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ABSTRACT

by

Pardon Mwansa

Chair: Janet Ledesma

ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

Andrews University

School of Education

Title: SCHOOL PRINCIPAL'S LEADERSHIP STYLE AND TEACHER'S SELF-EFFICACY IN HIGH- AND LOW-ACHIEVING SCHOOLS IN CHIKANKATA, ZAMBIA.

Name of researcher: Pardon Mwansa

Name and degree of faculty chair: Janet Ledesma, Ph.D.

Date completed: October, 2019

Problem and Purpose

Much research has been done in past years on the topic of student achievement, with most of those studies focusing on factors that contribute to student achievement. Little, or no research has been done, especially in the country of Zambia, that has focused on the relationship between leadership style, teacher self-efficacy, and the extent to which these constructs impact student achievement.

This study explored the school principals' leadership style, teacher self-efficacy, and the extent to which these factors contribute to student achievement in Chikankata District, Zambia. The Ministry of Education in Zambia and other educators, especially

those in training institutions, may use the results of this study to improve on school principals' training and selection of school principals to maximize the impact of leadership style and teachers' self-efficacy in student achievement.

Method

A quantitative and non-experimental design was utilized to collect data through a survey questionnaire from 18 school principals and 211 teachers from Chikankata District. The Multifactor Leadership Questionnaire (MLQ) and the Teachers' Self-efficacy Belief (TEBS) instruments were used to collect data. SPSS was used to analyze data. Bivariate descriptive, independent samples *t*-tests, canonical correlation, and descriptive discriminant function analysis were used to determine the relationship between leadership style, teacher self-efficacy, and their impact on student achievement.

Findings

The Chikankata District study showed that the school principals' leadership style, particularly transformational and transactional, plays an essential role in influencing student achievement. Canonical correlation between teacher ratings of principal leadership styles and school performance suggests that about 9% of the variation in school performance may be accounted for by leadership styles. High-achieving schools were more likely to have high transformational leadership styles and lower transactional leadership styles, suggesting that schools where principals use higher levels of transformational leadership and lower levels of transactional leadership tend to be associated with high-achieving schools.

This study, however, could not statistically establish that teacher self-efficacy played a role in the student achievement of the two sets of schools. Canonical correlation for function 1 suggested the perceived leadership styles explain about approximately 9% of the variance in teacher self-efficacy, meaning that about 9% of self-efficacy could be explained by leadership style. Not all three leadership styles explained or accounted for the 9% of self-efficacy, but rather principals with transformational and transactional leadership styles were more likely to influence teacher self-efficacy in enhancing student learning.

Conclusion and Recommendations

The findings of the Chikankata District study suggest that those elected to school leadership as principals would enhance their ability to influence student performance if they used transformational leadership style more and lower transactional leadership. The use of the same leadership style would increase the influence on teacher self-efficacy. The Higher Education Authority and training institutions could consider including in their educational curriculum for teachers training them in transformational and transactional leadership style. District Education Board Secretaries and other personnel responsible for on-job-training programs for school leaders could include training those leaders in transformational and transactional leadership styles. Implementing these recommendations has the likelihood of increasing student achievement and teacher self-efficacy.

Andrews University

School of Education

SCHOOL PRINCIPAL'S LEADERSHIP STYLE AND TEACHER'S
SELF-EFFICACY IN HIGH AND LOW ACHIEVING
SCHOOLS IN CHIKANKATA, ZAMBIA

A Dissertation

Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

By

Pardon Mwansa

October 2019

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Pardon K. Mwansa

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TABLE OF CONTENTS

LIST OF TABLES	vi
LIST OF FIGURES	vii
ACKNOWLEDGMENTS	viii

Chapter

1. INTRODUCTION	1
General Introduction	1
Context of the Study	3
Statement of the Problem.....	6
Purpose of the Study	7
Research Questions	7
Conceptual Framework	8
Significance.....	13
Delimitations	14
Definition of Terms.....	14
Methodology	16
Summary	17
2. LITERATURE REVIEW	19
Introduction.....	19
Student Achievement.....	19
Student Achievement in General	19
Home and School Environment Factors and Student Achievement	24
Teacher and Student Achievement	25
School Leadership and Student Achievement	27
Types of School Leadership Style	27
Instructional Leadership.....	27
Transformational Leadership	28
Transformational and Instructional Leadership Compared.....	30
Transactional Leadership	31
Passive-Avoidance Leadership Style	32

