value is greater than the chosen alpha (α) level (risk level selected for this study ($\alpha = 0.05$)), consequently the null hypothesis that “there is no significant effect of gender on SELOC” is *not rejected*. There was no statistical significant effect of gender on SELOC [$p = 0.4690$.] The application of SELOC according to gender seems to be similar and not statistically different.

Hypothesis H₀ (2):

There is no statistical significant effect of experience on SELOC. Table 16 presents the multivariate tests (Manova) on Experience.

Table 16: MANOVA Statistics of Experience - Application of SELOC

Effect		Value	F	Hypothesis df	Error df	Sig.	Noncent. Parameter	Observed Power ^b
E	Pillai's Trace	0.016	2.083 ^a	2.000	262.000	0.1266	4.167	0.426
	Wilks' Lambda	0.984	2.083 ^a	2.000	262.000	0.1266	4.167	0.426
	Hotelling's Trace	0.016	2.083 ^a	2.000	262.000	0.1266	4.167	0.426
	Roy's Largest Root	0.016	2.083 ^a	2.000	262.000	0.1266	4.167	0.426

As can be deduced from the Manova; the probability of these tests for the independent variable ‘experience’ is 0.1266. Since the probability p value is greater than the chosen alpha (α) level (risk level selected for this study ($\alpha = 0.05$)), consequently the null hypothesis that “there is no statistical significant effect of experience on SELOC” is *not rejected*. There was no statistical significant effect of experience on SELOC [$p = 0.1266$.] The application according to SELOC by experience seems to be similar and not statistically different.

Hypothesis H₀ (3):

There is no statistical significant effect of subject discipline on SELOC. Table 17 presents the multivariate tests (Manova) on Discipline.

Table 17: MANOVA Statistics of Subject Discipline - Application of SELOC

Effect	Value	F	Hypothesis df	Error df	Sig.	Noncent. Parameter	Observed Power ^b	
D	Pillai's Trace	0.012	0.826	4.000	526.000	0.5091	3.303	0.265
	Wilks' Lambda	0.988	.825 ^a	4.000	524.000	0.5095	3.301	0.265
	Hotelling's Trace	0.013	0.825	4.000	522.000	0.5099	3.298	0.264
	Roy's Largest Root	0.013	1.660 ^c	2.000	263.000	0.1922	3.319	0.348

As can be deduced from the Manova; the probability of these tests for the independent variable ‘discipline’ is 0.5091; 0.5095; 0.5099 and 0. 1922. Since the probability ρ value is greater than the chosen alpha (α) level (risk level selected for this study ($\alpha = 0.05$)), consequently the null hypothesis that “there is no significant effect of discipline on SELOC” is *not rejected*. There was no statistical significant effect of experience on SELOC [$\rho = 0.5091; 0.5095; 0.5099$ and **0.1922.**] The application of SELOC according to subject discipline seems to be similar and not statistically different.

Hypothesis H₀ (4):

There is no statistical significant effect of gender and experience on SELOC. Table 18 presents the multivariate tests (Manova) on Gender and Experience.

Table 18: MANOVA Statistics of Gender and Experience - Application of SELOC

Effect		Value	F	Hypothesis df	Error df	Sig.	Noncent. Parameter	Observed Power ^b
G & E	Pillai's Trace	0.002	.231 ^a	2.000	262.000	0.7942	0.461	0.086
	Wilks' Lambda	0.998	.231 ^a	2.000	262.000	0.7942	0.461	0.086
	Hotelling's Trace	0.002	.231 ^a	2.000	262.000	0.7942	0.461	0.086
	Roy's Largest Root	0.002	.231 ^a	2.000	262.000	0.7942	0.461	0.086

As can be deduced from the Manova; the probability of these tests for the independent variable ‘gender and experience’ is 0.7942. Since the probability p value is greater than the chosen alpha (α) level (risk level selected for this study ($\alpha = 0.05$)), consequently the null hypothesis that “there is no statistical significant effect of experience on SELOC” is *not rejected*. There was no statistical significant effect of gender and experience on SELOC [$p = 0.7942$.] The application of SELOC by gender and experience seems to be similar and not statistically different.

Hypothesis H₀ (5):

There is no statistical significant effect of Gender and Subject Discipline on SELOC. Table 19 presents the multivariate tests (Manova) on Gender and Discipline.

Table 19: MANOVA Statistics of Gender and Subject Discipline - Application of SELOC

Effect		Value	F	Hypothesis df	Error df	Sig.	Noncent. Parameter	Observed Power ^b
G & D	Pillai's Trace	0.022	1.472	4.000	526.000	0.2093	5.888	0.458
	Wilks' Lambda	0.978	1.470 ^a	4.000	524.000	0.2101	5.879	0.457
	Hotelling's Trace	0.022	1.467	4.000	522.000	0.2108	5.869	0.457
	Roy's Largest Root	0.018	2.404 ^c	2.000	263.000	0.0924	4.807	0.483

As can be deduced from the Manova; the probability of these tests for the independent variable ‘gender and discipline’ is 0.2093; 0.2101; 0.2108 and 0.0924. Since the probability ρ value is greater than the chosen alpha (α) level (risk level selected for this study ($\alpha = 0.05$)), consequently the null hypothesis that “there is no statistical significant effect of discipline on SELOC” is *not rejected*. There was no statistical significant effect of gender and subject discipline on SELOC [$\rho = 0.2093; 0.2101; 0.2108$ and 0.0924 .] The application of SELOC by gender and discipline seems to be similar and not statistically different.

Hypothesis H₀ (6):

There is no statistical significant effect of Experience and Discipline on SELOC. Table 20 presents the multivariate tests (Manova) on Experience and Discipline.

Table 20: MANOVA Statistics of Experience and Subject Discipline - Application of SELOC

Effect		Value	F	Hypothesis df	Error df	Sig.	Noncent. Parameter	Observed Power ^b
E D	Pillai's Trace	0.024	1.608	4.000	526.000	0.1709	6.432	0.497
	Wilks' Lambda	0.976	1.603 ^a	4.000	524.000	0.1722	6.412	0.495
	Hotelling's Trace	0.024	1.598	4.000	522.000	0.1735	6.391	0.494
	Roy's Largest Root	0.016	2.130 ^c	2.000	263.000	0.1209	4.261	0.435

As can be deduced from the Manova; the probability of these tests for the independent variable ‘experience and subject discipline’ is 0.1709; 0.1722; 0.1735 and 0.1209. Since the probability p value is greater than the chosen alpha (α) level (risk level selected for this study ($\alpha = 0.05$)), consequently the null hypothesis that “there is no statistical significant effect of experience and subject discipline on SELOC” is *not rejected*. There was no statistical significant effect of experience and discipline on SELOC [$p = 0.1709; 0.1722; 0.1735$ and 0.1209 .] The application of SELOC by experience and discipline seems to be similar and not statistically different.

Hypothesis H₀ (7):

There is no statistical significant effect of Gender, Experience and Discipline on SELOC. Table 21 presents the multivariate tests (Manova) on Experience and Discipline.

Table 21: MANOVA Statistics of Gender, Experience and Subject Discipline - Application of SELOC

Effect		Value	F	Hypothesis df	Error df	Sig.	Noncent. Parameter	Observed Power ^b
G E D	Pillai's Trace	0.005	0.340	4.000	526.000	0.8508	1.361	0.127
	Wilks' Lambda	0.995	.339 ^a	4.000	524.000	0.8514	1.357	0.127
	Hotelling's Trace	0.005	0.338	4.000	522.000	0.8520	1.354	0.127
	Roy's Largest Root	0.005	.671 ^c	2.000	263.000	0.5119	1.342	0.162

As can be deduced from the Manova; the probability of these tests for the independent variable ‘gender, experience and discipline’ is 0.85089; 0.8514; 0.8520 and 0.5119. Since the probability ρ value is greater than the chosen alpha (α) level (risk level selected for this study ($\alpha = 0.05$)), consequently the null hypothesis that “there is no statistical significant effect of gender, experience and discipline on SELOC” is *not rejected*. There was no statistical significant effect of gender, experience and discipline on SELOC [$\rho = 0.85089; 0.8514; 0.8520$ and 0.5119 .] The application of SELOC by gender, experience and subject discipline seems to be similar and not statistically different.

From the above MANOVA results, no statistical significant effect of the IVs on the combined DV SELOC could be established. To further signify the results, the researcher decided to conduct a univariate ANOVA (3 Way Anova, 2Way Anova and 1 Way Anova) done as a “step down analysis” in order to determine any effect on the IV’s on separate DVs.

c) ANOVA analysis

Conducting multiple ANOVAs can be justified when investigating the effects of one or more independent variables (IV's) on more than one conceptually unique dependent variables (DV's which include teacher efficacy and locus of control) from different domains, and you are interested in how the IVs affect each DV. This analysis can also be appropriate for exploratory research or for comparison purposes when the DVs in your study have been previously investigated in univariate contexts Fausset, Rodger and Fisk (2009:6).

The researcher attempted in finding any relationship between the IV's of the study (gender, experience and discipline) on the DV's (Teacher Efficacy and Locus of Control). Subsequently, the following research hypotheses were formulated for the purpose of the Anova analysis. Mahlangu (2013: 229) postulates that statistical evidence is presented effectively in the following order: table of descriptive statistics, a table for the statistical test and a description and interpretation of the correlation. The researcher followed the latter steps in attempt to report the finding of the Anova hypothesis testing. The descriptive statistics and tables for statistical tests, however, are attached as Appendix I.

The hypotheses for the purpose of the Anova of this study included:

1. There is no statistical significant effect of gender on Teacher-efficacy.
2. There is no statistical significant effect of experience on Teacher-efficacy.
3. There is no statistical significant effect of subject discipline on Teacher-efficacy.
4. There is no statistical significant interaction between gender and experience on Teacher-

Efficacy.

5. There is no statistical significant interaction between gender and subject discipline on Teacher-efficacy.
6. There is no statistical significant interaction between experience and subject discipline on Teacher-efficacy.
7. There is no statistical significant interaction between gender, experience and subject discipline on Teacher-efficacy.
8. There is no statistical significant effect of gender on Locus of Control.
9. There is no statistical significant effect of experience on Locus of Control.
10. There is no statistical significant effect of subject discipline on Locus of Control.
11. There is no statistical significant interaction between gender and experience on Locus of Control
12. There is no statistical significant interaction between gender and subject discipline on Locus of Control.
13. There is no statistical significant interaction between experience and subject discipline on Locus of Control.
14. There is no statistical significant interaction between gender, experience and subject discipline on Locus of Control

Table 22: ANOVA Statistics of Gender, Experience and Discipline - Application of Teacher Efficacy

Tests of Between-Subjects Effects					
Dependent Variable: Average respondents' rating of Teacher Efficacy					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.610 ^a	11	.419	1.276	.238
Intercept	1361.526	1	1361.526	4146.575	.000
Gender	.164	1	.164	.501	.480
Experience	.937	1	.937	2.855	.092
Discipline	.981	2	.490	1.494	.226
Gender & Experience	.009	1	.009	.027	.868
Gender & Discipline	2.096	2	1.048	3.192	.043
Experience & Discipline	1.232	2	.616	1.876	.155
Gender, Experience & Discipline	.263	2	.131	.400	.670
Error	86.356	263	.328		
Total	4056.901	275			
Corrected Total	90.966	274			

a. R Squared = .051 (Adjusted R Squared = .011)

As can be deduced from the Anova analysis in Table 22; the probability p value for all these tests for the independent variable ‘gender, experience and discipline’ for hypothesis 1 – 14 (except no 5) are all greater than the chosen alpha (α) level (risk level selected for this study ($\alpha = 0.05$)), consequently all the null hypotheses application on “Teacher Efficacy” are **not rejected**. There was no statistical significant effect on or interaction between the IVs on the DVs, except for gender and subject discipline.

The application of Teacher Efficacy by the IV ‘gender, experience and discipline’ seems to be similar and not statistically different. However, there is an interaction for the IVs ‘gender’ and ‘discipline’ in a two-way Anova on Teacher Efficacy. The test results is statistically significant at $p = 0.043$ which is smaller than the chosen alpha level selected for this study ($\alpha = 0.05$).

Therefore, hypothesis 5 which entails that there is no significant interaction between gender and

discipline on Teacher-efficacy is rejected. It seems that there is an interaction between gender and discipline on teacher efficacy.

Table 23: ANOVA Statistics of Gender, Experience and Discipline - Application of Locus of Control

Tests of Between-Subjects Effects					
Dependent Variable: Average respondents' rating of Locus of Control					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.580 ^a	11	.235	1.099	.362
Intercept	1594.539	1	1594.539	7469.958	.000
Gender	.313	1	.313	1.469	.227
Experience	.014	1	.014	.063	.801
Discipline	.110	2	.055	.256	.774
Gender & Experience	.086	1	.086	.404	.526
Gender & Discipline	.497	2	.249	1.165	.314
Experience & Discipline	.881	2	.441	2.065	.129
Gender, Experience & Discipline	.076	2	.038	.177	.838
Error	56.140	263	.213		
Total	4819.228	275			
Corrected Total	58.720	274			
a. R Squared = .044 (Adjusted R Squared = .004)					

As can be deduced from the Anova analysis in Table 23; the probability p value for all these tests for the independent variable ‘gender, experience and discipline’ are all greater than the chosen alpha (α) level (risk level selected for this study ($\alpha = 0.05$)), consequently all the null hypotheses in relation to the application on “Locus of Control” are *not rejected*. There was no statistical significant effect on or interaction between the IVs on the DVs. The application of Locus of Control by the IV ‘gender, experience and subject discipline’ seems to be similar and not statistically different.

From the ANOVA results, no statistical significant relationship of the IVs on the separate DVs could be established. To further signify the results, the researcher decided to conduct *t-tests* as a “step down analysis” in order to determine any relationship on the IV groups on separate DVs.

d) *T-TEST* analysis

The independent-samples *t-test* (or independent t-test, for short) compares the means between two unrelated groups on the same continuous, dependent variable (McMillan & Schumacher, 2010).

The hypotheses for the purpose of the t-tests of this study included for the DV Teacher-Efficacy:

1. There is no statistical significant difference between male and female teachers with regard to Teacher-*efficacy*.
2. There is no statistical significant difference between expert and novice teachers with regard to *Teacher-*efficacy**.
3. There is no statistical significant difference between teachers teaching Sciences and Teachers teaching Humanities with regard to *teacher-*efficacy**.

Hypothesis H₀ (1):

There is no statistical significant difference between male and female teachers with regard to Teacher- Efficacy

Table 24: Group Statistics on Gender - Application of Teacher Efficacy

Group Statistics					
	Gender	N	Mean	Std. Deviation	Std. Error Mean
Efficacy	Male	96	30.5417	4.4554	0.4547
	Female	179	30.3855	4.9095	0.3670

As can be deduced from the group-statistics in Table 24; more female teachers (179) took part in the study than male teachers (96). The mean (*M*), or average of the values are slightly different. The standard deviations (*SD*) are also slightly different. Ideally, these values should be similar. The standard error of the means (*SE of M*) is also different. The *SE of M* is an indication of how this sample mean represents the population mean. The smaller the *SE of M* value, the less error in the sample and, therefore, smaller values of *SE of M* indicate a better estimate of the population of the mean. Since the female teachers' *SE of M* is smaller, this sample is a better representation of the population than the sample of male teachers. An examination of the *Levene's Test for Equality of Variance* and the *t-test* (to determine whether these differences are significant or not) were displayed in Table 25.

Table 25: T-Test on Male and Female - Application of Teacher Efficacy

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff	Std. Error Diff	95% Confidence Interval of the Difference	
									Lower	Upper
Efficacy	Equal variances assumed	1.1892	0.2765	0.2596	273	0.7954	0.156	0.601	-1.028	1.340
	Equal variances not assumed			0.2673	211	0.7895	0.156	0.584	-0.995	1.308

From the above table we detect similar variances in the two groups (male and female) since we have a p-value of more than 0.05 for the Levene’s test. If the p-value is greater than the chosen alpha (α) level of 0.05; and simultaneously the F value (variance of group means) close to 1, equal variances between the two samples are assumed thus homogeneity of variances is met. For hypothesis 1, we have a *p*-value of 0.2765 and a F-value of 1.1892 for the Levene's test. It can be concluded that we have equal variances between the two groups (male and female).

This *Independent Samples t-Test is of two-tailed* significance. The two-tailed significance is the probability of these results occurring by chance, given that the null hypothesis is true. To maintain an overall significance of 0.05, the exceedance probability was set at 0,05 /2. Hence, the probability level of significance was 0.025, which means that the two samples this size could occur by chance up to 22 times in 1000 trials.

An *Independent Samples t-Test* was conducted to compare the application of *SELOC* by male and female teachers. From the results, it is evident that there was no statistical significant difference between male and female teachers [$t(273) = 0.2596$; $\rho = .7954$]. The ρ value, being greater than the 0.025 confidence level, shows that the differences between males and females are likely to be due to chance and not likely to be due to manipulation of the two independent variables. *In conclusion, therefore, the null hypothesis is not rejected but accepted.* The two groups, male and female teachers, seem to have similar scores on *SELOC*.

Hypothesis H₀ (2):

There is no statistical significant difference between experienced and novice teachers with regard to Teacher- Efficacy.

Table 26: Group Statistics on Experience –Application of Teacher Efficacy

Group Statistics					
	Teaching Experience	N	Mean	Std. Deviation	Std. Error Mean
Efficacy	Below 5 years (novice)	48	31.08	4.7213	0.6815
	5 years and above (experienced)	227	30.30	4.7532	0.3155

As can be deduced from the group-statistics in Table 26; more experienced teachers (227) took part in the study than novice teachers (48). The mean (*M*), or average values are different. The standard deviations (*SD*) are also slightly different. Ideally, these values should be similar. The standard error of the means (*SE of M*) is also different.

Table 27: T-Test on Experienced and Novice Teachers - Application of Teacher Efficacy

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff	Std. Error Diff	95% Confidence Interval of the Difference	
									Lower	Upper
Efficacy	Equal variances assumed	0.193	0.660	1.033	273	0.3024	0.779	0.754	-0.705	2.264
	Equal variances not assumed			1.037	68.64	0.3030	0.779	0.750	-0.718	2.277

For hypothesis 2, we have a p -value of 0.660 and a F -value of 0.193 for the Levene's test. It can be concluded that we have equal variances between the two groups (experienced and novice).

An *Independent Samples t-Test* was conducted to compare application of *SELOC* by experienced and novice teachers. From the results, it is evident that there was no statistical significant difference between male and female teachers [$t(273) = 1.033; \rho = .3024$]. The ρ value, being greater than the 0.025 confidence level, shows that the differences between males and females are likely to be due to chance and not likely to be due to manipulation of the two independent variables. *In conclusion, therefore, the null hypothesis is not rejected but accepted.* The two groups, experienced and novice teachers, seem to have similar scores on *SELOC*.

Hypothesis H₀ (3):

There is no statistical significant difference between teachers teaching Sciences and teachers teaching Humanities with regard to teacher-efficacy.

Table 28: Group Statistics on Subject Discipline - Application of Teacher Efficacy

Group Statistics					
	Classification of subject(s) taught.	N	Mean	Std. Deviation	Std. Error Mean
Efficacy	HUMANITIES	166	30.40	4.7290	0.3874
	SCIENCES	109	30.89	4.7497	0.4952

As can be deduced from the group-statistics in Table 28; more humanities teachers (166) took part in the study than science teachers (109). The mean (*M*), or average values are slightly different. An examination of the *Levene's Test for Equality of Variance* and the *t-test* (to determine whether these differences are significant or not) were displayed in Table 29.

Table 29: T-test on Science and Humanities - Application of Teacher Efficacy

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff	Std. Error Diff	95% Confidence Interval of the Difference	
									Lower	Upper
Efficacy	Equal variances assumed	0.1829	0.6693	-0.778	239	0.4374	-0.488	0.628	-1.725	0.748
	Equal variances not assumed			-0.777	192	0.4380	-0.488	0.628	-1.728	0.751

From the above table we detect similar variances in the two groups (sciences and humanities) since we have a p-value of more than 0.05 for the Levene's test. If the p-value is more than the chosen alpha (α) level of 0.05; and simultaneously the F value (variance of group means) close to 1, equal variances between the two samples are assumed thus homogeneity of variances is met. For hypothesis 3, we have a p-value of 0.6693 and a F-value of 0.1829 for the Levene's test. It can be concluded that we have equal variances between the two groups (Science and Humanities).