Transformational and Transactional Leadership Compared	33
School Leadership and Student Achievement	35
Teacher Self-Efficacy and Student Achievement	39
History of Studies on Teacher Efficacy	39
Definitions of Self-Efficacy	40
Teacher Self-Efficacy and Collective Teacher Efficacy	41
Measuring Teacher Self-Efficacy	41
School Principal's Leadership and Teacher Efficacy	43
Teacher Efficacy and Student Achievement	45
School Leadership, Teacher Self-Efficacy, and Student Achievement	48
Summary	49
3. METHODOLOGY	51
Introduction	51
Sample	51
Research Design	53
Data Collection Procedures	54
Instruments	55
MLQ (Form 5X) Instrument	55
Conceptual Definition	55
Instrumental and Operational Definition	57
TEBS-Self Instrument	59
Conceptual Definition	59
Instrumental and Operational Definition	60
Data Collection Procedure	62
Permissions	62
Collecting Data	63
Data Analysis	63
Summary	65
4. RESULTS	67
Introduction	67
Descriptions of Participants	70
Results	75
Leadership Styles of School Principals in Chikankata District	75
Principal Self-Rating of Their Leadership Styles	75
Teacher Ratings of Principal Leadership Styles	76
Differences in Leadership Styles Rating Between School Principals and Teachers	79
Differences in Ratings of School Principals in Transformational Leadership Style	79

Differences in Ratings of School Principals in Transactional Leadership Style	80
Differences in ratings of school principals in Passive-Avoidance Leadership Style	82
Level of Self-efficacy Among Teachers in Chikankata.....	83
Leadership Styles and Teacher Self-Efficacy	85
Leadership Styles and School Performance.....	88
Summary	91
5. SUMMARY, DISCUSSIONS, AND RECOMMENDATIONS.....	94
Introduction.....	94
Research Questions	94
Research Design and Sampling	95
Conceptual Framework.....	96
Summary of Literature Review.....	98
Discussion.....	104
Conclusion	116
Limitations	116
Recommendations for Practice and Policy	117
Future Research	119
APPENDICES	119
Appendix A – Top Ten Schools.....	122
Appendix B – Low Ten Schools	123
Appendix C – Permission Letters	124
Appendix D – School Principal Demographic Information Survey	128
Appendix E – School Teacher Demographic Information Survey	129
Appendix F - School Teacher Demographic Information Survey	131
Appendix G – NIH Certificate	133
REFERENCE LIST	134
VITA	144

LIST OF TABLES

1.	Summary of MLQ Descriptions and Item Numbers	58
2.	Summary of Survey Components and Item Numbers	61
3.	High-Achieving Schools in Chikankata Education District Based on the Records of 2013, 2014, and 2015	69
4.	Low-achieving Schools in Chikankata Education District Based on the Records of 2013, 2014, and 2015	71
5.	Description of Participants (Teachers).....	73
6.	Description of Participants (Principals)	74
7.	Means and Standard Deviations of Leadership Styles by School Type (Principal Self-Ratings)	76
8.	Means and Standard Deviations of Leadership Styles by School Type (Teachers Ratings)	78
9.	Independent Samples t - Test Results Comparing Principal and Teacher Ratings of Transformational Leadership Styles and its Subscales	81
10.	Independent Samples t - Test Results Comparing Principal and Teacher Ratings of Transactional and Passive-Avoidance Leadership Styles	82
11.	Means and Standard Deviations of Teacher Self-Efficacy by School Type	83
12.	Means, Standard Deviation, and Bivariate Correlation (n = 205)	86
13.	Canonical Correlation	87
14.	Canonical Correlation Analysis Result	88
15.	Group Descriptive Statistics (Principal Self-Rating)	89
16.	Group Descriptive Statistics (Teacher Ratings of Leadership Styles)	90

LIST OF TABLES—Continued

17.	Discriminant Function Analysis Result	91
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LIST OF FIGURES

1.	Conceptual Framework.....	10
2.	Questionnaire Scale	75

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CHAPTER 1

INTRODUCTION

General Introduction

Zambia takes student achievement in education seriously as a key to the future development of the nation. As a result, Zambia, like other nations in the world, continues to explore factors that enhance student's academic achievement. Student achievement at primary and secondary levels of education has become a significant concern for the government (ECZ, 2013). In Zambia, it is general knowledge that students perform poorly, especially in sciences, mathematics, and English. Consequently, the government seeks knowledge to remedy the situation by understanding the causes of poor achievement and strategies that could enhance student achievement.

Globally, many studies have been done on student achievement. Most of these studies have focused on the influences of student, family, household, and school characteristics on student academic achievement. Studies around the world have deduced that student attributes such as gender, social background, and belief about their future play various functions in achievement gaps and enrollment disparities. (Andrews & Soder, 1987; Cotton, 2003; Filmer, 2005; Uline & Tschannen-Moran, 2008). As a result, a good number of educators agree that to address the issue of student achievement; studies should focus on students' social, emotional, and material needs in order to support

their academic goals (Hopson & Lee, 2011; Piscatelli & Lee, 2011; Suskavcevic & Blake, 2004).

In addition to student characteristics, other factors affect student achievement. School climate is one such factor. According to the National School Climate Council (NSCC), “School climate refers to the quality and character of school life. It is based on patterns of school life experiences and reflects norms, goals, values, interpersonal relationships, teaching, learning and leadership practices, and organizational structures” (NSCC, 2007, p. 5). Teachers’ job satisfaction is affected by several school climate factors, such as “social-economic status, parent involvement, attendance, school size, teaching-learning resources, and interpersonal relationships,” and therefore, teachers’ attitudes can also affect student achievement (Bergren, 2014).

Lezotte (2001) has conducted research regarding the correlates that make schools effective. He has described the following seven effective characteristic headings as: (a) instructional leadership, (b) clear and focused mission, (c) safe and orderly environment, (d) climate of high expectations, (e) frequent monitoring of student progress, (f) positive home-school relations, and (g) opportunity to learn and student time on task (, pp. 4-7).

Not all studies agree in their conclusions about factors that contribute to student achievement. Findings are inconsistent across countries (Bowers & Urick, 2011), and there is a long-standing debate about what characteristics have the most substantial effects on academic performance, whether student, family, or school. Researchers have also tried to find out if, or to what degree either school or student factors are predictive of academic excellence. investigated whether academic achievement is more strongly predicted by student or school factors (Baker, Goesling, & LeTendre, 2002).

One of the factors identified in past studies that contribute to student achievement is the school principal's leadership style (Ross & Gray, 2006). In studies done by Edmonds (1982) and Lezotte (2001), many factors were identified as associated with student achievement, and one of those is leadership. Their findings revealed that effective schools have the following characteristics: (a) effective instructional leaders who attend to the quality of instruction, (b) hold high expectations for all students, (c) clearly express and commit themselves to the mission of the school, (d) promote a positive school climate that reinforces optimum student success, (e) supervise and report student growth and amend instruction accordingly, and (f) cherish and cultivate strong affirmative partnerships between the school and home. Other researchers have examined the effects of leadership styles on student achievement (Rigell, 1999).

In another study, differences in leadership structure and climate in schools were studied to see if these improved students test scores. This study showed that school principals who led effective schools were those who (a) created a safe and well-ordered learning environment, (b) established well-defined instructional objectives, (c) expected high performance from teachers and students through increased time on responsibilities, and (d) fostered a positive home-school rapport. Based on these studies, *Instructional Leadership* style emerged as a leading style in linking student achievement with leadership style (Bezzina, 2008).

Context of the Study

In Zambia, the question of understanding what causes poor student achievement and who is responsible continues to be explored with teachers getting their share of the blame and school principals being held accountable. Since its independence in 1964, the

Ministry of Education in Zambia has assumed three key education policy reforms in its pursuit to advance the quality of education delivered to learners at different levels; the Education Act of 1966, the Educational Reform of 1977 and the Education Act of 2011 (Hamusunga, 2012, p. 2).