An *Independent Samples t-Test* was conducted to compare application of *SELOC* by Science and Humanities teachers. From the results, it is evident that there was no significant difference between male and female teachers [$t(239) = 0.778$; $p = .4374$]. The p value, being greater than the 0.025 confidence level, shows that the differences between males and females are likely to be due to chance and not likely to be due to manipulation of the two independent variables. *In conclusion, therefore, the null hypothesis is not rejected but accepted.* The two groups, humanities and sciences teachers, seem to have similar scores on *SELOC*.

The hypotheses for the purpose of the t-tests of this study included for the DV Locus of Control:

4. There is no statistical significant difference between male and female teachers with regard to locus of control.
5. There is no statistical significant difference between expert and novice teachers with regard to locus of control.

6. There is no statistical significant difference between teachers teaching Sciences and teachers teaching Humanities with regard to locus of control.

Hypothesis H₀ (4):

There is no statistical significant difference between male and female teachers with regard to Locus of Control

Table 30: Group Statistics on Gender - Application of Locus of Control

Group Statistics					
	Gender	N	Mean	Std. Deviation	Std. Error Mean
Locus	Male	96	67.1771	7.68182	.78402
	Female	179	65.7151	7.54554	.56398

As can be deduced from the group-statistics in Table 30; more female teachers (179) took part in the study than male teachers (96). The mean (*M*), or average values are different. The standard deviations (*SD*) are also different. Ideally, these values should be similar. An examination of the *Levene's Test for Equality of Variance* and the *t-test* (to determine whether these differences are significant or not) were displayed in Table 31.

Table 31: T-test on Male and Female Teachers - Application of Locus of Control

Levene's Test for Equality of Variances			t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	MD	SME	Lower	Upper
Equal variances assumed	0.19	0.66	1.52	273	0.13	1.46	0.96	-0.43	3.35
Equal variances not assumed			1.51	191	0.13	1.46	0.97	-0.44	3.37

From the above table we detect similar variances in the two groups (male and female) since we have a p-value of more than 0.05 for the Levene's test. If the p-value is more than the chosen alpha (α) level of 0.05; and simultaneously the F value (variance of group means) close to 1, equal variances between the two samples are assumed thus homogeneity of variances is met. For hypothesis 4, we have a p-value of 0.66 and a F-value of 0.19 for the Levene's test. It can be concluded that we have equal variances between the two groups (male and female).

An *Independent Samples t-test* was conducted to compare the application of *SELOC* by male and female teachers to examine whether there was a significant difference. From the results, it is evident that there was no statistically significant difference between male and female teachers [$t(273) = 1.52; p = .13$]. The p value, being greater than the 0.025 confidence level, shows that the differences between males and females are likely to be due to chance and not likely to be due to manipulation of the two independent variables. *In conclusion, therefore, the null hypothesis*

is not rejected but accepted. The two groups, male and female teachers, seem to have similar scores on *SELOC*.

Hypothesis H₀ (5):

There is no statistical significant difference between experienced and novice teachers with regard to Locus of Control

Table 32: Group Statistics on Experience - Application of Locus of Control

Group Statistics					
	Teaching Experience	N	Mean	Std. Deviation	Std. Error Mean
Locus	Below 5 years (novice)	48	66.9792	7.01212	1.01211
	5 years and above (experienced)	227	66.0661	7.73740	0.51355

As can be deduced from the group-statistics in Table 32; more experienced (5 years and above) teachers (227) took part in the study than novice (below 5 years) teachers (48). The mean (*M*), or average values are different. An examination will occur in *Levene's Test for Equality of Variance* and the *t-test* to determine whether these differences are significant or not. Table 33 presents the t-tests on Experienced and Novice teachers.

Table 33: T-test on Experienced and Novice Teachers - Application of Locus of Control

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
L	Equal variances assumed	.014	0.91	0.75	273.00	0.4512	0.91	1.21	-1.47	3.30
	Equal variances not assumed			0.80	73.31	0.4237	0.91	1.13	-1.35	3.17

From the above table we detect similar variances in the two groups (experienced and novice) since we have a p-value of more than 0.05 for the Levene’s test. For hypothesis 5, we have a p-value of 0.91 and a F-value of 0.014 for the Levene's test. It can be concluded that we have equal variances between the two groups (experienced and novice).

An *Independent Samples t-Test* was conducted to compare application of *SELOC* by male and female teachers. From the results, it is evident that there was no significant difference between male and female teachers [$t(273) = 0.75; \rho = .4512$]. The ρ value, being greater than the 0.025 confidence level, shows that the differences between males and females are likely to be due to chance and not likely to be due to manipulation of the two independent variables. *In conclusion,*

therefore, the null hypothesis is not rejected but accepted. The two groups, expert and novice teachers, seem to have similar scores on *SELOC*.

Hypothesis H₀ (6):

There is no statistical significant difference between teachers teaching Sciences and teachers teaching Humanities with regard to locus of control.

Table 34: Group Statistics on Subject Discipline - Application of Locus of Control

Group Statistics					
	Classification of subject(s) taught.	N	Mean	Std. Deviation	Std. Error Mean
Locus	HUMANITIES	149	66.7248	7.54434	0.61806
	SCIENCES	92	65.6848	7.60701	0.79309

As can be deduced from the group-statistics in Table 34; more teachers teaching Humanities subjects (149) took part in the study than teachers teaching Sciences subjects (92). The mean (*M*), or average values are different. An examination will occur in *Levene’s Test for Equality of Variance* and the *t-test* to determine whether these differences are significant or not. Table 35 presents the t-tests on Humanities and Science teachers.

Table 35: T-test on Humanities and Sciences - Application of Locus of Control

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
L	Equal variances assumed	0.05	0.82	1.04	239.00	0.3011	1.04	1.00	-0.94	3.02
	Equal variances not assumed			1.03	191.64	0.3023	1.04	1.01	-0.94	3.02

For hypothesis 6, we have a p -value of 0.82 and an F-value of 0.05 for the Levene's test. It can be concluded that we have equal variances between the two groups (Sciences and Humanities).

An *Independent Samples t-Test* was conducted to compare application of *SELOC* by male and female teachers. From the results, it is evident that there was no significant difference between male and female teachers [$t(239) = 1.04; \rho = .3011$]. The ρ value, being greater than the 0.025 confidence level, shows that the differences between Science and Humanities are likely to be due to chance and not likely to be due to manipulation of the two independent variables. *In conclusion, therefore, the null hypothesis is not rejected but accepted.* The two groups, Sciences and Humanities teachers, seem to have similar scores on *SELOC*.

e) Item Analysis for Practical Significance

Shumba (2013:151) asserts in analysing data from a study, researchers face the question “How important are these results?” a question often answered mistakenly via the results of tests of statistical significance. In quantitative analysis, finding a statistically significant result results in the rejection of the null hypothesis which seeks to account for observed results in terms of normal variations, chance occurrences or sampling error. He further postulates that it is imperative to note that a statistically significant result can be found for small effect sizes or differences provided the sample is large enough. Gall (in Shumba, 2013) notes that achieving statistical significance is easily influenced by sample size, the value of α used as the criterion for rejecting the null hypothesis, and whether the test of statistical significance is one-tailed or two-tailed.

King (in Shumba, 2013) affirms that statistical significance may arise due to a large effect, a large sample size, or both; “consequently, results may be ‘statistically significant’ due to a large sample size, but not practically significant due to a small effect (and the converse is also true)”. Concurring with this, Gall (in Shumba, 2013) suggests the finding of a significant result in the data is not important in and on itself and that the tests of statistical significance say virtually nothing about the importance or practical significance of the research result. Both King and Gall (in Shumba, 2013) intimate that practical significance looks at whether the difference or relationship is large enough to be of value in a practical sense and point out that by itself, statistical significance testing is inadequate for determining the importance of results and the likelihood of obtaining similar results in the future. For practical significance it is important to assess the implications and meaning of statistical and practical significance.

As evident from the statistical analysis, no statistical significant differences were found and subsequently the null hypothesis (from the Manova, to the Anova and subsequently the independent t-tests) were all accepted (failed to be rejected) except for ANOVA hypothesis #5 which refers to there is no statistical significant difference between experienced and novice teachers with regard to Locus of Control. The researcher is of the opinion although no statistical significant differences occurred, practical significance to the study was sought by applying item analysis on certain aspects.

The items statistically tested through the t-tests were subsequently subjected to item analysis. The IV's pertaining to 'gender', 'experience' and 'discipline' were analysed in a practical sense in this section. Further analysis included the percentage ratings on the two dependent variables, teacher efficacy and locus of control; employment status of teachers according to rank; teachers' age; teaching qualifications verification; average class size; socio-economic status of most school families; teachers' feelings towards teaching as a career; the support they experience from parents and ultimately the teachers' feelings regarding leaving the teaching profession.

❖ *Frequency analysis of teachers perceived levels of Teacher-Efficacy and Locus of Control*

According to frequency analysis, the teacher sample (n=275) indicated that 8% having low efficacy levels, 23% had neutral responses, whilst 70% of teachers demonstrated a high efficacy level. With regard to Locus of Control, 84% of teachers displayed internal Locus of Control, 13% were neutral and only 3% reported external Locus of Control. These results are evident from Appendix J. Below find the graphical presentation in Figures 33 and Figure 34.

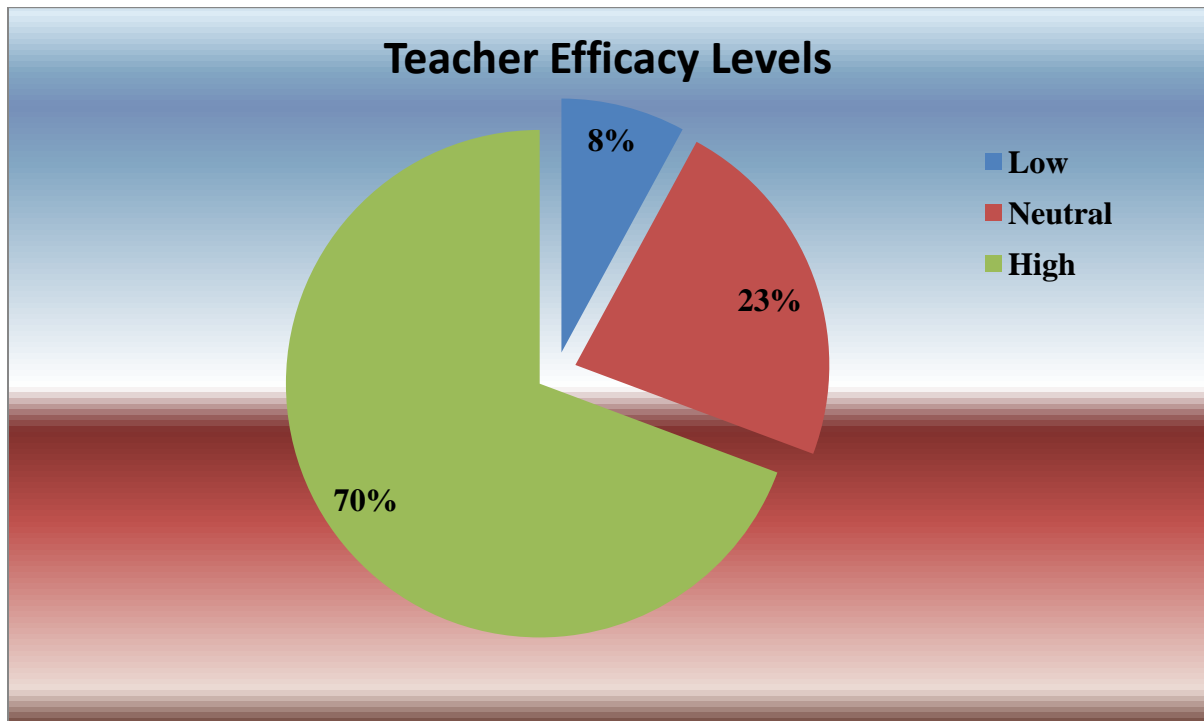


Figure 31: Respondents' rating on Levels of Teacher Efficacy

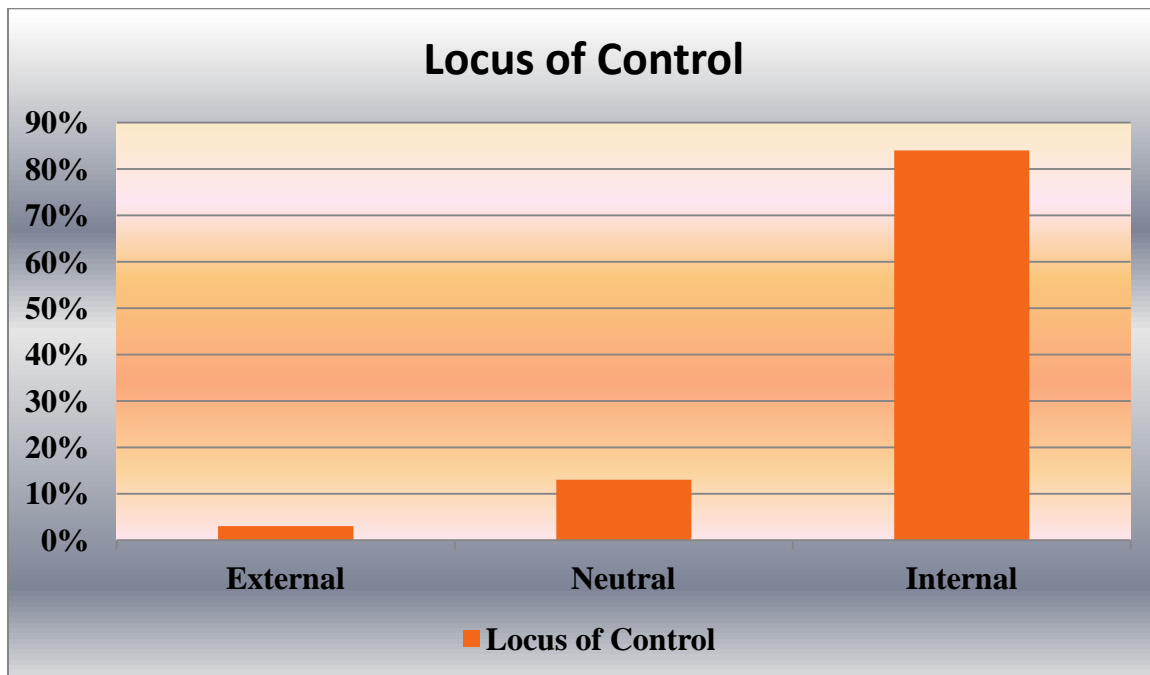


Figure 32: Respondents' rating on Levels of Locus of Control

❖ *Gender composition of sample*

The first IV ‘gender’ was under discussion for practical evidence. Descriptive statistics for gender composition were displayed as a graph in Figure 34. It is evident that there were more female participants (65%) as opposed to male participants (35%). Expressed in numerical values, the sample (n = 275) consisted of 96 male participants and 179 female participants. The researcher is of the opinion that these could be true for the total population. The pool of FET teachers is presented by more females than males as evident from this study. This opinion is supported by Arends (2005:15) which has conducted statistical analysis in 2005 on the employment status of educators in South Africa. See graphical presentation in Figure 36.

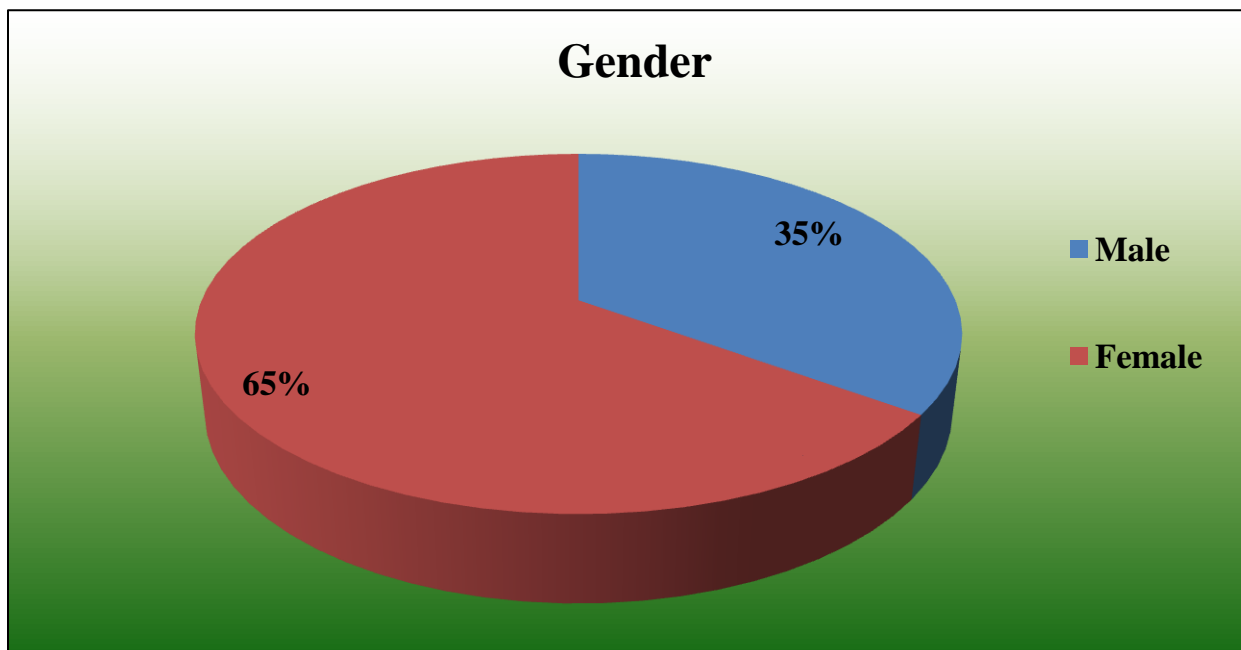


Figure 33: Gender Composition of sample (n=275)

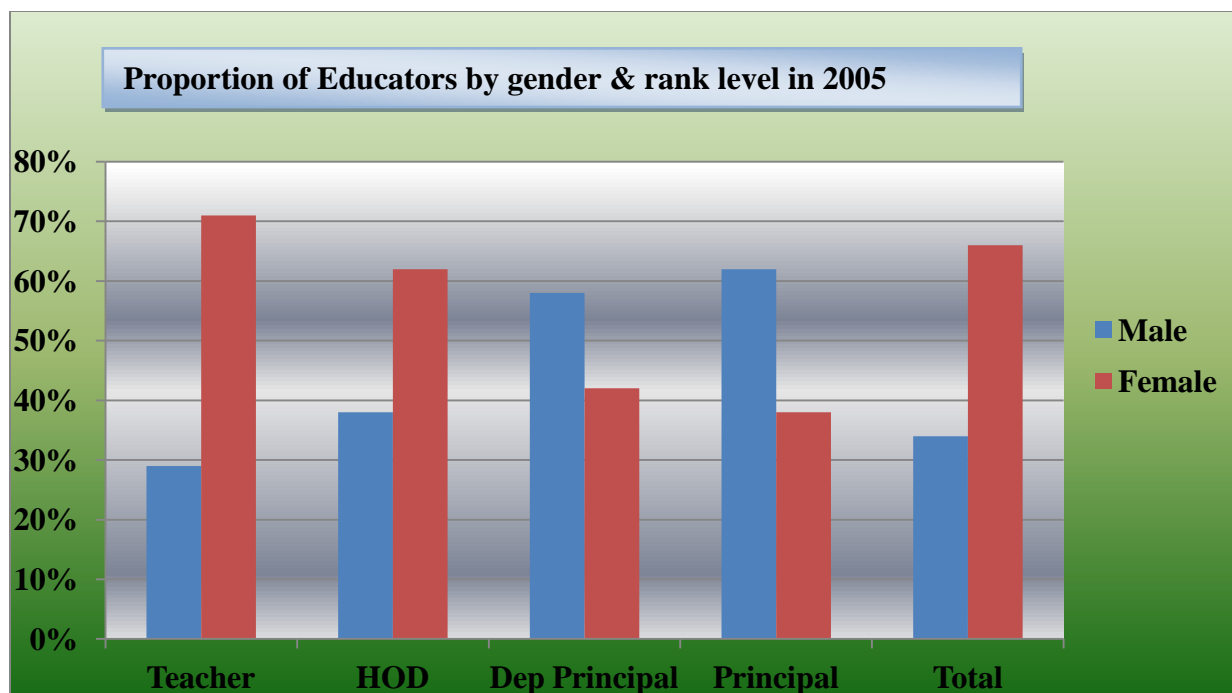


Figure 34: Employment Status of Teachers in South Africa (Arends, 2005:15)

❖ *Teaching Experience composition of sample*

The second IV ‘experience’ was graphically displayed in Figure 37. Teaching experience statistics show that 82% of the teacher population has 5 years and more teaching experience and only 18% below 5 years experience. This is indicative of the possibility of people only taking up a career in teaching in a later stage in their career as evident from the group statistics. Also confirmed by the qualification verification, 18% of teachers only possess an academic qualification e.g. BSc not supported by a relevant teaching degree.

A profession is more than a trade or business; and professional education is more than mastery of facts and rules” (Vatter, 1964). Education is the cornerstone of a knowledge-based society, but

will quality educators be available to provide it? Van Leeuwen (2010) could not agree more by stating that there is today a growing world-wide shortage of educators (Van Leeuwen, 2010).

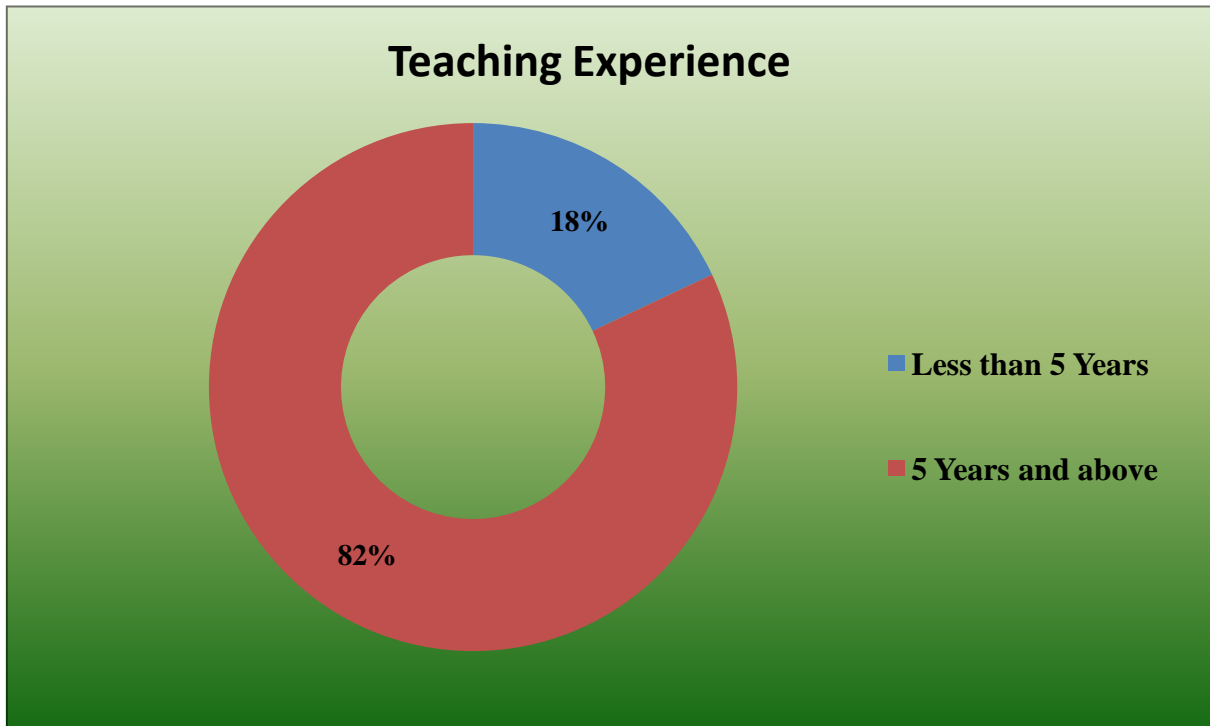


Figure 35: Teaching Experience of Teachers

❖ *Subject Field Discipline composition of sample*

The researcher is concerned about the percentage Science teachers in comparison to the teachers teaching the Humanities subjects. Educator development lies at the heart of long-term, sustainable improvement, not only in scores, but also in the numbers of learners selecting these scarce subjects. In the South African context, it is proposed that educators in general need development along three dimensions simultaneously: content knowledge, teaching approaches and professional attitudes. An aggressive approach should be launched to improve STEM education, in an attempt to gird against whatever economic challenges may face our country (Kriek & Grayson, 2009:185).

South African schools are faced with the phenomenon that learners are less interested in taking numerical and scientific subjects. The number of learners opting for STEM subjects has significantly decreased over time (Kriek & Grayson, 2009:185). Subsequently, the pool of qualified teachers in STEM subjects, defined as the Sciences discipline for the purpose of this study, is suffering.

This result is graphically presented in Figure 38 below.

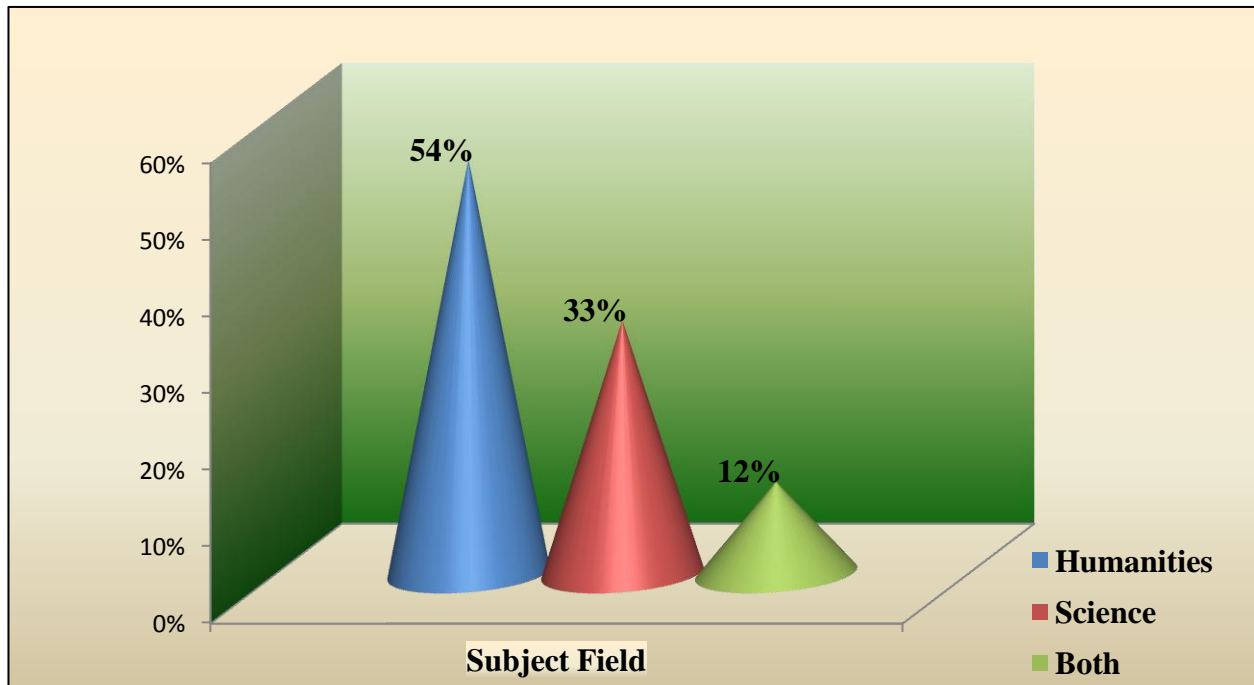


Figure 36: Teachers' Subject Field Discipline Composition

❖ *Age composition of sample*

From the graph in Figure 39, the researcher found that the most teachers are represented in the age group 36 – 45. When analysing the statistics, it becomes evident that more teachers will be leaving the teaching profession in comparison to the newcomers. This statistics indicate that a shortage in the pool of FET teachers might become evident in the near future. The statistics on age groups indicate that only 31% teachers are ‘entering’ the teaching profession in comparison to the almost 40% that is on their way out. This assumption is supported by the following statement by Van Kraayenoord (2001): “The world wakes up to teacher shortage!” The Times Educational Supplement shouted. “Wanted two million teachers!” Instructor cried. “Education educator shortage hits districts hard!” The Special Education Report yelled. “Our nation is at risk! Stop, research and commence action!”

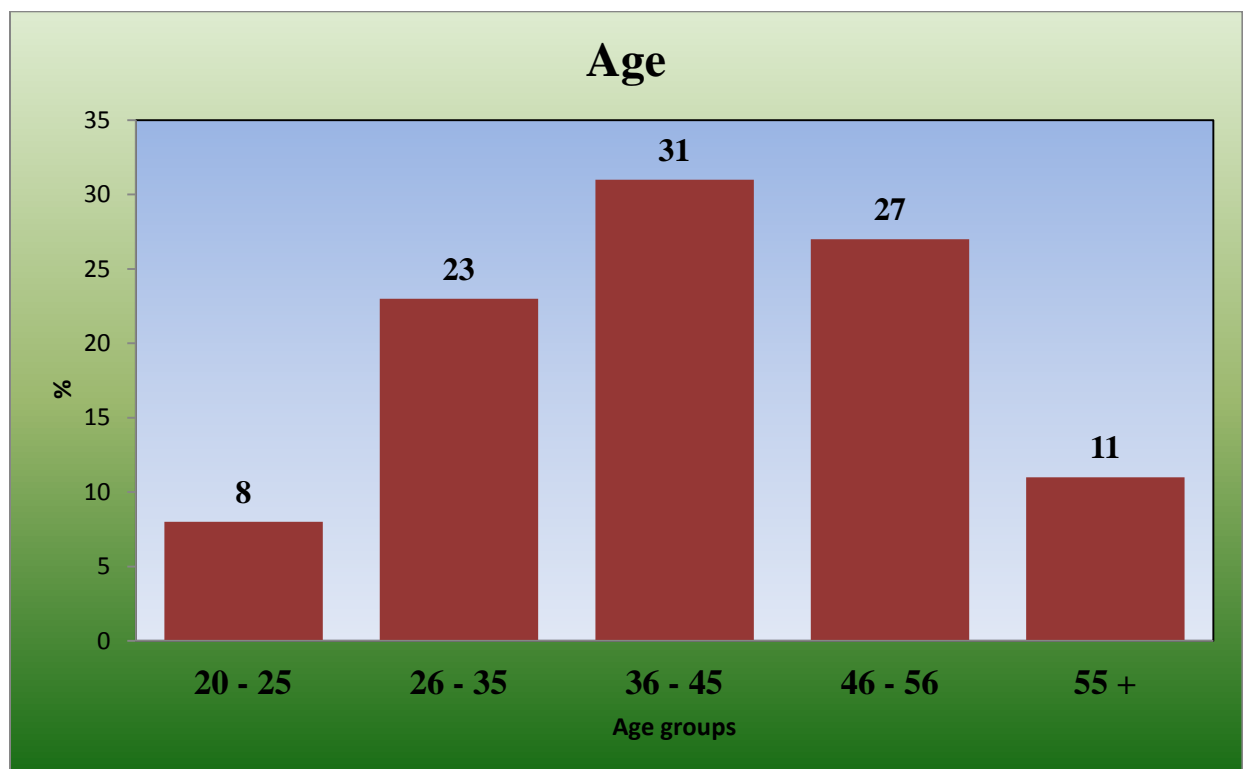


Figure 37: Teachers' Age Composition

❖ *Teaching Qualification Verified composition of sample*

Of the population of FET teachers sampled, 80% are in possession of a formal education qualification. In contrast, 18% of the sample is not qualified in terms of a formal education programme. The sample represented 275 teachers in the Lejweleputswa district. Hence, 50 teachers are ‘unqualified’ in terms of a formal teaching qualification. Ideally, the education system strives for a 100% qualification rate. This view is supported by Kind (2009) whereby she stated Children need to be taught by specialist teachers. Teachers’ qualifications predict teaching quality and are the second greatest predictor of performance in subjects after learner ability. The best teachers are those who have specialist subject knowledge and a real passion and enthusiasm for the subject they teach. See graphical display in Figure 40.

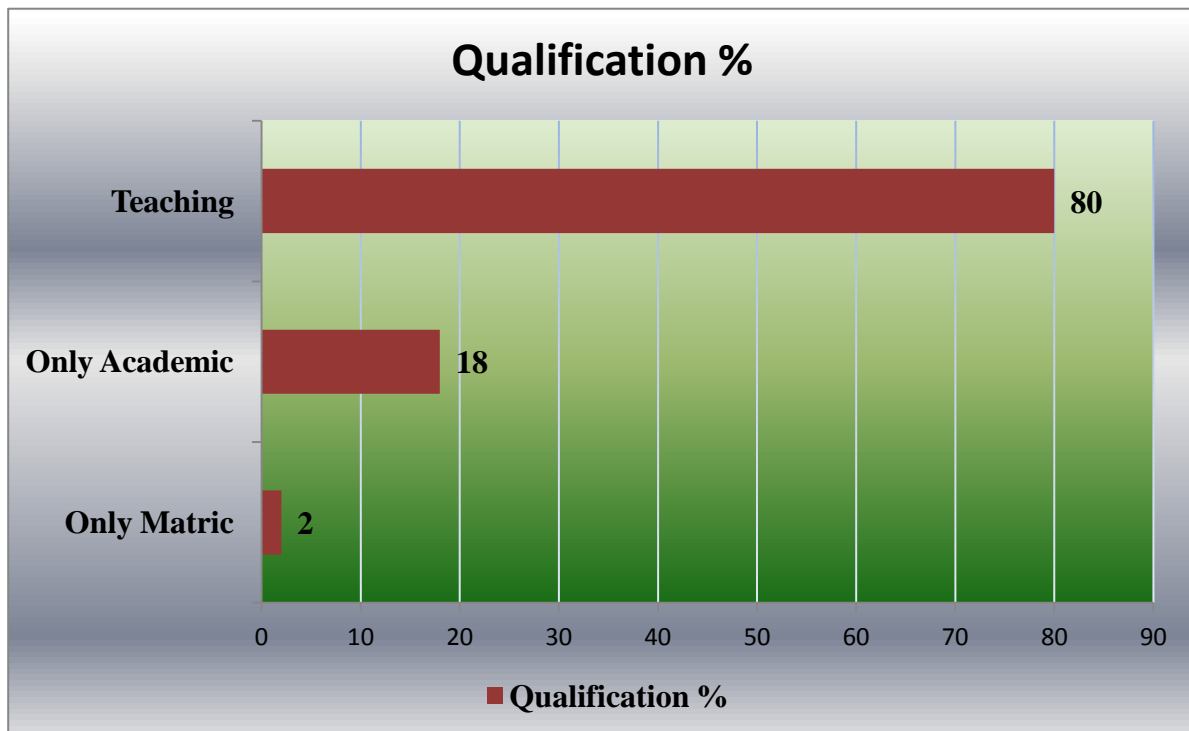


Figure 40: Teachers' Teaching Qualification Verification

The challenge of teacher supply has its origins in pre-1994 South Africa, and is not about the number of educators in South African classrooms, but about the quality of educators who are teaching. The emphasis should be on improving educator quality instead of expanding the pool of educators. According to Bloch (2007), South Africa has not succeeded in improving quality education and ensuring quality in education. He states: “If there is one phrase that summarises the failings of the education system, it is poor quality. In failing to achieve quality delivery, the education system is working only for a proportion of the learners who are able to access relevant institutions” (Bloch 2007:6).

❖ *Average Class Size composition of sample*

Another concerning factor in terms of delivering quality education is evident from the class sizes. Statistical evidence indicates that almost 50% of the sample of FET teachers has classes of close to 40 learners. Figure 41 presents this information graphically.

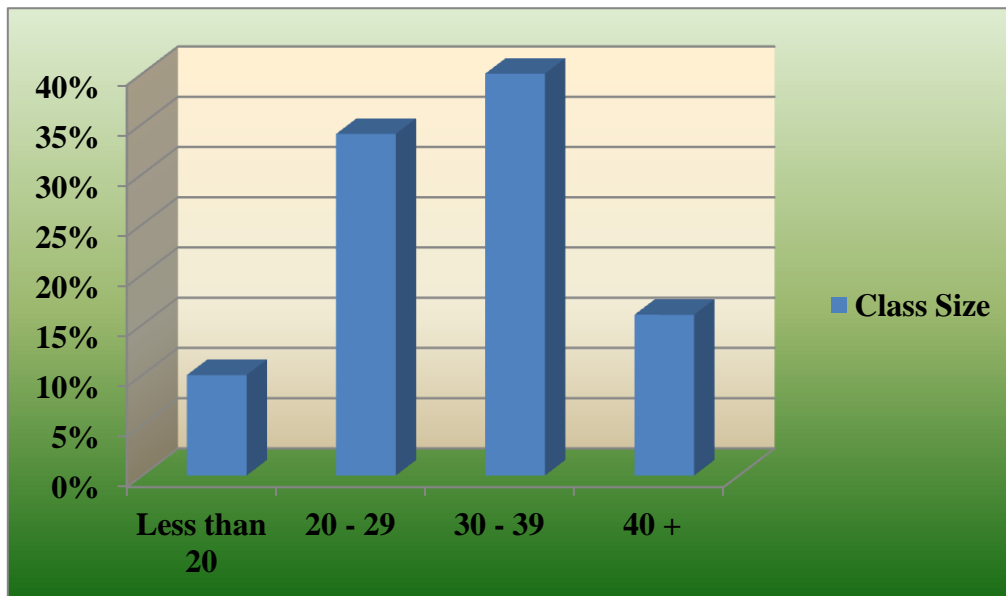


Figure 38: Average Class Size

Bakasa (2011) is of the view that the search for the substantial achievement impact of reducing class size is one of the oldest and most frustrating concepts for educational researchers. He further states it is widely known that South Africa is currently experiencing enormous challenges in institutions of learning due to a plethora of problems. However, the debate still leaves the question of whether the marginal loss of learning all other students experience as a result of having one more student in class outweighs the marginal benefits that one more student receives. His study pointed out that a positive link between learner achievement and class size was found to exist. Most teachers believed that learner achievement and improved learner behaviour was linked to decreased class size.

❖ *Socio-economic Status of most of the school families' composition of sample*

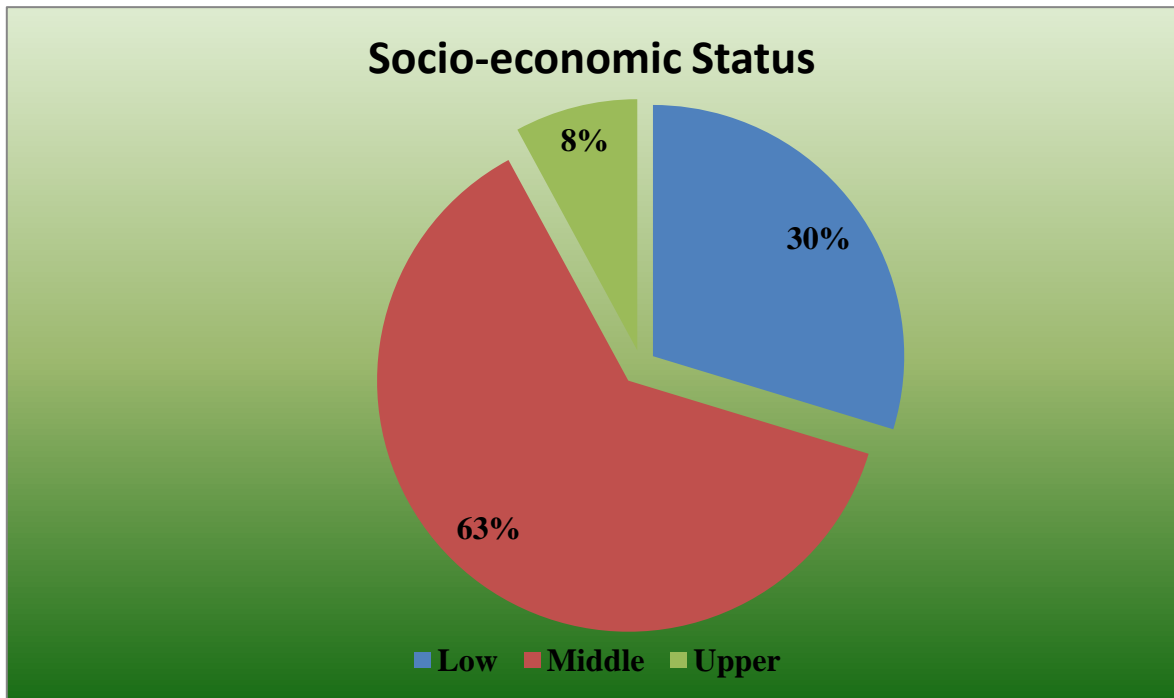


Figure 39: Socio-economic Status of School Families

Figure 42 represents the respondents' rating of the Socio-economic status of most of the school families. It is evident that most of the families is regarded as of a low (30%) and middle (63%) status. Research indicates that children from low-SES (Socio-economic status) households and communities develop academic skills more slowly compared to children from higher SES groups (Heckman, 2008). Initial academic skills are correlated with the home environment, where low literacy environments and chronic stress negatively affect a child's pre-academic skills.