These three Acts were aimed at addressing different aspects of education. The Education Act of 1966 was the first post-independent government law on education, intended to renovate the colonial education system in order to reinforce the aspirations of an independent Zambia. English was introduced then as a language of instruction from the first grade to the university level. The Educational Reform of 1977 aimed at making education an instrument for personal and national development with its primary emphasis on introducing the Basic and High School education system, with a focus on skills development. The latest of the Acts, The Education Act of 2011, which named the Ministry of Education as the custodian of quality education provision, was driven by a need to ensure that education development “principles of Liberalization, Decentralization, Equality, Equity, Partnership, and Accountability” (Zambia, 1996).

Academic performance of pupils in the Junior Secondary School Leaving Examinations (JSSLE) has attracted much public attention of late in the Zambian education system. Every year between January and February, when the Examinations Council of Zambia (ECZ, 2013) release results, educational stakeholders raise many concerns about the poor academic performance of pupils, especially in government schools. The Examination Council of Zambia (ECZ, 2013) produces detailed results and analysis papers that indicated poor academic performance of grade nine pupils, especially in rural schools of Zambia. This is why the nation needs answers to determine what

factors contribute to student achievement, and such knowledge will give the Ministry of Education a basis for action to change.

The *Zambian National Policy on Education* document describes school principals and their deputies as a “critically important group” of educational leaders who need “purposed-designated training programs” to keep their leadership skills in order to provide quality leadership that will encourage higher academic achievement in schools.

School heads and their deputies form a special group that stands [sic] in need of purpose-designed training programs. Before the year 2000, all heads of lower and middle basic schools should have participated in a management-training program mounted by the Ministry. These training activities need to be extended to include deputy heads and the heads of high schools and their deputies. They also need to become a permanent feature of the education system, to cater for [sic] newly appointed personnel, to keep school heads abreast of changes and innovations, to extend their capacities for educational management and supervision, and to sharpen the organizational and leadership skills of this critically important group. (Curriculum Development Center, 2012, pp. 114)

However, even with this claim, there is no evidence from studies showing that school heads and their deputies do indeed contribute to student achievement. In the same document, classroom teachers are described as crucial persons in determining the success of the learners.

The quality and effectiveness of an education system depend heavily on the quality of its teachers. They are the key person [sic] in determining success in meeting the system’s goals. The educational and personal well-being of children in schools hinges crucially on their competence, commitment and resourcefulness. (Curriculum Development Center, 2012, p. 104)

This assertion by the Ministry of Education places teachers as essential persons in determining the success of students. However, the researcher was not aware of any study that had provided evidence to back up this claim.

Statement of the Problem

The problem on which this study is anchored is the lack of knowledge in the areas of school principals' leadership style, teacher self-efficacy, and the extent to which these factors contribute to student achievement. Among the issues cited as contributing to student achievement are leadership style and teacher self-efficacy. But a minimum number of studies have been done in the areas of determining the extent to which leadership style and teacher self-efficacy are related, and whether or not they could serve as determinants of student achievement.

Past studies have identified leadership style and teacher self-efficacy as contributing factors to student achievement. Other studies deny that assertion. Two major studies, one by Hipp and Bredeson (1995) and the other by Nir and Kranot (2006) have contradictions on whether school leadership style has a relationship on teacher efficacy that could lead to student achievement, one claiming there is while the other denies the claim (Hipp & Bredeson, 1995; Nir & Kranot, 2006). As a result, other researchers on this topic have indicated a need for further studies that investigate the relationship between school leadership style and teacher's self-efficacy, and the extent to which these impact student achievement (Walker & Slear, 2011).

In 1995, a study was published that examined the relationship between school teachers' self-efficacy and school principals' leadership style. The study identified aspects of transformational Leadership style and personal teacher efficacy, leading them to conclude that school principals who would use the transformational leadership style could promote personal teacher efficacy and high teacher efficacy would result in outstanding student achievement (Hipp & Bredeson, 1995).

About eleven years later, Nir and Kranot (2006), made a study that challenged the generalization of the findings that Hipp and Bredeson (1995) had proposed, stating that there were legitimate concerns in that study enough to raise questions on their conclusions. Among those concerns was the fact that Hipp and Bredeson's study used a relatively small sample ($n = 10$) and that the investigation had focused on only one leadership style (transformational leadership). Additionally, Nir and Kranot (2006) claimed that Hipp and Bredeson's (1995) research design did not provide controls for role variables that previous studies had identified as correlated with personal teacher self-efficacy, such as role satisfaction, autonomy, stress, and conflict. It is, therefore, important that further studies be done to explore more about this topic.