The school systems in low-SES communities are often under resourced, negatively affecting students' academic progress (Heckman, 2008). Inadequate education and increased dropout rates affect learner's academic achievement, perpetuating the low-SES status of the community. Improving school systems and early intervention programs may help to reduce these risk factors, and thus increased research on the correlation between SES and education is essential.

Taylor (2012) postulates "What many schools in South Africa have to achieve is an uphill battle. It can be likened to a person trying to go up on an escalator which is moving in a downward direction. However, the extent to which schools can help poor children overcome the socio-economic disadvantage will determine the extent to which a country's school system acts as an instrument of transformation or of social reproduction".

❖ ***Respondents' present feelings about teaching as a career***

The results found on teachers' feelings about teaching as a career revealed that teachers in the age group of 26 -35, with more than 5 years teaching experience, and respondents with only a Matric qualification were the most dissatisfied pursuing teaching as a career. The graph in

Figure 43 substantiates this finding regarding the selected sample of FET teachers of the study. Although 65% of teachers are feeling positive, yet the remainder (35%) is either neutral or negative towards teaching as a career.

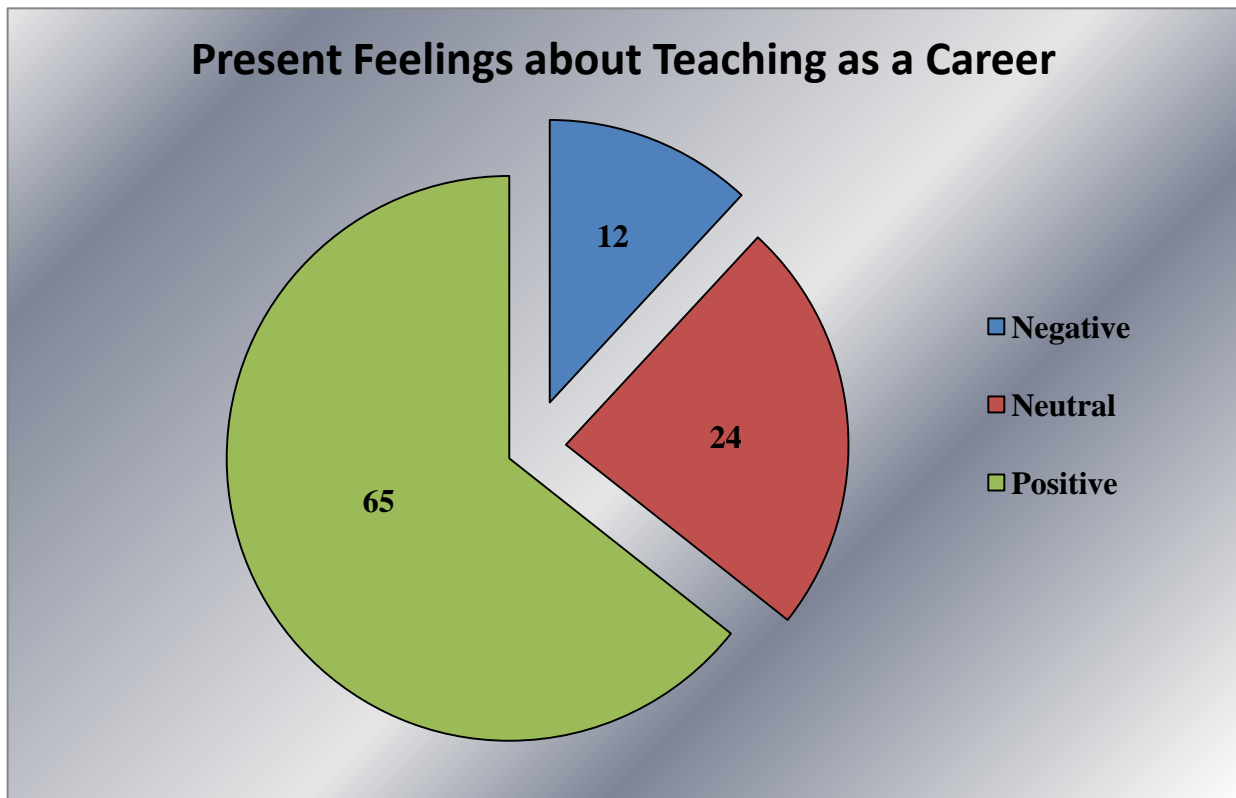


Figure 43: Teachers' Present Feelings regarding Teaching as a Career

❖ *Respondents' ratings of the extent of support experienced from parents*

On the aspect of support experienced by parents, the results were significant for the age group 26 – 35, teachers with less than 5 years experience, and teachers with a valid teaching qualification. Figure 44 displays a graphical presentation of the findings.

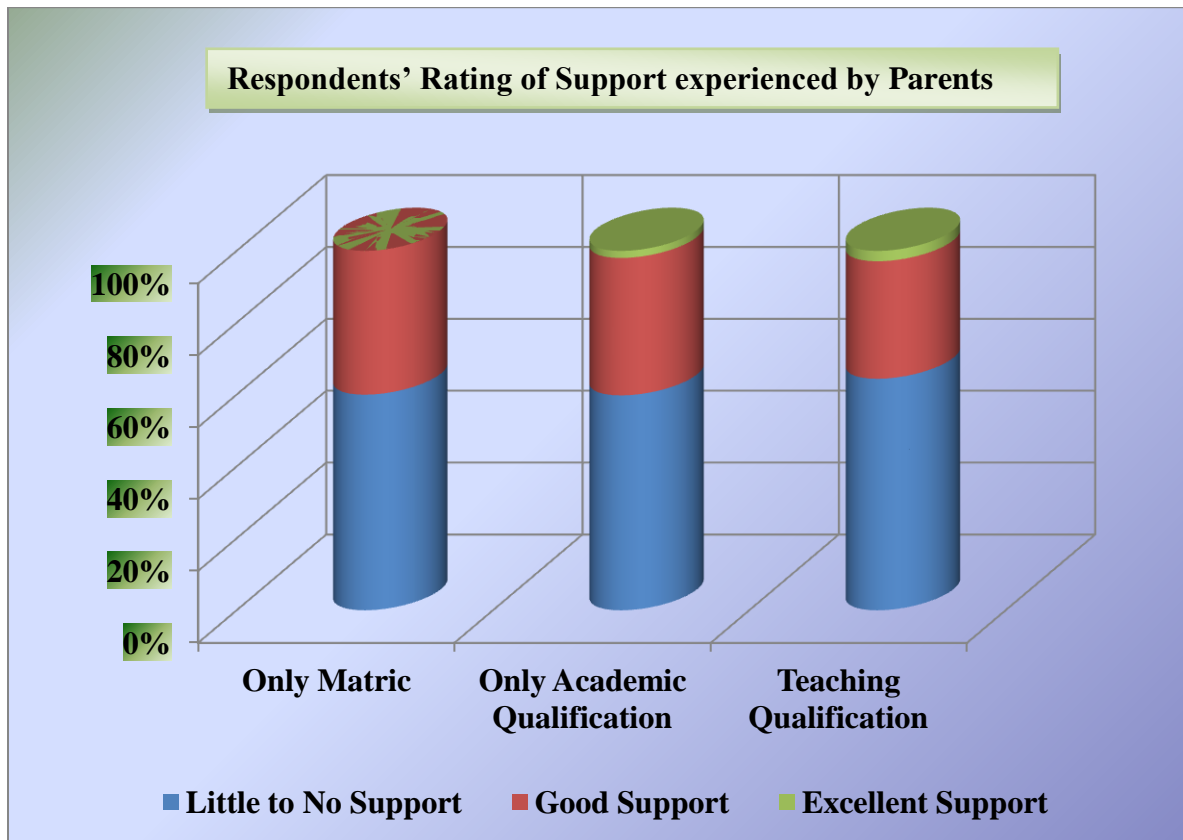


Figure 404: Respondents' rating of Support Experienced by Parents

❖ *Respondents' perception regarding leaving the teaching profession*

Respondents' rating to teacher efficacy revealed that 70% of the total sample illustrated high ratings on this dependent variable. Similarly, the response rate on locus of control refers to a high 84% indicative measure. However, these results should imply that teachers are overall positive and motivated towards the teaching profession, yet 55% indicated that they want to leave the teaching profession. Analysis was done according to gender, age group, experience, respondents' highest qualification, and the respondents' teaching qualification. Significant results were found

amongst the age group 26 – 35, teachers with only a Matric qualification, and teachers with 5 years and more experience. See graph in Figure 45.

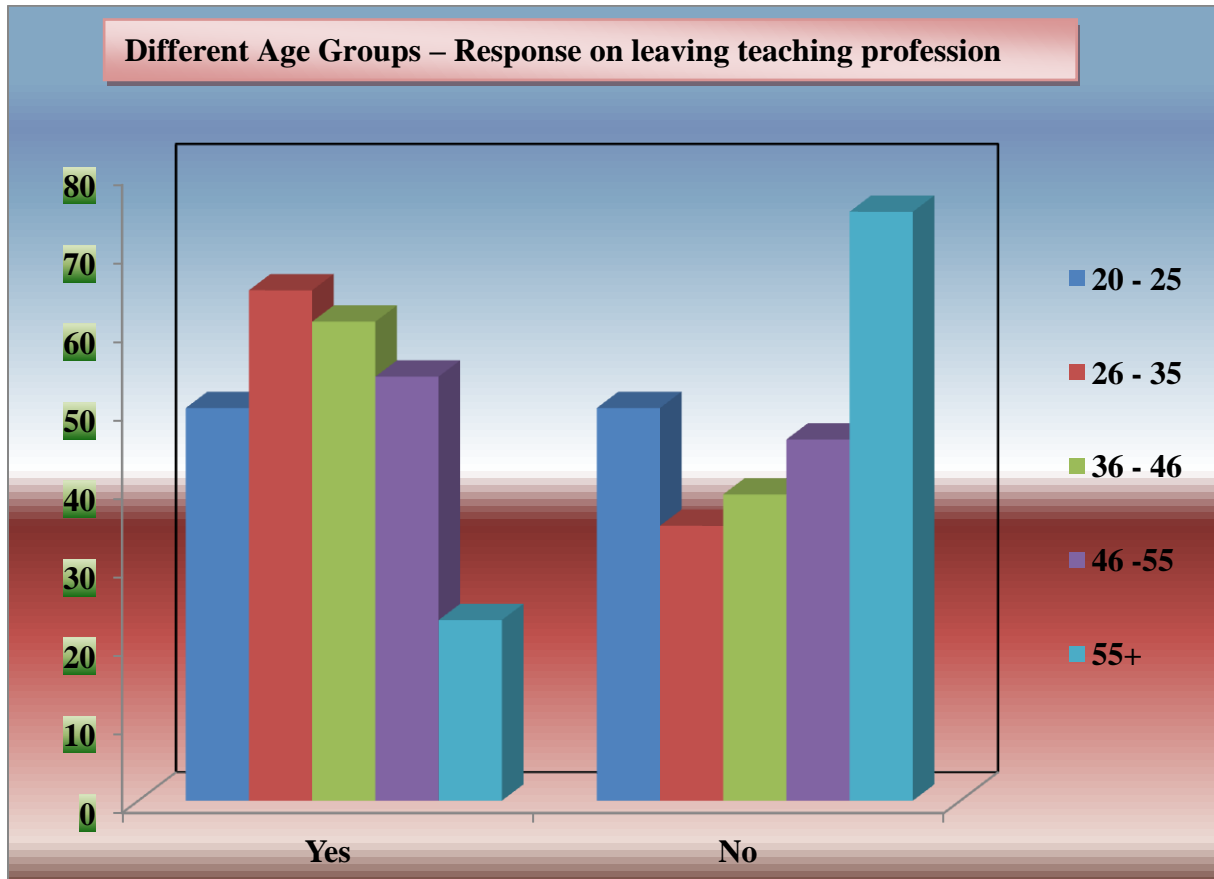


Figure 415: Teachers' Response regarding Leaving the Teaching Profession

However, no significant responses were evident from different responses in gender (male and female teachers). In all the aspects, teachers from the age group 26 – 35 revealed the most significant evidence. As a result, the researcher felt that it is necessary to treat ‘age’ as an additional IV to the study. Hence, the researcher *further formulated additional hypotheses* which were complimented by additional *t*-tests. The section below outlines the additional hypotheses.

f) Additional Efficacy Hypotheses

1. There is no statistical significant difference between teachers aged 26 - 35 and teachers aged 36 – 45 with regard to Teacher-Efficacy.
2. There is no statistical significant difference between teachers aged 26 - 35 and teachers aged 46 – 55 with regard to Teacher-Efficacy.
3. There is no statistical significant difference between teachers aged 36 – 45 and teachers aged 46 – 55 with regard to Teacher-Efficacy.

Hypothesis H₀ (1):

There is no statistical significant difference between teachers aged 26 - 35 and teachers aged 36 – 45 with regard to Teacher-Efficacy.

Table 36: Group Statistics on Age groups - Application of Teacher Efficacy

Group Statistics					
	Age group	N	Mean	Std. Deviation	Std. Error Mean
Efficacy	26-35	63	28.87	4.567	0.5753
	36-45	85	30.58	4.560	0.4946

As can be deduced from the group-statistics in Table 36; more teachers in the age group 36 - 45 (85) completed the *SELOC* questionnaire than teachers in the age group 26 - 35 (63). The mean (*M*), or average values are different. Since the teachers in the age group 36 - 45 SE of *M* is smaller, this sample is a better representation of the population than the sample of teachers in the age group 26 - 35. An examination will occur in *Levene's Test for Equality of Variance* and the *t-test* to determine whether these differences are significant or not. Table 37 presents the t-tests on Experienced and Novice teachers.

Table 37: T-test on Age groups - Application of Teacher Efficacy

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff	Std. Error Diff	Lower	Upper
Efficacy	Equal var. assumed	0.060	0.806	-2.245	146	0.0262	-1.7035	0.758	-3.202	-0.204
	Equal var. not assumed			-2.245	133	0.0264	-1.7035	0.758	-3.204	-0.202

From the above table we detect similar variances in the two groups (age group 26 – 35 and 36 - 45), since we have a p-value of more than 0.05 for the Levene’s test. It can be concluded that we have equal variances between the two groups (age groups 26 – 35 and 36 - 45).

An *Independent Samples t-Test* was conducted to compare application of *SELOC* by teachers in age group 26 - 35 and age group 36 - 45. From the results, it is evident that there was no statistical significant difference between teachers in the age group 26 – 35 and 36 – 45 [**t(146) = -2.245; $p = .0262$**]. The p value, being greater than the 0.025 confidence level, shows that the differences between teachers in the age group 26 – 35 and 36 – 45 are likely to be due to chance and not likely to be due to manipulation of the two independent variables. ***In conclusion, therefore, the null hypothesis is not rejected.*** The two groups, 26 -35 and 36- 45 teachers, seem to have similar scores on *SELOC*.

Hypothesis H₀ (2):

There is no statistical significant difference between teachers aged 26 - 35 and teachers aged 46 – 55 with regard to Teacher-Efficacy.

Table 38: Group Statistics on Age Group - Application of Teacher Efficacy

Group Statistics					
	Age group	N	Mean	Std. Deviation	Std. Error Mean
Efficacy	26-35	63	28.87	4.567	0.5753
	46-55	74	30.80	4.783	0.5560

As can be deduced from the group-statistics in Table 38; more teachers in the age group 46 - 55 (74) completed the *SELOC* questionnaire than teachers in the age group 26 - 35 (63). The mean (*M*), or average values are different. Since the teachers in the age group 46 - 55 SE of *M* is smaller, this sample is a better representation of the population than the sample of teachers in the age group 26 - 35. An examination will occur in *Levene's Test for Equality of Variance* and the *t-test* to determine whether these differences are significant or not. Table 39 presents the t-tests on teachers in the age group 26 – 35 and 46 -55.

Table 39: T-test on Age groups - Application of Teacher Efficacy

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff	Std. Error Diff	95% Confidence Interval of the Difference	
									Lower	Upper
Efficacy	Equal var. assumed	0.0427	0.8365	-2.3961	135	0.0179	-1.924	0.8031	-3.512	-0.336
	Equal var. not assumed			-2.4050	133	0.0175	-1.924	0.8001	-3.506	-0.341

From the above table we detect similar variances in the two groups (age group 26 – 35 and age group 46 -55) since we have a p-value of more than 0.05 for the Levene’s test. It can be concluded that we have equal variances between the two groups (age group 26 – 35 and age group 46 -55).

An *Independent Samples t-Test* was conducted to compare application of *SELOC* by teachers in the age group 26 – 35 and age group 46 -55. From the results, it is evident that there was a statistically significant difference between age group 26 – 35 and age group 46 -55 teachers [$t(135) = -2.3961$; $\rho = .0179$]. The ρ value, being smaller than the 0.025 confidence level, shows that the differences between age group 26 – 35 and age group 46 -55 are not likely to be due to chance and likely to be due to manipulation of the two independent variables. ***In conclusion, therefore, the null hypothesis is rejected.*** The two groups, age group 26 – 35 and age group 46 - 55 teachers seem to not have similar scores on *SELOC*.

Hypothesis H₀ (3):

There is no statistical significant difference between teachers aged 36 – 45 and teachers aged 46 – 55 with regard to Teacher-efficacy.

Table 40: Group Statistics on Age group - Application of Teacher Efficacy

Group Statistics					
	Age group	N	Mean	Std. Deviation	Std. Error Mean
Efficacy	36-45	85	30.58	4.5601	0.4946
	46-55	74	30.80	4.7829	0.5560

As can be deduced from the group-statistics in Table 40; more teachers in the age group 36 - 45 (85) completed the *SELOC* questionnaire than teachers in the age group 46 -55 (74). The mean (*M*), or average values are different. Since the teachers in the age group 36 -45 SE of *M* is smaller, this sample is a better representation of the population than the sample of teachers in the age group 46 -55. An examination will occur in *Levene's Test for Equality of Variance* and the *t-test* to determine whether these differences are significant or not. Table 41 presents the t-tests on Experienced and Novice teachers.

Table 41: T-test on Age groups - Application of Teacher Efficacy

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff	Std. Error Diff	95% Confidence Interval of the Difference	
									Lower	Upper
Efficacy	Equal var. assumed	0.2174	0.6417	-0.2977	157	0.7663	-0.2208	0.7417	-1.685	1.244
	Equal var. not assumed			-0.2967	151	0.7671	-0.2208	0.7442	-1.691	1.249

From the above table we detect similar variances in the two groups (age group 36 – 45 and age group 46 -55) since we have a p-value of more than 0.05 for the Levene’s test. For hypothesis 3, we have a p-value of 0.6417 and an F-value of 0.2174 for the Levene's test. It can be concluded that we have equal variances between the two groups (age group 36 – 45 and age group 46 -55).

An *Independent Samples t-Test* was conducted to compare application of *SELOC* by age group 36 – 45 and age group 46 -55 teachers. From the results, it is evident that there was no significant difference between age group 36 – 45 and age group 46 -55 teachers [**t(157) = -0.2977; p = .7633**]. The **p** value, being greater than the 0.025 confidence level, shows that the differences between age group 36 – 45 and age group 46 -55 are likely to be due to chance and not likely to be due to manipulation of the two independent variables. ***In conclusion, therefore, the null hypothesis is not rejected.*** The two groups, age group 36 – 45 and age group 46 -55 teachers seem to have similar scores on *SELOC*.

g) Additional Locus of Control Hypotheses

4. There is no statistical significant difference between teachers aged 26 - 35 and teachers aged 36 – 45 with regard to Locus of Control.
5. There is no statistical significant difference between teachers aged 26 - 35 and teachers aged 46 – 55 with regard to Locus of Control.
6. There is no statistical significant difference between teachers aged 36 – 45 and teachers aged 46 – 55 with regard to Locus of Control.

Hypothesis H₀ (4):

There is no statistical significant difference between teachers aged 26 - 35 and teachers aged 36 – 45 with regard to Locus of Control.

Table 42: Group Statistics on Age groups - Application of Locus of Control

Group Statistics					
	Age group	N	Mean	Std. Deviation	Std. Error Mean
Locus	26-35	63	65.98	6.484	0.8170
	36-45	85	66.42	6.689	0.7256

As can be deduced from the group-statistics in Table 42; more teachers in the age group 36 - 45 (85) completed the *SELOC* questionnaire than teachers in the age group 26 -35 (63). The mean (*M*), or average values are different. Since the teachers in the age group 36 -45 SE of *M* is smaller, this sample is a better representation of the population than the sample of teachers in the age group 26 -35. An examination will occur in *Levene's Test for Equality of Variance* and the *t-test* to determine whether these differences are significant or not. Table 43 presents the t-tests on teachers in the age group 26 -35 and age group 36 -45.

Table 43: T-test on Age groups - Application of Locus of Control

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff	Std. Error Diff	95% Confidence Interval of the Difference	
									Lower	Upper
Locus	Equal var. assumed	0.323	0.570	-0.400	146	0.6895	-0.4394	1.097	-2.608	1.730
	Equal var. not assumed			-0.402	135	0.6882	-0.4394	1.092	-2.600	1.721

From the above table we detect similar variances in the two groups (age group 26 – 35 and age group 36 -45) since we have a p-value of more than 0.05 for the Levene’s test. For hypothesis 4, we have a p-value of 0.570 and a F-value of 0.323 for the Levene's test. It can be concluded that we have equal variances between the two groups (age group 26 – 35 and age group 36 -45).

An *Independent Samples t-Test* was conducted to compare application of the *SELOC* questionnaire by age group 26 – 35 and age group 36 -45 teachers. From the results, it is evident that there was no statistical significant difference between male and female teachers [$t(146) = -0.400$; $p = .6895$]. The p value, being greater than the 0.025 confidence level, shows that the differences between 26 - 35 and 36 -45 are likely to be due to chance and not likely to be due to manipulation of the two independent variables. *In conclusion, therefore, the null hypothesis is not rejected.* The two groups, age group 26 – 35 and age group 36 -45 teachers seem to have similar scores on *SELOC*.

Hypothesis H₀ (5):

There is no statistical significant difference between teachers aged 26 - 35 and teachers aged 46 – 55 with regard to Locus of Control.

Table 44: Group Statistics on Age groups - Application of Locus of Control

Group Statistics					
	Age group	N	Mean	Std. Deviation	Std. Error Mean
Locus	26-35	63	65.98	6.484	0.8170
	46-55	74	65.59	8.765	1.0189

As can be deduced from the group-statistics in Table 44; more teachers in the age group 46 -55 (74) completed *SELOC* than teachers in the age group 26 -35 (63). The mean (*M*), or average values are slightly different. Since the teachers in the age group 26 -35 SE of *M* is smaller, this sample is a better representation of the population than the sample of teachers in the age group 46 -55. An examination will occur in *Levene's Test for Equality of Variance* and the *t-test* to determine whether these differences are significant or not. Table 45 presents the t-tests on teachers in the age group 26 -35 and age group 46 -55.

Table 45: T-test on Age groups - Application of Locus of Control

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff	Std. Error Diff	Lower	Upper
Locus	Equal variances assumed	3.2884	0.0720	0.2913	135	0.7713	0.389	1.3372	-2.255	3.034
	Equal variances not assumed			0.2983	132	0.7660	0.389	1.3060	-2.193	2.972

From the above table we detect similar variances in the two groups (age group 26 -35 and age group 46 -55) since we have a p-value of more than 0.05 for the Levene’s test. For hypothesis 5, we have a *p*-value of 0.0720 and a F-value of 3.2884 for the Levene's test. It can be concluded that we have equal variances between the two groups (age group 26 -35 and age group 46 -55).

An *Independent Samples t-Test* was conducted to compare application of *SELOC* by age group 26 -35 and age group 46 -55 teachers. From the results, it is evident that there was no significant difference between age group 26 -35 and age group 46 -55 teachers [$t(135) = 0.2913$; $\rho = .7713$]. The ρ value, being greater than the 0.025 confidence level, shows that the differences between Science and Humanities are likely to be due to chance and not likely to be due to manipulation of the two independent variables. *In conclusion, therefore, the null hypothesis is not rejected.* The two groups, age group 26 -35 and age group 46 -55 teachers, seem to have similar scores on *SELOC*.

Hypothesis H₀ (6):

There is no statistical significant difference between teachers aged 36 – 45 and teachers aged 46 – 55 with regard to Locus of Control.

Table 46: Group Statistics on Age groups - Application of Locus of Control

Group Statistics					
	Age group	N	Mean	Std. Deviation	Std. Error Mean
Locus	36-45	85	66.42	6.6893	0.7256
	46-55	74	65.59	8.7647	1.0189

As can be deduced from the group-statistics in Table 46; more teachers in the age group 36 - 45 (85) completed the *SELOC* questionnaire than teachers in the age group 46 -55 (74). The mean (*M*), or average values are different. Since the teachers in the age group 36 -45 SE of *M* is smaller, this sample is a better representation of the population than the sample of teachers in the age group 46 -55. An examination will occur in *Levene's Test for Equality of Variance* and the *t-test* to determine whether these differences are significant or not. Table 47 presents the t-tests on teachers in the age group 36 -45 and age group 46 -55.

Table 47: T-test on Age groups - Application of Locus of Control

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff	Std. Error Diff	Lower	Upper
Locus	Equal var. assumed	2.4086	0.1227	0.6750	157	0.5007	0.8289	1.2280	-1.596	3.254
	Equal var. not assumed			0.6627	135	0.5086	0.8289	1.2508	-1.644	3.302

From the above table we detect similar variances in the two groups (age group 36 – 45 and age group 46 -55) since we have a p-value of more than 0.05 for the Levene’s test. For hypothesis 6, we have a p-value of 0.1227 and a F-value of 2.4086 for the Levene's test. It can be concluded that we have equal variances between the two groups (age group 36 – 45 and age group 46 -55).

An *Independent Samples t-Test* was conducted to compare application of the *SELOC* questionnaire by age group 36 – 45 and age group 46 -55 teachers. From the results, it is evident that there was no significant difference between age group 36 – 45 and age group 46 -55 teachers [$t(157) = 0.6750; p = .5007$]. The p value, being greater than the 0.025 confidence level, shows that the differences between age group 36 – 45 and age group 46 -55 are likely to be due to chance and not likely to be due to manipulation of the two independent variables. *In conclusion, therefore, the null hypothesis is not rejected.* The two groups, age group 36 – 45 and age group 46 -55 teachers seem to have similar scores on *SELOC*.

For statistical significance, all the hypotheses of this study were not rejected except for the following two hypotheses:

❖ *ANOVA hypothesis # 5:*

There is no significant interaction between gender and discipline on Teacher-Efficacy.

❖ *Additional Hypothesis for Teacher efficacy # 2:*

There is no statistical significant difference between teachers aged 26 - 35 and teachers aged 46 – 55 with regard to Teacher-Efficacy.

The statistical analysis was followed by item analysis, for the purpose of practical significance. The following section focussed on the qualitative analysis which attempted in outlining the various reasons teachers attribute to the negative perception regarding the teaching profession.

4.4.2 Section B

As the statistical significance of this study granted the researcher the opportunity to test the hypotheses of the study, a MANOVA was conducted to deduce whether there was any *effect* of the IV's on the SELOC. The MANOVA yielded no significant effect. Subsequently, ANOVA computations were done to determine any statistical significance between and amongst the IV's on teacher efficacy and on locus of control. No relationship of statistical significance was also found. Hence; and consistent with the prescriptions of sequential explanatory triangulation design, qualitative studies were undertaken.

Practical significance was based on item analysis out of which the researcher enriched the results of the study. The items that had significance were selected and adapted for interview questions for the purpose of the qualitative study. The interview questions were designed to answer the research question and objective of this study.

The Research Question to this study was:

5. What do teacher efficacy and locus of control entail?
6. What are the underlying perceptions and conceptions of participants regarding teacher efficacy and locus of control when teaching at the FET phase in the Lejweleputswa schools?
7. What are the underlying reasons for the levels of teacher efficacy and locus of control?
8. What is the impact of independent variables such as gender, experience and subject discipline on teacher efficacy and locus of control?

The objective of this study was to:

5. Determine what teacher efficacy and locus of control entail.
6. Determine the underlying perceptions and conceptions of participants regarding teacher efficacy and locus of control when teaching at the FET phase in the Lejweleputswa schools?
7. Determine the underlying reasons for the levels of teacher efficacy and locus of control.
8. Determine the impact of independent variables such as gender, experience and subject discipline on teacher efficacy and locus of control.

Against this backdrop, the researcher designed an interview schedule through which she solicited for the views and opinions of ten interviewees regarding the weaknesses that may have been identified in the results of the quantitative study. Although teachers' responses represented high levels of teacher efficacy and locus of control, still more than half of the sample wanted to leave the teaching profession. Statistically no significant differences could be established regarding gender, experience and discipline; yet the age groups of teachers highlighted some differences.

The selected sample of convenience for qualitative purposes consisted out of 10 teachers. From the graphical presentation in Figure 45, it can be concluded that more experienced male teachers that teaches the humanities subjects, were interviewed. It also became evident that there are more teachers teaching the humanities subjects in comparison to those who teach sciences. Diagrammatic presentation of the descriptive statistics for the qualitative study follows which is summarised as follows:

- ❖ Humanities subjects are taught by 50% males and 20% female teachers,
- ❖ Science subjects are taught by 10% males and 20% female teachers,
- ❖ Humanities specialisation field comprised 70% in comparison to sciences which totalled 30%,
- ❖ Of the male teachers interviewed, 10% were novice teachers (less than 5 years' experience) and 50% were experienced – 40% female teachers were experienced.

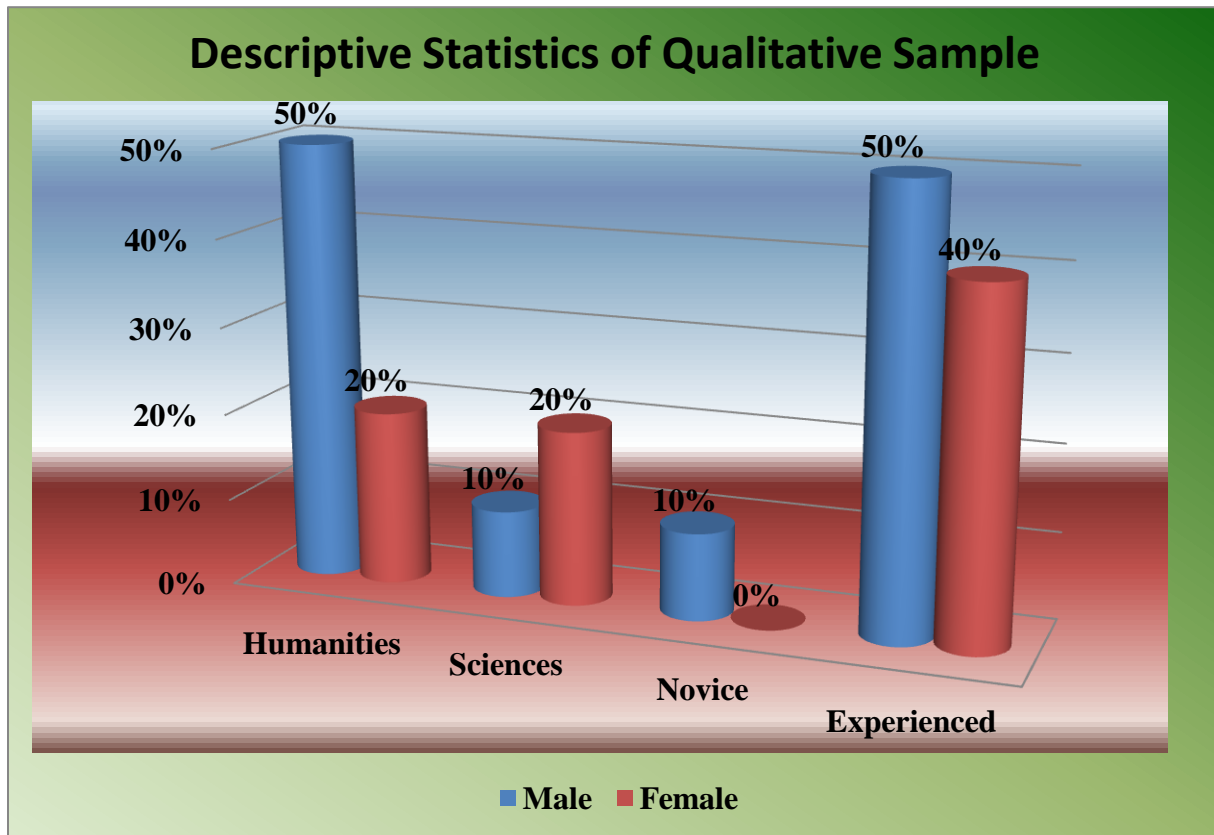


Figure 42: Descriptive Statistics for Qualitative Data Sample

4.4.2.1 Interview schedule

McMillan and Schumacher (2010:206) is of the opinion that a questionnaire devised to guide interviews is called an interview schedule. This provides the researcher with a set of predetermined questions that might be used as an appropriate instrument to engage the participant and designate the narrative terrain. For the purpose of this study, the researcher followed a semi-structured interview approach. The provision of a schedule beforehand forces the researcher to think explicitly about what he/she intend the interview to cover. It deliberately enables the researcher to consider difficulties that might be encountered, e.g. in terms of the

specific structure of the questions – avoiding ambiguity - or sensitive areas of interest and importance.

McMillan and Schumacher (2010:355) further argue that topics in the interview guide are selected in advance, which the researcher decided upon. With reference to the research aims and objectives, the researcher drew up an interview guide that would assist in reaching the intended conclusions of the study. The main themes in the interview guide were the impact of the levels of teacher efficacy and locus of control on teaching in a democratic country. Application of the recommendations of this study will enable teachers to uplift their self-efficacies and would exude appropriate locus of control for learners to emulate and have improved achievement. Subsequently, learning for our learners would also be enhanced (see Appendix K).

4.4.2.2 Data Processing

Data processing entails transcribing the data; analysis and interpretation of data; and identification of themes and categories.

a) Transcribing the data

Bazeley (2007:44) supports the idea that transcribing involves translating from an oral language, with its own set of rules, to a written language with another set of rules. Transcripts are not copies or representations of some original reality; they are interpretative constructions that are useful tools for given purposes. According to Bazeley (2007:45) there is always the danger that transcribed words may lose some meaning as tone, volume, emotionality and accompanying facial and body gestures and disposition cannot be portrayed.

Having conducted the pre-arranged interviews, the researcher transcribed all tape-recorded interviews verbatim immediately after the interviews had occurred. The transcription was done by the researcher herself in order to retain the form and style of the participants' expressions. The aim in transcribing the data was to ensure a pragmatic approach in dealing with the data which is also as true as possible to the conversation. Separate notes were compiled to record any body language accompanying the transcripts during and immediately after the interviews.

Bazeley (2007:45) provides suggestions which could be kept in mind when transcribing the data:

- ❖ A full transcript will include all 'ums', 'mmms', repetitions and the like. Repetition communicates something about the thinking or emotion of the interviewee.
- ❖ In the same vein, do not correct incomplete sentences or poor grammar: it is important to capture the form and styles of the participant's expression.
- ❖ Note events which create interruptions to the flow of the interview, for example, "tape off" or "telephone rings". Also note other things that happen which may influence interpretation of the text.
- ❖ Record non-verbal and emotional elements of the conversation, such as (pause), (laughter), (very emotional at this point). Emotional tone and the use of rhetoric are important to record. For example, something said sarcastically, if simply recorded verbatim, may convey the opposite of the meaning intended.
- ❖ Digressions from the topic of the interview are a controversial issue. The decision about whether or not to include digressions depends on whether there is any meaning in the

digression. Unless there is clearly significance in what was said, it is usually sufficient to skip the detail of that part of the conversation.

The researcher applied most of the above-mentioned measures during the interviews with FET teachers in the Lejweleputswa district.

b) Analysis and interpretation of the data

Data analysis is a process of bringing order, structure and meaning to the mass of collected data (De Vos, Strydom, Fouche & Delpont, 2005:340-341). Qualitative data analysis is a search for general statements about relationships among categories of data. McMillan and Schumacher (2010:367) explain qualitative analysis as a process of interim discovery analysis aimed at developing coded topics and categories that may initially come from the data or which may be predetermined, and also pattern seeking for plausible explanations. The researcher initially read the transcripts and the notes repeatedly in order to gain familiarity with them.

Creswell (2012:244) adds that reading, reading and reading once more through the data forces the researcher to become familiar with the data in intimate ways. The researcher listened to all recordings of the interviews, at the same time confirming the accuracy of the transcriptions.

The researcher searched through the data for regularities, patterns and topics and wrote words and phrases to represent those topics and patterns. The data was then divided into manageable topics or categories. The emergent patterns or categories were colour-coded. The emphasis on emic categories in data collection was preferred. Emic categories are explanations of what the phenomenon means to the participants (McMillan & Schumacher, 2010:244).

c) Identification of themes and categories

In order to analyse and interpret the large volume of raw data collected through the process of consulting written records and conducting interviews, a qualitative data analysis process was followed. During the first scanning the information was read through carefully.

From the readings the researcher identified ‘units of information’ that served as the basis for defining or representing categories. A ‘unit of information’ refers to a sentence or paragraph that has the following two characteristics: First, it is aimed at the understanding that the researcher needs to have and second, it is the smallest piece of information about something that can stand by itself (Brown 2004: 104). ‘Carefully’ means to read and re-read the transcripts and listen and listen again and again to the tape recording of the interviews in order to formulate reality from them (Brown 2004:104).

During the second scanning it was coded or categorised and during the third scanning the main themes were generated (Creswell, 2012:247). The development of these themes and categories was guided by aims and objectives of the study. This process of categorizing the information assisted the researcher in content analysis and interpretation (Wiersma & Jurs 2009:216).

The main themes identified during the interviews were as follows:

- ❖ Effectiveness of training programmes for FET teachers.
- ❖ Teacher behavioural qualities.
- ❖ Extraneous variables impinging on SELOC.

The table in Appendix K focused on the three main themes that emerged from the reading of the verbatim transcripts. Some categories have been omitted owing to the low frequency of responses from the participants. This is in keeping with the view held by Gay, Mills and Airasian (2011:469) who confirm that the task of interpreting data is to identify the important themes or meanings in data and not necessarily *every* theme. A detailed discussion of the research results will follow in the next section.

4.4.2.3 Discussion of data analysis (interviews)

As can be seen in Appendix K, three main themes are highlighted with each main theme consisting of various categories. These themes and categories are now discussed in detail to present the major findings of this research based on the interviews. In addition, applicable verbatim quotes obtained from the raw data are used to confirm and justify important findings.