The lack of knowledge on the contribution of leadership style and teacher's self-efficacy to student achievement begged for a study like this one that aimed at exploring the relationship between leadership style and teacher efficacy, as well as the extent to which these have an impact on student achievement.

Purpose of the Study

The purpose of this study was to examine the school principals' leadership style, teacher efficacy, and the extent to which these two constructs are related in high- and low-achieving schools in Chikankata District, Zambia.

Research Questions

In an attempt to examine school principals' leadership style, teacher efficacy, and the extent to which these two major constructs are related in low- and high-achieving schools in Chikankata District, Zambia, this study focused on seeking evidence to the following questions:

1. What are the principals' leadership styles in the schools in Chikankata District, Zambia?
2. Are there differences in the way the school principals rate themselves and the way the teachers rate their school principals with regards to the style of leadership?
3. What is the level of self-efficacy among teachers in Chikankata District, Zambia?
4. To what extent is teacher self-efficacy related to teachers' ratings of principal leadership styles in Chikankata District, Zambia?
5. To what extent do leadership styles discriminate between high- and low-achieving schools in Chikankata District, Zambia?

In this investigation, 19 schools were studied, 10 of which were high-achieving schools, and 9 were low-achieving schools. The findings have helped provide evidence to the question of the role of leadership style and teacher self-efficacy with regards to student achievement. Additionally, this study, being the first one done in Zambia on this topic, has helped generalize findings beyond the walls of the western world where previous studies have been done on the same subject.

Conceptual Framework

There are three essential constructs in this study: School leadership style, teacher self-efficacy, and student achievement. Student achievement was used as a dependent variable in the study of the other two constructs. Does student achievement depend on either leadership style and teacher self-efficacy or both, and if so, to what extent?

This conceptual framework assumes that there are individual leadership styles that foster or enhance efficacy in employees, and in this instance, teachers. Some leadership styles enhance self-efficacy maximally, while others minimally. When a leadership style

enhances self-efficacy in a teacher, such a teacher may then be able to perform their given tasks in a manner that could result in advancing students' achievement.

Ross and Gray (2006) argued that while there are many leadership styles in schools, research has shown that transformational leadership style appears to have the most direct influence on teacher efficacy and an immediate effect on student achievement. Additionally, teachers with high efficacy tend to create successful learning experiences for their students and foster high efficacy beliefs among students in their classrooms, while a teacher with low efficacy beliefs fails to nurture the development of students' confidence in their capabilities (Bandura, Freeman, & Lightsey, 1997, p. 242)

As shown in Figure 1, the leadership styles (transformational, transactional, or passive-avoidance), when practiced, will affect the teacher's self-efficacy so that it is high, moderate, or low. Transformational leadership fosters the highest possibility for a teacher's self-efficacy, while passive-avoidance brings the lowest. When a teacher has high self-efficacy, their teaching experience may promote high student achievement. Functions of transformational leadership are clustered in three areas: (a) Mission focused (fostering a broadly shared vision for the school, developing consensus about the school objectives and priorities), (b) performance-centered (maintaining high performance expectations, delivering individualized support, supplying intellectual stimulation), and (c) culture centered (demonstrating organizational values, reinforcing productive school culture, building cooperative cultures, and designing associations for involvement in school decisions) (Leithwood, & Jantzi, 1990; Leithwood, Jantzi, & Fernandez, 1994; Leithwood, Tomlinson, & Genge, 1996).

Figure 1. Conceptual Framework

Oriented by demands, the principal emphasis in transactional leadership is external satisfaction against demands (Kim & Shim, 2003). Howell and Avolio (1993) identify three dimensions of transactional leadership: (a) contingent reward, (b) management by exceptions-active, and (c) management by exceptions-passive. A *Contingent Reward* is the extent to which the leader sets up productive transactions or exchanges with a follower, by clarifying expectations and instituting rewards for achieving those expectations. Management by Exception-*Active* monitors followers' behavior, anticipates problems, and takes corrective actions before the conduct creates serious difficulties. Management by Exception-*Passive* waits until the behavior has created problems before acting.