❖ *Theme 1: Effectiveness of FET Teacher Training Programmes*

Category 1 Fundamental vs. Progressive Educational perspective in a democracy

The democratic government of South Africa inherited a highly fragmented and unresponsive education system. Through a sequence of commissions, white papers and legislation, it laid the basis for transcending this legacy and for transforming the tertiary sector to better serve the needs of the country. The main focus was the transformation of teacher education being grounded on a democratic perspective (Beets & Van Louw, 2005).

Ten years after the birth of our democracy, despite the huge strides made in dismantling centuries of colonialism and apartheid in the education system, much remains to be done. In particular, teacher education has not yet received the concerted attention that it warrants (Centre for Education Policy Development (CEPD), Centre for Evaluation and Assessment (CEA), University of Pretoria, Human Sciences Research Council (HSRC) and South African Institute for Distance Education (SAIDE), (2005). However, two key national initiatives to address this challenge: the first being the development of a teacher education framework by the national department; and the second being the review of teacher education programmes initiated in October 2004 by the Council on Higher Education. Policy on curricula for teacher education has not remained static in this period either. Emerging needs that evolved from this study includes amongst others dire need to improve the quality of teacher education programmes (Beets & Van Louw, 2005).

Amongst various aspects, all ten teachers emphasised the effectiveness of training programmes as of paramount importance. With reference to the situation in South Africa; where the fundamental educational perspective has been replaced by the progressive educational perspective, teachers are of opinion that teacher training institutions (including in-service training of practicing teachers) haven't transformed the teaching strategies, methods, and techniques for teaching in a democracy.

Category 2 Weaknesses in the Academic environment

With the advent of the promulgation of a constitutional democracy in South Africa in February 1997; a concomitant *progressive educational perspective* was formulated comprising democratic

ideals and values. Policy makers and stakeholders gave it a very apt name of *Outcomes Based Education (OBE)* as it calls for the promotion of Self-Expression, Individuality and Free Activity, Learning from Experience, World Awareness and Accomplishment at every level of learning (Selaledi, 1999).

All interviewees unanimously agreed that teacher education programmes need to be reviewed by the DoBE, tertiary institutions, and conscious efforts by individual educationists in order to equip teachers with the necessary skills relevant to teaching in a progressive educational perspective. For instance, only 4 teachers replied with certainty that the majority of teachers can respond with confidence to difficult questions from learners. This can be attributed to the gap that exist which link content knowledge on tertiary level to what is actually being taught at secondary level of schooling. Conversely put, such a weakness could also be attributed to teachers not empowered with the knowledge base typical of teaching methods and strategies akin to progressive education.

❖ ***Theme 2: Teacher Behavioural Qualities (justification for levels)***

Category 1 The approach and role of the Teacher

As evident from the interviews, teachers experience negative physiological states which they attributed to the categories emerging from theme 3 as discussed below.

Category 2 Qualities of the Teacher

Self-efficacy is a situation-specific determinant of behaviour. This means that self-efficacy must be studied by analysing the contextual factors that affect teachers' sense of efficacy. As evident from theme 1, teachers feel incompetent due to the lack of FET training programmes which supports the negative feelings regarding the teaching profession. Their sense of teacher efficacy could be impeded which may result in low learner performance.

❖ *Theme 3: Extraneous Variables Impinging on SELOC*

Category 1 Support Programmes, Administration and Curriculum design

The interviews revealed that all the teachers interviewed were of the opinion that the necessary support from the DoBE is not satisfactory. Timely feedback and professional subject support were identified as impeding factors on their teaching effectiveness. Another issue referred to the integrated quality management system which lacks fair promotion. To further substantiate their opinions, the teachers regarded the administration to be a tedious exercise depriving them of valuable 'teaching' time. The curriculum design lends itself to wide criticism due to the compact nature of new concepts to be taught in subjects. With the implementation of CAPS, textbook provisioning is not effective and lacks continuity throughout the FET phase.

Category 2 Leadership and Political justification

As evident from the responses, all teachers interviewed are of the view that the leadership roles in education are not necessarily occupied by individuals who have the natural capacity to lead.

Naturally incapacitated leaders enforce their authority by means of disciplinary measures instead of accreditation by natural leaders. This signifies the reason; although teachers rated favourable on SELOC, negativity is generated from leadership. The issue of the political dispensation made its appearance as a contributing factor towards negativity amongst teachers.

Category 3 Educational facilities

Teachers interviewed responded that they find it practically difficult to get learners to do their homework as their attention is often dissuaded by technological competition education is faced with in modern society. They are of the opinion that education should provide facilities that can compete with these advancements in terms of linking academic and content knowledge of the subjects they teach to the real life world of the learners. Practical examples include modernisation of teaching approaches by means of internet access whereby learners experience the subject content in a more technological advanced manner. Learners should be interested in their schoolwork and it is the responsibility of the teacher to capture learners' interest and mediate the learning process.

Category 4 Socio-economic Status of learners and parental involvement

As evident from the descriptive statistics, all the teachers regarded the socio-economic status of most school families to be low. During the interview, teachers supported this statement by also indicating that parental involvement was regarded as insufficient and unsatisfactory.

All of the above categories expressed the opinions of the teachers interviewed. The latter were provided as reasons for negative experiences and feelings towards the teaching career.

4.4.3 Summary

Chapter 4 presented both the results of the quantitative and qualitative designs respectively. The results of the MANOVA, ANOVA, and *t*-tests were presented indicating where the hypotheses of the study were either rejected or failed to be rejected. Item analysis further elaborated on the discrepancies in the quantitative results that were generated by the probable impact of extraneous variables. The interviews confounded the findings of the impact of extraneous variables.

CHAPTER 5

DISCUSSIONS AND FINDINGS

5.1 INTRODUCTION

The aim of this chapter is to demonstrate whether the investigation has provided answers to the problems that were stated at the outset. The most significant results and findings of the research are discussed. The chapter also proposes recommendations on what needs to be done as a result of the findings. The conclusions and recommendations for the enhancement of academic achievement are also given attention. This will be followed by future research proposals that evolve from this study, and a final remark from the researcher.

5.2 DISCUSSIONS

Respondents' rating to teacher efficacy revealed that 70% of the total sample illustrated high ratings on this dependent variable. Similarly, the response rate on locus of control refers to a high 84% indicative measure. These results should imply that overall, teachers have high levels of teacher efficacy and largely have internal locus of control. Analyses of these levels were done according to gender, age group, experience, respondents' highest qualification, and the respondents' teaching qualification.

5.2.1 Discussions on Quantitative Results

The research hypotheses addressed in this study concerned the levels of teacher efficacy and locus of control of FET teachers in the Lejweleputswa school district. Quantitative data analysis was done from information gathered through a questionnaire. This analysis was taken on a 'step-down' approach for the purpose of *further analysis of the initial findings*. The researcher conducted analysis from a MANOVA, for which seven hypotheses were formulated. This analysis tested whether any effect of the IV's (gender, experience and discipline) existed on the combined DV's (teacher efficacy and locus of control) being named *SELOC*.

As no statistical significance was found; the researcher further conducted ANOVA analysis where any statistically significant effect of the IV's variables existed on the DV's separately. Yet again, no statistical significance was evident from the fourteen hypotheses, except for the effect of gender and discipline on teacher efficacy. Hence, the researcher conducted further *t*-tests, from which the relationship between the IV's (within groups) and the DV's was sought. The findings of no statistical relationship prompted the researcher to conduct *item analysis* to seek the *practical significance* of results. Practical significance various aspects that could impinge on the levels of teacher efficacy and locus of control were sought. Practical Significance was found in aspects which included Gender Differences, Teacher Experience, Knowledge Base, and Job Satisfaction.

5.2.1.1 Discussions on the Practical Significance of Teacher Efficacy Variables

- ❖ ***Practical Significance of Gender Differences:*** A phenomenon that became evident from item analysis is that there were more female participants (65%) as opposed to male participants (35%). Expressed in numerical values, the sample (n = 275) consisted of 96 male participants and 179 female participants.

The researcher is of the opinion that these numbers could be true in relation to the total population of practising teachers. This finding is supported by Arends (2005:15) who conducted statistical analysis in 2005 on the employment status of educators in South Africa. The findings of Arends (2005) were that the pool of FET teachers was presented by more females than males.

- ❖ ***Practical Significance of Teacher Experience:*** As evident from item analysis, 18% of teachers are still inexperienced or referred to as novice teachers. As confirmed by Hartfield (2011), teachers' levels of efficacy increase with age. The researcher deduced that the 30% of responses on lower teacher efficacy could be attributed to the lower age groups.
- ❖ ***Practical Significance of Knowledge Base:*** From the practical significance point of view; analyses of the items of *SELOC* focusing on teacher knowledge base of the disciplines they teach are consistent with the assertion by Metcalfe (2008:10) that “the conceptual knowledge of [teachers] is low; [teachers] have a poor grasp of the subjects they teach; there is a high level of [teacher] error in the content and concepts presented in lessons; and

the [teachers] have low expectations of learners, who then achieve to these low expectations.”

Kriek and Grayson (2009:185) could not agree more with the latter when they stated teachers were not producing learners that are able to demonstrate the comprehensive academic skills in the critical subjects with reference to Science, Mathematics and Accounting. The views of Metcalfe (2008) and Kriek and Grayson (2009) point to teacher development in content knowledge and teaching methods, strategies, and techniques. Lewandowski (2005:5) made an important observation when she stated that how teachers view their own classroom capabilities is of equal importance.

- ❖ ***Practical Significance of Job Satisfaction:*** Item analysis and interviews also pointed out that half of the current teaching ‘cohort harboured the intention to leaving the teaching profession even though responses were indicative of high levels of teacher efficacy. Furthermore, item analyses further pointed out that the education system might face a shortage of qualified teachers especially in the scarce subject fields grouped as the sciences.

5.2.1.2 Discussions on the Practical Significance Locus of Control Variables

Another concerning factor in item analyses is the impact class size affect Teacher Locus of Control. Statistical evidence indicates that almost 50% of the sample of FET teachers has classes of close to 40 learners.

Bakasa (2011) is of the view that the search for the substantial achievement impact of reducing class size is one of the oldest and most frustrating concepts for educational researchers. He further states it is widely known that South Africa is currently experiencing enormous challenges in institutions of learning due to a plethora of problems. However, the debate still leaves the question of whether the marginal loss of learning all other students experience as a result of having one more student in class outweighs the marginal benefits that one more student receives. His study pointed out that a positive link between learner achievement and class size was found to exist. Most teachers believed that learner achievement and improved learner behaviour was linked to decreased class size. Class size, therefore, seems to induce external locus of control in many a teacher.

Teachers' views and opinions regarding the discrepancies identified by the practical significance of item analyses were sought from the qualitative interviews which; according to the prescripts of the sequential explanatory triangulation of this study, evolved from the quantitative outcomes as explained above.

5.2.2 Discussions on Qualitative Results

The opinions of teachers during the qualitative interviews highlighted that various extraneous variables were present in the teaching profession that explained the phenomena espoused in the quantitative results. The interview questions were designed to answer the research question and objective of this study.

The Research Question to this study was:

1. What do teacher efficacy and locus of control entail?
2. What are the underlying perceptions and conceptions of participants regarding teacher efficacy and locus of control when teaching at the FET phase in the Lejweleputswa schools?
3. What are the underlying reasons for the levels of teacher efficacy and locus of control?
4. What is the impact of independent variables such as gender, experience and subject discipline on teacher efficacy and locus of control?

The objective of this study was to:

1. Determine what teacher efficacy and locus of control entail.
2. Determine the underlying perceptions and conceptions of participants regarding teacher efficacy and locus of control when teaching at the FET phase in the Lejweleputswa schools?
3. Determine the underlying reasons for the levels of teacher efficacy and locus of control.
4. Determine the impact of independent variables such as gender, experience and subject discipline on teacher efficacy and locus of control.

The Interviews: All the interviewees lamented the various external pressures and influences that impacted adversely on their levels of efficacy and locus of control. The latter included support programmes, administration and curriculum design. Teachers said, “with tongues in cheek;” that school leaders and political stakeholders were “primary culprits” by assigning blame solely on

teachers for low quality results irrespective of the impact the extraneous variables alluded to exerted on teachers' efficacious behaviour and locus of control.

Teachers were also of the opinion that educational facilities in the country were not complimenting effective teaching approaches. Learners grow up in a much more technological advanced community in the new era in which we find ourselves; but little, by way of technological support programmes, teacher upgrading and all requisite technological amenities; found their way into schools.

Other crucial factors concerned the issues of parental involvement and the socio-economic status of most of the school families with children at schools. Teachers found it cumbersome to stimulate and invigorate learners' sustained motivation to learn; and the impact of such extraneous variables affected the teachers' high levels of teaching efficacy.

The views and opinions of teachers alluded to are supported by Ashton & Webb (1986) when they emphasised that the influence of classroom environment has an influence on a teacher's sense of sense of efficacy. As rational professionals, teachers have to constantly make judgments and carry out decisions in uncertain complex environments. The classroom context plays an important role in teachers' perceptions of their effectiveness. There are various environmental features which affect the behaviour of teachers, such as, class size, personality of learners, school curriculum and the activity structure of the lessons.

The quintessence of the interviews is consistent with the statistical decisions of *rejection* made on the hypotheses. The hypotheses, on the one hand, reported the existence of significant differences between and amongst the independent variables. The interviewees, on the other hand, confirmed the existence of various extraneous factors which have a negative influence on teacher sense of efficacy and locus of control.

The recommendations that follow are intended to serve as a guide to teachers and stakeholders on how to provide a teaching and learning climate and environment that is conducive to the teacher development of high levels of teacher efficacy and internal locus of control.

5.3 RECOMMENDATIONS

O'Donnell et al., (2009) asserts that what teachers believe about the efficacy of teaching depend in part on their own experience in life; what happened to them in school; and what they were taught about teaching in teacher education courses. The researcher, following the latter authors' trend of thought; contends that development of teacher's locus of control is contingent upon that of self-efficacy.

Conversely put, the researcher establishes that the development of teacher efficacy is commensurate with the development of teacher locus of control. Consequently; the researcher of the view that the following recommendations for future research studies may determine the ideal

individual and environmental variable that may enhance teacher efficacy and solidify teacher's internal locus of control respectively:

- ❖ Research is needed to determine relationship amongst *teacher efficacy, teacher locus of control, and schools' organisational culture or climate.*
- ❖ Research is needed to determine relationship between a *conducive learning environments* with regards to *teacher efficacy and locus of control* (as two dependent variables)
- ❖ A review of *teacher programmes*, undergird by incentives, to elevate teacher efficacy and internalise teacher's locus of control.

5.4 CONCLUSION

Teachers' personal beliefs regarding their ability and attribution of success or failure to affect learner achievement may be responsible for the variance in teacher effectiveness (Armor et al., 1976; Berman & McLaughlin, 1977). For this reason, teachers must possess a strong self-efficacy that will allow them to lead learners to academic gains. Equally important, teachers with internal locus of control will develop to becoming expert teachers in control of the behavioural and academic achievements of learners.

While some teachers may acquire a strong self-efficacy during their teacher preparatory programs, others may not realize their self-efficacy until they have their own classroom. Even still, others will enter with a weak self-efficacy. Nevertheless, teachers must be provided with opportunities to experience success, feel that they are supported, and be knowledgeable of the

latest instructional strategies and tools to develop their internal locus of control. This opportunity will allow those who already feel efficacious to validate that belief. Those who need guidance to strengthen their self-efficacy will be able to use the opportunities to internal locus of control.

It is thus vital that teachers at Lejweleputswa School District develop perceived high levels of teacher efficacy and internalised locus of control at secondary schools. Brophy (2004:65) suggests that teachers' awareness of levels of efficacy and where their locus of control is situated, increases their task efforts and persistence in relentless pursuit to stimulate, invigorate, and sustain continued learner motivation to learn. In the words of Warren G. Bennis, "Great things are accomplished by talented people who believe they will accomplish them" (Bennis, 2005).

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APPENDIXES

Appendix A: Application Letter to DoBE



Central University of
Technology, Free State

18th April 2013

The Head: Free State Dept. of Education
P.O. Box 521
BLOEMFONTEIN
9300

Dear Sir

This letter serves to introduce to you Ms Mariette van der Merwe who is studying for a Masters Degree under our supervision (the undersigned) at the Central University of Technology. We request and believe you can help her by granting her the requisite access to schools in the Lejweleputswa School District for acquisition of information pertaining to her studies.

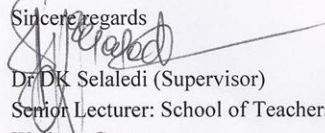
The title of her dissertation is:


“Perceived Levels of Teacher Efficacy and Locus of Control at Lejweleputswa School District”

Please be informed that you will find Ms Van Der Merwe as pleasant and helpful a person as she is knowledgeable. She has taught *Accounting and Business Studies* subjects since 2008 at Hentie Cilliers Secondary School in Virginia - Welkom. As a teacher; she seems to rejoice when excellent work is done by her students; and is definitely kind where human help is needed. We are extremely pleased with her work attitude.

Please; may you give this request your due consideration? As the population for her study is all teachers who offer the science and humanity disciplines in grades 10, 11, and 12 at the seven clusters of schools in the Lejweleputswa School District; we can assure you that it will be a mutually beneficial exercise to all of us. We intend to provide your Department with a report explaining the outcome of the study.

Sincerely regards


Dr DK Selaledi (Supervisor)
Senior Lecturer: School of Teachers Education
Welkom Campus


Prof. D. Ngidi
Dean: Humanities
CUT: Bloemfontein Campus

Appendix B: Application Letter to DoBE Lejweleputswa District



Central University of
Technology, Free State

18th April 2013

Mr M S Mokgobo
The Director: Lejweleputswa District Office
WELKOM 9460

Dear Mr. Mokgobo

REQUEST TO CONDUCT RESEARCH AT SCHOOLS IN YOUR DISTRICT

We, the undersigned, and lecturers at the Central University of Technology, hereby request for permission to allow Ms Mariette van der Merwe (M.Ed. student) to conduct research studies at some selected schools under your jurisdiction in the Lejweleputswa School District.

The title of her dissertation is:

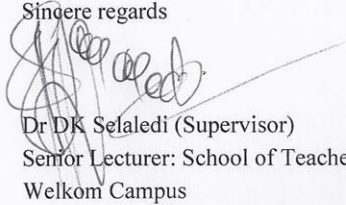
“Perceived Levels of Teacher Efficacy and Locus of Control at Lejweleputswa School District”

A copy of the thesis and a comprehensive summary of the findings will be provided to your office upon request. The researcher will also be honoured to accept invitations to deliver papers on the subject in your district whenever needed. Also, we wish to emphasise that the researcher, closely supervised by Dr DK Selaledi (the promoter) will abide by all conditions pertaining to the task of conducting research in the schools as stipulated by the Free State Department of Education. The following conditions will, *inter-alia*, be uppermost to observe:

- ✦ The targeted population for the study will be all Grades 10-12 teachers in the FET Phase. The sample will be required to respond to a questionnaire, and the promoter will ascertain that the responses are handled confidentially.
- ✦ Equally important, the researcher will undertake not to pass any information to the mass media without prior approval by the Free State Department of Education.

Attached, please find a letter of approval to conduct the study from the Free State Department of Education and a list of schools sampled for the study in your district.

Sincere regards



Dr DK Selaledi (Supervisor)
Senior Lecturer: School of Teachers Education
Welkom Campus



Prof. D. Ngidi
Dean: Humanities
CUT: Bloemfontein Campus

Appendix C: Permission Letter from DoBE: Free State



education
Department of
Education
FREE STATE PROVINCE

Enquiries: BP Mojau
Reference: 16/4/1/16- 2013

Tel: 051 404 9287
Fax: 086 725 7588
E-mail: research@edu.fs.gov.za

2013 – 05-06

Ms M van der Merwe
33 Chestnut Str
Merringspruit
Virginia
9430

Dear Ms M van der Merwe

REGISTRATION OF RESEARCH PROJECT

1. This letter is in reply to your application for the registration of your research project.
2. Research topic: **Perceived level of Teacher Efficacy and Locus of control at Lejweleputswa District**
3. Your research project has been registered with the Free State Education Department.
4. Approval is granted under the following conditions:-
 - 4.1 The name of participants involved remains confidential.
 - 4.2 The questionnaires are completed and the **interviews are conducted outside normal tuition time.**
 - 4.3 This letter is shown to all participating persons.
 - 4.4 A bound copy of the report and a summary on a computer disc on this study is donated to the Free State Department of Education.
 - 4.5 Findings and recommendations are presented to relevant officials in the Department.
5. The costs relating to all the conditions mentioned above are your own responsibility.
6. **You are requested to confirm acceptance of the above conditions in writing to:**

**DIRECTOR: STRATEGIC PLANNING, POLICY AND RESEARCH,
Old CNA Building, Charlotte Maxeke Street OR Private Bag X20565,
BLOEMFONTEIN, 9301**

We wish you every success with your research.

Yours sincerely



M.J. MOTHEBE
DIRECTOR: STRATEGIC PLANNING, POLICY AND RESEARCH

Directorate: Strategic Planning, Policy & Research - Private Bag X20565, Bloemfontein, 9300 – Room 301, Old CNA building,
Maitland Street, Bloemfontein 9300 - Tel: 051 404 9283 / Fax: 086 6678 678 E-mail: research@edu.fs.gov.za

www.education.gov.za

Appendix D: Permission Letter from DoBE: Lejweleputswa District

CS/08/2007 21/06

CS/91/0443

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PAGE 02/01

Enquiries: M S Mokgobo
Reference

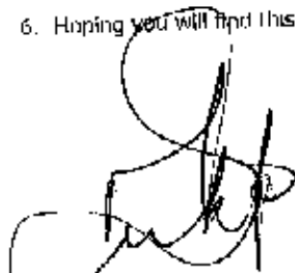


24 May 2013

Dr DK Selaledi
Senior Lecturer
CUT
P O Box 1881
WELKOM
9160

REQUEST TO CONDUCT RESEARCH AT SCHOOLS

1. Receipt of your communiqué regarding the above-mentioned is hereby acknowledged and has reference.
2. Permission is hereby granted to **Ms M van der Merwe** to approach Schools in the Lejweleputswa Education District to conduct research for her studies.
3. However, permission is granted on condition that the activity will not interfere with the smooth running of the school.
4. Learning and teaching time should be protected at all costs and therefore we suggest that activities are arranged for after school hours.
5. It is also imperative that proper arrangements and consultations are done with the Principals of the Schools.
6. Hoping you will find this to be in order.



MS MOKGBO
District Director

Lejweleputswa District, P.O. Box 930, Welkom, 9160
Ankermeer, 8019, Cnr. Stateway and Tu Buis Street, Welkom
Tel: (057) 5917700 | Fax: 08611 21639

www.esee.gov.za

Appendix E: Letter to Principals



[Redacted box]

The Principal

Dear Prof. /Dr. / Ms. -----

REQUEST TO CONDUCT RESEARCH AT -----

This letter serves to introduce Mrs. Mariette van der Merwe, who is studying for her master's degree (M.Ed.) at the Central University of Technology.

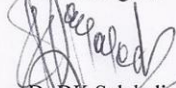
Mrs. Van Der Merwe's research is on *“Perceived Levels of Teacher Efficacy and Locus of Control at Lejweleputswa School District.”* Please be informed that information from the sampled teachers will be sought through a questionnaire; making certain that the following individual “rights” of teachers are maintained:

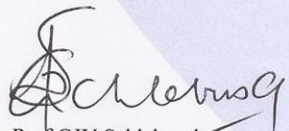
- ✦ Teachers' responses will be confidential - shown neither to others nor identified by the names of the schools.
- ✦ Equally important, the researcher will undertake not to pass any information to the mass media without prior approval by the Free State Department of Education.

Mrs. Van Der Merwe has a wealth of background pertaining to teaching and learning interactive situations. You will find her pleasant and helpful as she is knowledgeable. We are proud to have her represent us, and we know you will soon think highly of her as we do.

Attached, please find a letter of authorisation to conduct the study in your school from The Director: Lejweleputswa District Office.

Sincere regards


Dr. DK Selaledi
(Promoter)


Prof. GJV Schlebusch
(HOD: Post Graduate Studies)

Appendix F: Questionnaire



CENTRAL UNIVERSITY OF TECHNOLOGY, FREE STATE
SENTRALE UNIVERSITEIT VIR TEGNOLOGIE, VRYSTAAT
YUNIVESITHI E BOHARENG YA THEKENOLOJI, FOREISTATA

**FACULTY OF HUMANITIES
SCHOOL OF TEACHER EDUCATION
RESEARCH STUDY**

No. _____

Strictly Confidential

QUESTIONNAIRE

*Perceived Levels of Teacher Efficacy and Locus of Control
At Lejweleputswa School District*

(Grade 10 – 12 Teachers)

*M. van der Merwe
B.Ed. (FET); B.Ed. Honours*

Central University of Technology
WELKOM CAMPUS
P O Box 1881
WELKOM
9460

Tel: (057) 910 3589

15 April 2013

QUESTIONNAIRE FOR DETERMINING PERCEIVED LEVELS OF TEACHER EFFICACY AND LOCUS OF CONTROL AT THE LEJWELEPUTSWA SCHOOL DISTRICT

Dear Teacher,

My name is Mariette van der Merwe. I am currently conducting research (in fulfilment of the requirements for the MASTERS DEGREE: Educational Psychology), regarding the above-mentioned topic and am asking for your assistance. Please consider participating in the study. Your responses to the attached questionnaire are vital in assisting me to determine the status of teacher efficacy and locus of control in a number of selected schools in Lejweleputswa. The questionnaire is divided into two sections:

- Section 1 Demographic variables
- Section 2 Teacher efficacy and locus of control information

PURPOSE OF THE STUDY

The study seeks to examine the perceived levels of teacher efficacy and locus of control for the assertive improvement of quality education in Lejweleputswa. This study attempts in finding the relationship between teacher performance versus teaching qualities inclusive of teacher efficacy and locus of control. The findings would be helpful in better preparing teachers and maintaining a supportive setting for them in which they can grow professionally and contribute to learner achievement.

PARTICIPATION

Your participation in this study is strictly voluntary. If you do not wish to participate, you are free to hand back the uncompleted questionnaire.

CONFIDENTIALITY

All information will be regarded as CONFIDENTIAL, and no personal details of any respondent will be mentioned in the findings, nor will any results be related to any particular school. The contents of the survey will not be discussed with your principal nor will it be part of the teacher evaluation process. Although the research report will be published, it will contain figures, percentages and deductions based on the analysis and interpretation of the data provided without identifying any respondent personally.

RISKS

This study is conducted under the supervision of Dr DK Selaledi, CUT Welkom Campus. Any questions concerning this study may be addressed to the researcher or supervisor. There are, therefore, no risks associated with this study. Your participation would be much appreciated and I am most grateful for your time and consideration.

Thank you in anticipation.

Sincere regards



Mariette van der Merwe

Researcher

Email: mvandermerwe@cut.ac.za

Cell: 084 553 2885



Dr D.K Selaledi

Supervisor

dseled@cut.ac.za

076 345 7531

**SECTION A
DEMOGRAPHIC VARIABLES**

1.1 Gender:

1 Male 2 Female

1.2 Race group:

1 Black 2 Coloured 3 Indian 4 White 5 Other

1.3 Age group:

1 20- 25 2 26 - 35 3 36 - 45 4 46 - 55 5 55 +

1.4 Highest qualification:

1 Matric 2 Diploma 3 Bachelor's Degree 4 Honours Degree
 5 Masters Degree 6 PhD

1.5 Teaching experience:

1 Below 5 years. 2 5 years and above.

1.6 Qualification (e.g. BEd (FET) BWBESE):

1.7 Subjects you are qualified to teach (e.g. Accounting and Economics):

1.8 Current Subjects that you teach (please indicate with a cross (x) next to each subject):

Subjects:	Code:	(x)
Home Languages (English, Sotho, Afrikaans)	1	
First Additional Languages (English, Sotho, Afrikaans)	2	
Accounting	3	

Agricultural Management Practices	4	
Agricultural Sciences	5	
Agricultural Technology	6	
Business Studies	7	
Civil Technology	8	
Computer Applications Technology	9	
Consumer Studies	10	
Dance Studies	11	
Design Studies	12	
Dramatic Arts	13	
Economics	14	
Electrical Technology	15	
Engineering Graphics and Design	16	
Geography	17	
History	18	
Hospitality Studies	19	
Information Technology	20	
Life Orientation	21	
Life Sciences	22	
Mathematical Literacy	23	
Mathematics	24	
Mechanical Technology	25	
Music	26	
Physical Sciences	27	
Religion Studies	28	
Tourism	29	
Visual Arts	30	

1.9 Socio-economic status of most of the school families would be considered:

1 Low 2 Middle 3 Upper

1.10 Average class size:

1 Below 20 2 20 – 30 3 30 – 40 4 40 +

1.11 School Location:

1 Urban 2 Suburban 3 Rural

1.12 Describe your present feelings about teaching as a career:

1 Very Negative 2 Negative 3 Neutral 4 Positive 5 Very Positive

1.13 Describe the type of learner you teach with regard to manners and discipline:

1 Totally unacceptable 2 Bad 3 Acceptable 4 Good 5 Excellent

1.14 Rate the extent to which you as a teacher experience support from parents:

1 No support 2 Little support 3 Good 4 Excellent

1.15 Rate the extent to which you as a teacher experience support from school management:

1 No support 2 Little support 3 Good 4 Excellent

1.16 Rate the extent to which you as a teacher experience support from colleagues:

1 No support 2 Little support 3 Good 4 Excellent

1.17 Do you sometimes consider leaving the teaching profession? 1 Yes 2 No

SECTION B QUESTIONNAIRE

Listed below are a wide variety of questions. This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinions about each of the statements below by crossing the appropriate number. Your answers will be kept strictly confidential and will not be identified by any names.

Please indicate your opinion about each of the statements below *in reference to your current teaching situation*. Rate each item as it pertains to you *personally*. Use the scale below to rate the statements.

1	2	3	4	5
Strongly disagree	Do not agree	Neutral	Agree	Strongly agree

STATEMENTS	RATING				
1. I usually look forward to each working day at the school.	1	2	3	4	5
2. I feel satisfied with my overall job in the school.	1	2	3	4	5
3. I feel successful in providing the kind of education I would like to provide for most of the learners.	1	2	3	4	5
4. No matter how low a learner performs, you as the teacher can improve his/her performance.	1	2	3	4	5
5. Teachers can effectively assess learner comprehension of what has been taught in a lesson.	1	2	3	4	5
6. A teacher can respond with confidence to difficult questions from learners.	1	2	3	4	5
7. Better teaching approaches improve learner performance.	1	2	3	4	5
8. Even the weakest learner can learn when a teacher approaches him/her in a positive manner.	1	2	3	4	5
9. You as a teacher can do a lot to motivate learners to learn.	1	2	3	4	5
10. Teachers influence learner participation in the classroom.	1	2	3	4	5
11. I believe that I am a capable teacher.	1	2	3	4	5
12. Other teachers in my department compliment me on my teaching abilities.	1	2	3	4	5
13. There is a great deal of cooperative effort amongst teachers in my department.	1	2	3	4	5
14. Teachers in my department share useful suggestions for teaching techniques to improve learner performance.	1	2	3	4	5
15. Teachers in this school believe that every child can learn.	1	2	3	4	5
16. I believe teachers in my department are knowledgeable about how to engage learners effectively in learning.	1	2	3	4	5
17. I believe teachers in my department are very capable of managing learner behaviour in the classroom.	1	2	3	4	5
18. I believe that I have the skills to deal with learner disciplinary problems.	1	2	3	4	5
19. A teacher can do much to promote learning when there is lack of support by parents and/or guardians.	1	2	3	4	5
20. A teacher can increase learners' memory of what they have been taught in previous lessons.	1	2	3	4	5

21. Teachers can influence learners to trust them.	1	2	3	4	5
22. Promotions are given to employees who perform well on the job.	1	2	3	4	5
23. Whether or not I get to be a leader depends mostly on my ability.	1	2	3	4	5
24. When I make plans, I am almost certain to make them work.	1	2	3	4	5
25. When I get what I want, it is usually because I worked hard for it.	1	2	3	4	5
26. My life is determined by my own actions.	1	2	3	4	5
27. I always feel in control of what I am doing.	1	2	3	4	5
28. What people get out of life is a function of how much effort they put into it.	1	2	3	4	5
29. When I get a good job, it is a direct result of my own ability and/or motivation.	1	2	3	4	5
30. I can overcome all obstacles in the path of academic success if I work hard enough.	1	2	3	4	5

Appendix G: Interview Schedule



CENTRAL UNIVERSITY OF TECHNOLOGY, FREE STATE
SENTRALE UNIVERSITEIT VIR TEGNOLOGIE, VRYSTAAT
YUNIVESITHI E BOHARENG YA THEKENOLOJI, FOREISTATA

INTERVIEW SCHEDULE FOR DETERMINING PERCEIVED LEVELS OF TEACHER EFFICACY AND LOCUS OF CONTROL AT THE LEJWELEPUTSWA SCHOOL DISTRICT

Dear Teacher,

My name is Mariette van der Merwe. I am currently conducting research (in fulfilment of the requirements for the **MASTERS DEGREE: Educational Psychology**), regarding the above-mentioned topic and am asking for your assistance. Please consider participating in the study. Your responses to the semi-structured interview are vital in assisting me to determine the status of teacher efficacy and locus of control in a number of selected schools in Lejweleputswa. The interview schedule includes ten questions.

PURPOSE OF THE STUDY

The study seeks to examine the perceived levels of teacher efficacy and locus of control for the assertive improvement of quality education in Lejweleputswa. This study attempts in finding the relationship between teacher performance versus teaching qualities inclusive of teacher efficacy and locus of control. The findings would be helpful in better preparing teachers and maintaining a supportive setting for them in which they can grow professionally and contribute to learner achievement.

PARTICIPATION

Your participation in this study is strictly voluntary. If you do not wish to participate, you are free to advise the researcher.

CONFIDENTIALITY

All information will be regarded as CONFIDENTIAL, and no personal details of any respondent will be mentioned in the findings, nor will any results be related to any particular school. The contents of the survey will not be discussed with your principal nor will it be part of the teacher evaluation process. Although the research report will be published, it will contain figures, percentages and deductions based on the analysis and interpretation of the data provided without identifying any respondent personally.

RISKS

This study is conducted under the supervision of Dr DK Selaledi, CUT Welkom Campus. Any questions concerning this study may be addressed to the researcher or supervisor. There are, therefore, no risks associated with this study.

Your participation would be much appreciated and I am most grateful for your time and consideration.

Thank you in anticipation.

Sincere regards



Mariette van der Merwe

Researcher

Email: mvandermerwe@cut.ac.za

Cell: 084 553 2885



Dr D.K Selaledi

Supervisor

dselaled@cut.ac.za

076 345 7531

**SECTION A
DEMOGRAPHIC VARIABLES**

2.1 Gender:

1 Male 2 Female

1.2 Race group:

1 African 2 Coloured 3 Indian 4 White 5 Other

1.3 Age group:

1 20- 25 2 26 - 35 3 36 - 45 4 46 - 55 5 55 +

1.4 Highest qualification:

1 Matric 2 Diploma 3 Bachelor's Degree 4 Honours Degree
 5 Masters Degree 6 PhD

1.5 Teaching experience:

1 Below 5 years. 2 5 years and above.

1.6 Qualification (e.g. BEd (FET) BWBESE):

1.7 Subjects you are qualified to teach (e.g. Accounting and Economics):

1.8 Current Subjects that you teach (please indicate with a cross (x) next to each subject):

Subjects:	Code:	(x)
Home Languages (English, Sotho, Afrikaans)	1	
First Additional Languages (English, Sotho, Afrikaans)	2	

Accounting	3	
Agricultural Management Practices	4	
Agricultural Sciences	5	
Agricultural Technology	6	
Business Studies	7	
Civil Technology	8	
Computer Applications Technology	9	
Consumer Studies	10	
Dance Studies	11	
Design Studies	12	
Dramatic Arts	13	
Economics	14	
Electrical Technology	15	
Engineering Graphics and Design	16	
Geography	17	
History	18	
Hospitality Studies	19	
Information Technology	20	
Life Orientation	21	
Life Sciences	22	
Mathematical Literacy	23	
Mathematics	24	
Mechanical Technology	25	
Music	26	
Physical Sciences	27	
Religion Studies	28	
Tourism	29	
Visual Arts	30	

1.9 Socio-economic status of most of the school families would be considered:

1 Low 2 Middle 3 Upper

1.10 Average class size:

1 Below 20 2 20 – 30 3 30 – 40 4 40 +

1.11 School Location:

1 Urban 2 Suburban 3 Rural

1.12 Describe your present feelings about teaching as a career:

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1 Totally unacceptable 2 Bad 3 Acceptable 4 Good 5 Excellent

1.14 Rate the extent to which you as a teacher experience support from parents:

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1.15 Rate the extent to which you as a teacher experience support from school management:

1 No support 2 Little support 3 Good 4 Excellent

1.16 Rate the extent to which you as a teacher experience support from colleagues:

1 No support 2 Little support 3 Good 4 Excellent

1.17 Do you sometimes consider leaving the teaching profession? 1 Yes 2 No

SECTION B INTERVIEW QUESTIONS

1. I sometimes feel it is a waste of time to try to do my best as a teacher.
2. When a learner performs better than usual, many times it is because of the extra effort the teacher exerted.
3. A teacher cannot do much about learners who show little/no interest in their school work.
4. A teacher has control over a learner's belief in his/her own ability.
5. If a learner does not want to learn, teachers give up.
6. A teacher finds it practically difficult get learners to do their homework.
7. A teacher can respond with confidence to difficult questions from learners.
8. A teacher can do much to promote learning when there is lack of support by parents and/or guardians.
9. Promotions are given to employees who perform well on the job.
10. Whether or not I get to be a leader depends mostly on my ability.