Passive-Avoidance leadership style in some literature is referred to as Laissez-Faire, which avoids getting involved when critical issues arise. This leadership style systematically avoids responding to; situations and problems, specifying agreements, clarifying expectations, or providing goals and standards to be achieved by followers (Waters, Marzano, & McNulty, 2003). This style of leadership fails to intervene or take action until problems become critical. Leaders using this leadership style will often leave the issue unresolved until it has become chronic (Avolio, Bass, & Zhu, 2004).

With regard to self-efficacy, this study was based on constructs drawn from Bandura, Freeman, & Lightsey's theory on self-efficacy (1997). Bandura et al. defined *self-efficacy* as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3). Research shows that a teacher who displays high self-efficacy, is better organized, is inclined to try new ideas to meet students' needs, is less critical of students wherever they make mistakes, is more positive

about teaching, and is more likely to implement positive classroom management strategies (Henson, 2001; Pinkston-Miles, 2003; Scharlach, 2008). Other studies have linked teacher efficacy to student outcomes, showing that when a student has been taught by a teacher with a high score on self-efficacy, students performed better on standardized exams than their peers who were taught by a teacher with lower efficacy scores (Henson, 2001; Lin & Tsai, 1999; Muijs & Reynolds, 2002).

Bandura's theory of self-efficacy further describes four sources of self-efficacy. The four are identified as enactive mastery experience, vicarious experience, verbal or social persuasion, and the interpretation of affective state (Bandura et al., 1997, p. 79).

Out of the four proposed by Bandura, *mastery experience* denotes the most influential source of self-efficacy belief-shaping information (Bandura, 1986; Maddux, 1995). Success in doing something builds a robust belief in one's personal efficacy. After individuals become convinced they have the skills to succeed, they persist through adversity and quickly recover from setbacks (Bandura et al., 1997, p. 80).

"Vicarious experience refers to modeling and serves as another valuable tool for promoting a sense of self-efficacy. People appraise their capabilities in relation to the attainments of others. People often compare themselves to particular associates in similar situations" (Bandura et al., 1997, pp. 86, 87).

The third source of self-efficacy belief-shaping information is verbal or social persuasion. Verbal or social persuasion refers to the impact that can be made on someone when a person they look up to expresses faith in their capabilities to accomplish an important task (Bandura et al., 1997, p. 101). Verbal or social persuasion occurs when leaders successfully convince organizational members of their united capabilities and

skills. A school principal might persuade a teacher of their ability to help students acquire essential or valuable content. Over time and with consistent application, social persuasion can nurture an organizational culture that promotes collaboration and innovation, thereby increasing a shared sense of worth (Bandura et al., 1997, pp. 101, 102). Collective efficacy refers to the belief that the faculty as a group can achieve the individual and corporate actions necessary to educate students successfully (Goddard, 2001, p. 467).

Affective state, which is the fourth source of belief-shaping information about self-efficacy, refers to how people judge “their capabilities . . . on somatic information conveyed by physiological and emotional states” (Bandura et al., 1997, p. 106).

Significance

Without evidence-based knowledge on the topic regarding the extent to which school principals and teacher self-efficacy affect student achievement, the Ministry of Education in Zambia would not have a strong basis upon which to address the issue of student achievement, especially as it relates to characteristics of school principals and teachers who could enhance student achievement. Secondly, training institutions would lack knowledge that helps in identifying areas that need to be taught in leadership development for successful school principals. Through this study, experience has been gained in understanding the association between school principals’ leadership style, teacher efficacy, and the magnitude to which these influence student achievement. This study has helped provide that knowledge.

Delimitations

This study was delimited to the nineteen schools identified in this study, and therefore the other 41 schools were not a part of this study. The study is also constrained to the twenty identified high- and low-achieving schools within Chikankata District.

Definition of Terms

The following terms used in this study are defined as follows:

School Leadership Style: In describing leadership style, the researcher is referring to three methods, namely transformational, transactional, and passive-avoidance. Leadership style is the way a leader provides direction, instigates plans, and inspires teachers and staff to accomplish a given task in a school (Hallinger, 2003).

Teacher Self-Efficacy Beliefs: A teachers' situation-specific beliefs in their ability to perform specific teaching-related tasks at specified levels of quality (Dellinger, 2001).

Teacher Self-Efficacy: In this study, teacher self-efficacy and teacher efficacy are treated as one extension in understanding. Dellinger argues that "Teacher Efficacy is, therefore, a teachers' belief in his or her ability to affect student performance academically" (2001, p. 37). Bandura et al. (1997) define teacher self-efficacy as a teacher's belief in their capability to affect student performance. According to Bandura, "Perceived self-efficacy refers to beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3).

Student Achievement: For purposes of this study, student achievement in the nineteen schools was defined as the academic excellence of students based on their performance at the national exams of grades 7, 9, and 12 in Zambia. In this context, student high-achievement in the ten schools was defined as those schools whose students

scored above 50% on 2013, 2014, and 2015 national examinations. Those schools that achieved below 40% were described as low-achievement.

Transformational Leadership: In a school setting, transformational leadership is associated with three practices:

1. helping staff establish and be aware of the shared vision for the school;
2. building the capacity of faculty by encouraging them in decision-making activity; and
3. changing the organization to strengthen school culture and collaboration (Leithwood, Louis, Anderson, & Wahlstrom, 2004).

Transactional Leadership: This leadership style defines expectations and promotes performance to achieve those expectations. It rewards and recognizes individuals when goals are achieved. On the other hand, if those expectations or goals are not reached, individuals are punished for not following those standards. It monitors closely nonconformities, mistakes, and oversights taking remedial action as soon as possible (Bass, Avolio, Jung, & Berson, 2003).

Passive-Avoidance: Sometimes referred to as Laissez-Faire, Passive-Avoidance Leadership avoids getting involved when vital issues arise. This leadership style systematically avoids responding to circumstances and problems, stipulating agreements, explaining expectations, and specifying goals and standards to be accomplished by followers (Waters et al., 2003). This style of leadership fails to intervene until interpersonal problems become severe. It often leaves the difficulty unsolved until it has become chronic (Avolio et al., 2004).

Chikankata District: This is one of the education districts in the Southern province of Zambia comprised of 60 primary and secondary schools. The District is headed by a District Education Board Secretary with her team.

Methodology

In this non-experimental, bivariate correlational design study, data was collected from 19 secondary schools in Chikankata Education District, with 10 of those schools being from high student achieving schools, and nine from low student achieving schools. The office of the District Education Board Secretary helped the researcher determine which schools fit into these two categories.

Three sets of data were collected but using only two instruments. One compilation of data was collected from 18 school principals to determine their leadership styles. However, two sets of data were collected from teachers from 19 schools. The first data focused on the leadership style of the school principals as viewed by the teachers. The second set of data focused on the teacher's efficacy.

Data analysis is based on the research design and the questions for which one is seeking to find answers. Due to the nature of questions, the researcher analyzed different portions of this research using descriptive, comparative, as well as correlational approaches.

Question One dealt with determining the school principals' leadership styles in the 18 schools in Chikankata. To analyze these constructs, the researcher used bivariate descriptive analysis using measures of central tendency such as the means, median, modes, and measures of variability such as the range and standard deviation.

A series of independent samples *t*-tests were conducted to answer Question Two. To analyze Question Three, the researcher used bivariate descriptive analysis using measures of central tendency such as the means, median, modes, and measures of variability such as the range and standard deviation. Canonical correlation analysis was used to analyze Question Four. Canonical correlation analysis is a method for exploring the relationships between two multivariate sets of variables. But to analyze Question Five, descriptive discriminant function analysis was used to determine if the set of teacher ratings of principal leadership style could reliably discriminate between high- and low-achieving schools.

In this study, two instruments were used to collect data. To determine leadership styles, the Multifactor Leadership Questionnaire (MLQ), which measures leadership across five dimensions, was used. The TEBS-Self scale was used to measure the teachers' self-efficacy. (Dellinger, Bobbett., Olivier, & Ellett, 2008).

Summary

In this introductory chapter, it has been observed that the Ministry of Education in Zambia seeks to find solutions to the problem of student achievement. School principals and classroom teachers are among those identified as key to student achievement. Studies in Zambia, Africa, and the world, have been done that suggest some factors that contribute to student achievement, but even those studies have contradictory results in some instances. It is due to this lack of knowledge on the subject that this study, whose purpose was to examine school principals' leadership style, teacher self-efficacy, and the extent to which these two constructs are related in low and high achieving schools in Chikankata, Zambia was undertaken.