Appendix H: Table for Factor Analysis

Rotated Component Matrix of Teacher Efficacy Items: Factor Loadings

	COMPONENT		STATEMENTS
	1	2	
Q1	0.5552	0.3192	I usually look forward to each working day at the school.
Q2	-0.0974	-0.7143	I sometimes feel it is a waste of time to try to do my best as a teacher.
Q3	0.6103	0.4512	I feel satisfied with my overall job in the school.
Q4	0.6203	0.5486	I feel successful in providing the kind of education I would like to provide for most of the learners.
Q5	0.6574	0.0318	No matter how low a learner performs, you as the teacher can improve his/her performance.
Q6	0.5508	0.2568	Teachers can effectively assess learner comprehension of what has been taught in a lesson.
Q7	-0.6139	-0.0182	When a learner causes a disruptive academic environment, I chase him/her out of the classroom.
Q8	0.1688	0.8358	A teacher can respond with confidence to difficult questions from learners.
Q9	0.4454	0.4882	I believe alternative strategies for learning are necessary in the classroom.
Q10	0.3415	-0.0999	When a learner performs better than usual, many times it is because of the extra effort the teacher exerted.
Q11	0.5642	0.4667	Better teaching approaches improve learner performance.
Q12	0.7273	0.1890	Even the weakest learner can learn when a teacher approaches him/her in a positive manner.
Q13	-0.5622	-0.0393	A teacher cannot do much about learners who show little/no interest in their school work.
Q14	0.6558	0.0201	You as a teacher can do a lot to motivate learners to learn.
Q15	0.4393	0.4509	A teacher has control over a learner's belief in his/her own ability.
Q16	0.8181	-0.2801	Teachers influence learner participation in the classroom.
Q17	0.6857	0.5839	I believe that I am a capable teacher.
Q18	0.0950	0.8860	Other teachers in my department compliment me on my teaching abilities.
Q19	-0.0095	0.8539	There is a great deal of cooperative effort amongst teachers in my department.
Q20	0.0495	-0.7770	If a learner does not want to learn, teachers give up.
Q21	0.1206	0.8805	Teachers in my department share useful suggestions for teaching techniques to improve learner performance.
Q22	0.0624	0.7954	Teachers in this school believe that every child can learn.
Q23	-0.0884	0.8460	I believe teachers in my department are knowledgeable about how to engage learners effectively in learning.
Q24	0.4626	0.4719	I believe I am very capable of managing learner behaviour in the classroom.
Q25	-0.1807	0.7495	I believe teachers in my department are very capable of managing

			learner behaviour in the classroom.
Q26	0.8173	0.1698	I believe that I have the skills to deal with learner disciplinary problems.
Q27	-0.2959	-0.6446	Teachers in this school do not have the skills to deal with learner disciplinary problems.
Q28	0.7001	-0.0368	A teacher can do much to promote learning when there is the lack of support by parents and/or guardians.
Q29	0.8274	0.0194	A teacher can increase learners' memory of what they have been taught in previous lessons.
Q30	-0.2985	-0.5932	A teacher finds it practically difficult get learners to do their homework.
Q31	0.3996	-0.3175	A teacher can overcome the influence of adverse community conditions on learners' learning?
Q32	0.8556	0.0651	Teachers can influence learners to trust them.
Q33	-0.5269	0.0076	Some people seem born to fail while others seem born for success no matter what they do.
Q34	0.2907	-0.8141	Getting the job you want is mostly a matter of luck.
Q35	0.1742	-0.8141	Making money is primarily a matter of good fortune.
Q36	0.2737	-0.3303	Most people are capable of doing their jobs well if they make the effort.
Q37	0.0341	-0.7973	When it comes to obtaining a really good job, who you know is more important than what you know.
Q38	0.1105	0.7782	Promotions are given to employees who perform well on the job.
Q39	-0.2017	-0.1446	I feel that many people could be described as victims of circumstances beyond their control.
Q40	-0.2069	0.2770	There's not much use in worrying about things... what will be, will be.
Q41	-0.5036	-0.0307	Many times I feel that we might just as well make many of our decisions by flipping a coin.
Q42	0.0885	0.1358	It isn't wise to plan too far ahead because most of things turn out to be a matter of good or bad fortune anyhow.
Q43	-0.0562	-0.6400	Most people don't realize the extent to which their lives are controlled by accidental happenings.
Q44	-0.5303	0.1590	Many times I feel that I have little influence over the things that happen to me.
Q45	-0.5901	-0.3473	Sometimes I feel that I don't have enough control over the direction my life is taking.
Q46	-0.1892	-0.8034	It seems many times that the grades one gets in school are more dependent on the teacher's actions than on what the learner can really do.
Q47	-0.8566	-0.1625	Many of the unhappy things in people's lives are partly due to bad luck.
Q48	-0.6778	0.1334	People's misfortunes result from the mistakes they make.
Q49	0.5702	0.0076	Whether or not I get to be a leader depends mostly on my ability.
Q50	0.1429	-0.9264	When I get what I want, it's usually because I am lucky.
Q51	0.7490	-0.0576	When I make plans, I am almost certain to make them work.
Q52	0.7055	-0.0651	When I get what I want, it is usually because I worked hard for it.

Q53	0.8566	0.1625	My life is determined by my own actions.
Q54	0.7628	0.0322	I always feel in control of what I am doing.
Q55	0.4481	0.2538	Self-regulation of one's behaviour is always possible.
Q56	-0.3188	-0.2453	I frequently find that when certain things happen to me I cannot restrain my reaction.
Q57	-0.0303	-0.7748	Even if I try not to submit, I often find I cannot control myself from some of the enticements in life such as over-eating or drinking.
Q58	0.5276	0.2893	Little in this world controls me, I usually can do what I decide to do.
Q59	0.3230	0.2195	Generally speaking, my behaviour is not governed by others.
Q60	-0.7952	-0.0032	For the average guy getting a good job depends mainly on being in the right place at the right time.
Q61	0.7815	0.1036	What people get out of life is always a function of how much effort they put into it.
Q62	0.2735	0.5880	When I get a good job, it is always a direct result of my own ability and/or motivation.
Q63	-0.2069	0.4661	If I were to fail a course it would probably be because I lacked skill in that area.
Q64	0.5389	-0.6865	If I were to receive low marks it would cause me to question my academic ability.
Q65	0.2054	-0.7020	The most important ingredient in getting good grades is my academic ability.
Q66	-0.0995	-0.2641	The misfortunes and successes I have had were the direct result of my own behaviour.
Q67	-0.2435	0.3460	Some of the times that I have gotten a good grade in a course, it was due to the teacher's easy grading scheme.
Q68	0.1130	-0.1001	Marriage is largely a gamble for most people.
Q69	0.5291	-0.0825	Persistence and hard work usually lead to success.
Q70	-0.6786	-0.0332	If I do not succeed on a task, I tend to give up.
Q71	-0.1273	-0.7474	Some low grades I've received seem to me to reflect the fact that some teachers are just stingy with marks.
Q72	-0.5310	0.1888	Sometimes I get good grades only because the course material was easy to learn.
Q73	0.8426	0.0941	I can overcome all obstacles in the path of academic success if I work hard enough.
Q74	-0.6365	0.0985	Some of my good grades may simply reflect that these were easier courses than most.
Q75	0.4900	-0.1561	When I receive a poor grade, I usually feel that the main reason is that I haven't studied enough for that course.

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

(Rotation converged in 3 iterations).

Appendix I: Tables For Descriptive Statistics

Respondents' Gender (N=275)

Respondents' Gender				
	Frequency	Percent	Valid Percent	Cumulative Percent
Male	96	34.9	34.9	34.9
Female	179	65.1	65.1	100.0
Total	275	100.0	100.0	

Respondents' Population Group (N=275)

Respondents' Population Group				
	Frequency	Percent	Valid Percent	Cumulative Percent
Black	110	40.0	40.0	40.0
Coloured	2	.7	.7	40.7
White	163	59.3	59.3	100.0
Total	275	100.0	100.0	

Respondents' Age (N=275)

Respondents' Age				
	Frequency	Percent	Valid Percent	Cumulative Percent
20-25	22	8.0	8.0	8.0
26-35	63	22.9	22.9	30.9
36-45	85	30.9	30.9	61.8
46-56	74	26.9	26.9	88.7
55+	31	11.3	11.3	100.0
Total	275	100.0	100.0	

Respondents' Highest Qualification (N=275)

Respondents' Highest Qualification				
	Frequency	Percent	Valid Percent	Cumulative Percent
Matric	3	1.1	1.1	1.1
Diploma	69	25.1	25.1	26.2
Bachelor's Degree	135	49.1	49.1	75.3
Honours Degree	63	22.9	22.9	98.2
Masters Degree	4	1.5	1.5	99.6
PhD	1	.4	.4	100.0
Total	275	100.0	100.0	

Respondents' Teaching Experience (N=275)

Respondents' Teaching Experience				
	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 5 years	48	17.5	17.5	17.5
5 Years or more	227	82.5	82.5	100.0
Total	275	100.0	100.0	

Respondents' Teaching Qualification Verification (N=275)

Respondents' Teaching Qualification Verification				
	Frequency	Percent	Valid Percent	Cumulative Percent
Only Matric	5	1.8	1.8	1.8
Only Academic Qualification, no Teaching qualification	49	17.8	17.8	19.6
Teaching and Academic Qualification	221	80.4	80.4	100.0
Total	275	100.0	100.0	

Respondents' Subject Field Qualification (N=275)

Respondents' Subject Field Qualification				
	Frequency	Percent	Valid Percent	Cumulative Percent
Teaching subjects not qualified for	29	10.5	10.5	10.5
Teaching subjects qualified for	246	89.5	89.5	100.0
Total	275	100.0	100.0	

Respondents' Subject Field Discipline (N=275)

Respondents' Subject Field Discipline				
	Frequency	Percent	Valid Percent	Cumulative Percent
Humanities	149	54.2	54.2	54.2
Sciences	92	33.5	33.5	87.6
Both	34	12.4	12.4	100.0
Total	275	100.0	100.0	

Socio-economic Status of School Families (N=275)

Socio-economic Status of School Families				
	Frequency	Percent	Valid Percent	Cumulative Percent
Low	81	29.5	29.5	29.5
Middle	173	62.9	62.9	92.4
Upper	21	7.6	7.6	100.0
Total	275	100.0	100.0	

Average Class Size (N=275)

Average Class Size				
	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 20	26	9.5	9.5	9.5
20 - 29	93	33.8	33.8	43.3
30 - 39	111	40.4	40.4	83.6
40+	45	16.4	16.4	100.0
Total	275	100.0	100.0	

Appendix J: Tables For Practical Significance

Respondent's rating pertaining to TEACHER EFFICACY

	Strongly disagree		Disagree		Neutral		Agree		Strongly Agree	
	Count	%	Count	%	Count	%	Count	%	Count	%
Q 19	1	0.40	23	8.40	79	28.70	125	45.50	47	17.10
Q 20	1	0.40	17	6.20	64	23.30	152	55.30	41	14.90
Q 21	2	0.70	20	7.30	46	16.70	146	53.10	61	22.20
Q 30	4	1.50	17	6.20	71	25.80	138	50.20	45	16.40
Q 31	5	1.80	15	5.50	63	22.90	132	48.00	60	21.80
Q 32	8	2.90	8	2.90	66	24.00	136	49.50	57	20.70
Q 33	4	0.10	29	10.50	69	25.10	113	41.10	60	21.80
Q 34	2	0.70	11	4.00	49	17.80	161	58.50	52	18.90
Q 35	1	0.40	21	7.60	56	20.40	152	55.30	45	16.40
Total count	28		161		563		1 255		468	
Average	3		18		63		139		52	
%	1		7		23		51		19	
			8 %		23 %				70 %	

Respondent's rating pertaining to LOCUS OF CONTROL

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	Count	%	Count	%	Count	%	Count	%	Count	%
Q 22	4	1.50	26	9.50	45	16.40	134	48.70	66	24.00
Q 23	0	0.00	11	4.00	66	24.00	154	56.00	44	16.00
Q 25	1	0.40	4	1.50	16	5.80	125	45.50	129	46.90
Q 26	1	0.40	10	3.60	20	7.30%	121	44.00	123	44.70
Q 27	0	0.00	7	2.50	26	9.50	111	40.40	131	47.60
Q 28	0	0.00	7	2.50	24	8.70	129	46.90	115	41.80
Q 29	0	0.00	0	0.00	9	3.30	118	42.90	148	53.80
Q 36	0	0.00	3	1.10	50	18.20	143	52.00	79	28.70
Q 38	2	0.70	8	2.90	60	21.80	164	59.60	41	14.90
Q 39	1	0.40	1	0.40	19	6.90	145	52.70	109	39.60
Q 42	1	0.40	3	1.10	39	14.20	169	61.50	63	22.90
Q 43	0	0.00	0	0.00	21	7.60	146	53.10	108	39.30
Q 44	2	0.70	10	3.60	21	7.60	130	47.30	112	40.70
Q 45	1	0.40	9	3.30	57	20.70	138	50.20	70	25.50
Q 46	0	0.00	7	2.50	36	13.10	127	46.20	105	38.20
Q 47	2	0.70	11	4.00	44	16.00	137	49.80	81	29.50
Q 48	1	0.40	8	2.90	35	12.70	118	42.90	113	41.10
Total count	16		125		588		2 309		1 637	
Average	1		7		35		136		96	
%	0		3		13		49		35	
			3 %		13 %				84 %	

Respondent's present feelings about teaching as a career

GENDER

			Very Negative	Negative	Neutral	Positive	Very Positive	
	Male	Count	0	10	22	49	15	96
		% within Respondents' Gender	0.00%	10.40%	22.90%	51.00%	15.60%	100.00%
	Female	Count	6	16	44	80	33	179
		% within Respondents' Gender	3.40%	8.90%	24.60%	44.70%	18.40%	100.00%
Total	Count		6	26	66	129	48	275
	% within Respondents' Gender		2.20%	9.50%	24.00%	46.90%	17.50%	100.00%
					35.70%		64.40%	

TEACHING EXPERIENCE

			Very Negative	Negative	Neutral	Positive	Very Positive	
	Less than 5 years	Count	1	5	8	24	10	48
		% within Respondents' Teaching Experience	2.10%	10.40%	16.70%	50.00%	20.80%	100.00%
	5 Years or more	Count	5	21	58	105	38	227
		% within Respondents' Teaching Experience	2.20%	9.30%	25.60%	46.30%	16.70%	100.00%
Total	Count		6	26	66	129	48	275
	% within Respondents' Teaching Experience		2.20%	9.50%	24.00%	46.90%	17.50%	100.00%

AGE

		Very Negative	Negative	Neutral	Positive	Very Positive	
20-25	Count	1	2	4	10	5	22
	% within Respondents' Age	4.50%	9.10%	18.20%	45.50%	22.70%	100.00%
26-35	Count	1	7	19	26	10	63
	% within Respondents' Age	1.60%	11.10%	30.20%	41.30%	15.90%	100.00%
36-45	Count	1	11	16	46	11	85
	% within Respondents' Age	1.20%	12.90%	18.80%	54.10%	12.90%	100.00%
46-56	Count	3	4	18	33	16	74
	% within Respondents' Age	4.10%	5.40%	24.30%	44.60%	21.60%	100.00%
55+	Count	0	2	9	14	6	31
	% within Respondents' Age	0.00%	6.50%	29.00%	45.20%	19.40%	100.00%
Total	Count	6	26	66	129	48	275
	% within Respondents' Age	2.20%	9.50%	24.00%	46.90%	17.50%	100.00%

TEACHING QUALIFICATION VERIFICATION

			Very Negative	Negative	Neutral	Positive	Very Positive	
	Only Matric	Count	0	0	3	0	2	5
		% within Respondents' Teaching Qualification Verification	0.00%	0.00%	60.00%	0.00%	40.00%	100.00%
	Only Academic Qualification, no Teaching qualification	Count	1	4	11	23	10	49
		% within Respondents' Teaching Qualification Verification	2.00%	8.20%	22.40%	46.90%	20.40%	100.00%
	Teaching and Academic Qualification	Count	5	22	52	106	36	221
		% within Respondents' Teaching Qualification Verification	2.30%	10.00%	23.50%	48.00%	16.30%	100.00%
Total		Count	6	26	66	129	48	275
		% within Respondents' Teaching Qualification Verification	2.20%	9.50%	24.00%	46.90%	17.50%	100.00%

Respondent's rating of the extend of support experienced from parents

GENDER

			No support	Little support	Good	Excellent	
Male	Count		10	53	31	2	96
	% within Respondents' Gender		10.40%	55.20%	32.30%	2.10%	100.00%
Female	Count		19	98	53	9	179
	% within Respondents' Gender		10.60%	54.70%	29.60%	5.00%	100.00%
Total	Count		29	151	84	11	275
	% within Respondents' Gender		10.50%	54.90%	30.50%	4.00%	100.00%
				65.40%		34.50%	

AGE

			No support	Little support	Good	Excellent	
20-25	Count		5	10	6	1	22
	% within Respondents' Age		22.70%	45.50%	27.30%	4.50%	100.00%
26-35	Count		7	39	16	1	63
	% within Respondents' Age		11.10%	61.90%	25.40%	1.60%	100.00%
36-45	Count		7	52	24	2	85
	% within Respondents' Age		8.20%	61.20%	28.20%	2.40%	100.00%
46-56	Count		6	38	27	3	74
	% within Respondents' Age		8.10%	51.40%	36.50%	4.10%	100.00%
55+	Count		4	12	11	4	31
	% within Respondents' Age		12.90%	38.70%	35.50%	12.90%	100.00%
Total	Count		29	151	84	11	275
	% within Respondents' Age		10.50%	54.90%	30.50%	4.00%	100.00%

TEACHING EXPERIENCE

			No support	Little support	Good	Excellent	
Less than 5 years	Count		7	26	14	1	48
	% within Respondents' Teaching Experience		14.60%	54.20%	29.20%	2.10%	100.00%
5 Years or more	Count		22	125	70	10	227
	% within Respondents' Teaching Experience		9.70%	55.10%	30.80%	4.40%	100.00%
Total	Count		29	151	84	11	275
	% within Respondents' Teaching Experience		10.50%	54.90%	30.50%	4.00%	100.00%

TEACHING QUALIFICATION VERIFICATION

			No support	Little support	Good	Excellent	
Teaching Qualification Verification	Only Matric	Count	0	3	2	0	5
		% within Respondents 'Teaching Qualification Verification	0.00%	60.00%	40.00%	0.00%	100.00%
	Only Academic Qualification, no Teaching qualification	Count	7	23	18	1	49
		% within Respondents 'Teaching Qualification Verification	14.30%	46.90%	36.70%	2.00%	100.00%
	Teaching and Academic Qualification	Count	22	125	64	10	221
		% within Respondents 'Teaching Qualification Verification	10.00%	56.60%	29.00%	4.50%	100.00%
Total	Count	29	151	84	11	275	
	% within Respondents 'Teaching Qualification Verification	10.50%	54.90%	30.50%	4.00%	100.00%	

Respondent's perception regarding leaving the teaching profession

GENDER

			Yes	No	
Male	Count		52	44	96
	% within Respondents' Gender		54.20%	45.80%	100.00%
Female	Count		99	80	179
	% within Respondents' Gender		55.30%	44.70%	100.00%
Total	Count		151	124	275
	% within Respondents' Gender		54.90%	45.10%	100.00%

AGE

			Yes	No	
Respondents' Age	20-25	Count	11	11	22
		% within Respondents' Age	50.00%	50.00%	100.00%
	26-35	Count	41	22	63
		% within Respondents' Age	65.10%	34.90%	100.00%
	36-45	Count	52	33	85
		% within Respondents' Age	61.20%	38.80%	100.00%
	46-56	Count	40	34	74
		% within Respondents' Age	54.10%	45.90%	100.00%
	55+	Count	7	24	31
		% within Respondents' Age	22.60%	77.40%	100.00%
	Total	Count	151	124	275
		% within Respondents' Age	54.90%	45.10%	100.00%

HIGHEST QUALIFICATION

			Yes	No	
Respondents' Highest Qualification	Matric	Count	2	1	3
		% within Respondents' Highest Qualification	66.70%	33.30%	100.00%
	Diploma	Count	38	31	69
		% within Respondents' Highest Qualification	55.10%	44.90%	100.00%
	Bachelor's Degree	Count	80	55	135
		% within Respondents' Highest Qualification	59.30%	40.70%	100.00%
	Honours Degree	Count	30	33	63
		% within Respondents' Highest Qualification	47.60%	52.40%	100.00%
	Masters Degree	Count	1	3	4
		% within Respondents' Highest Qualification	25.00%	75.00%	100.00%
PhD	Count	0	1	1	
	% within Respondents' Highest Qualification	0.00%	100.00%	100.00%	
Total		Count	151	124	275
		% within Respondents' Highest Qualification	54.90%	45.10%	100.00%

TEACHING EXPERIENCE

			Yes	No	
Respondents' Teaching Experience	Less than 5 years	Count	25	23	48
		% within Respondents' Teaching Experience	52.10%	47.90%	100.00%
	5 Years or more	Count	126	101	227
		% within Respondents' Teaching Experience	55.50%	44.50%	100.00%
Total		Count	151	124	275
		% within Respondents' Teaching Experience	54.90%	45.10%	100.00%

TEACHING QUALIFICATION VERIFICATION

			Yes	No	
Respondents' Teaching Qualification Verification	Only Matric	Count	3	2	5
		% within Respondents' Teaching Qualification Verification	60.00%	40.00%	100.00%
	Only Academic Qualification, no Teaching qualification	Count	26	23	49
		% within Respondents' Teaching Qualification Verification	53.10%	46.90%	100.00%
	Teaching and Academic Qualification	Count	122	99	221
		% within Respondents' Teaching Qualification Verification	55.20%	44.80%	100.00%
	Total	Count	151	124	275
		% within Respondents' Teaching Qualification Verification	54.90%	45.10%	100.00%

Appendix K: Main Themes and Categories

THEME 1	EFFECTIVENESS OF FET TEACHER TRAINING PROGRAMMES
Category 1	Fundamental vs. Progressive Educational perspective
Category 2	Weaknesses in the Academic environment

THEME 2	TEACHER BEHAVIOURAL QUALITIES
Category 1	The approach and the role of the Teacher
Category 2	Qualities of the Teacher

THEME 3	EXTRANEIOUS VARIABLES IMPINGING ON TEACHER EFFICACY AND LOC
Category 1	Support Programmes, Administration and Curriculum Design
Category 2	Leadership and Political Justification
Category 3	Facilities
Category 4	Socio-economic status of learners and parental involvement

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