This study is distributed into five major sections. The introduction, which is Chapter 1, contains the context, statement of the problem, purpose, research questions, rationale, significance, and conceptual framework. The literature review, which is Chapter 2, discusses the relevant and current literature on the subject of the relationship between school leadership styles, teacher's self-efficacy, and student achievement. Methodology in Chapter 3, outlines the procedures that were used to conduct the study, the permissions obtained for the population or sample that was used, the process of data collection and analysis, and the instruments used. Chapter 4 reports the findings, while Chapter 5 provides a summary, discussion, and a conclusion.

CHAPTER 2

LITERATURE REVIEW

Introduction

The purpose of this study was to examine school principals' leadership style, teacher self-efficacy, and the extent to which these two constructs are related in low and high achieving schools in Chikankata, Zambia. A literature review on this topic is organized by the following headings: (a) Student Achievement, (b) School Leadership and Student Achievement, (c) Teachers' Self-Efficacy and Student Achievement, (d) School Leadership, Teacher Self-efficacy, Student Achievement, and (e) Summary.

Student Achievement

In this section of the literature review, the researcher has organized the discussion in the following order: (a) student achievement in general, (b) home and school environment factors and student achievement, and (c) teacher and student achievement.

Student Achievement in General

Many studies have been done about student achievement, and each has contributed to understanding the factors that affect student achievement. Conclusions in each study are different; some have agreement with others, while others disagree or qualify their results.

Student achievement is a result of complex and interrelated factors. In a position paper presented at South Dakota State University by Bertolini, Stremmel, and Thorngren (2012), a summary of research findings on teacher practices, teacher training, parental involvement, and other considerations in relation to how each influences student

achievement, supported the assertion that these factors are complex and interrelated.

(Bertolini, Stremmel & Thorngren, 2012). Advancing three factors and sub-divided into segments, this study showed the following as factors affecting student achievement:

Micro System Factors

The micro-system factors are comprised of traits within the student as well as their direct interactions with others such as teachers and other students. Factors that have been found to have a significant impact on student learning and engagement in school are presented.

- Student Resiliency-the capacity to be self-righting despite adverse circumstances. When protective factors are present, the effects of adversity are mediated which encourages healthy development in 50 – 80 percent of a high risk population. These buffers appear to transcend history, ethnicity, and socioeconomic boundaries. (Benard, 2004)
 - Unconditionally supportive adult (Benard, 2004; Downey, 2008; Luthar, Cicchetti, & Becker, 2000; Werner & Smith, 1992)
 - Opportunities for mastery, self-efficacy and recognition (Bandura, 1977; Benard, 2004)
- Individual student abilities-cognitive and metacognitive factors affect the student's ability to learn, and more importantly to critically understand how to best understand and process information.
 - Critical thinking opportunities (Marzano, Pickering, & Pollock, 2001)
 - Connection of learning to student context (past, present and future)
 - Selection of options for how learning can occur with some autonomy (Tomlinson, 2001)
- Health and attendance-motivational, physical, and affective factors
 - Real world learning with a purpose that always answers, "Why do I have to do this?" (Roberson, 2011)
 - Authentic inquiry and assessment (Cornelius-White & Harbaugh, 2010)
 - Health and nutrition promotion as a primary prevention (Durlak, 2000)
- Developmental differences-readiness for skills development
 - Redefining achievement by assessing differently. Summative assessments to measure learning goals, models and criteria are shared in advance, assess before the instruction begins, offer choices for mastery, provide feedback, teach students to critically develop their own learning goals and measure their own progress, allow new evidence of learning to replace the old samples (Blankstein, 2010)
 - Diagnostic, formative and summative assessments (Blankstein, 2010)
 - Cooperative learning (Marzano et al., 2001; Slavin, 1991)
 - Differential Instruction for students (Tomlinson & McTighe, 2006)

- Students tutoring other students and contributing to the community (Benard, 2004)
- Adjustment of school calendar to reduce summer learning losses
- Social and Moral Development is embedded in the culture of the family and community. Schools also develop a social and moral culture.
 - Social Justice Focus in Schools(Freire, 1968; hooks, 1994)
 - Integration of social and moral development into curriculum as well as vision, mission
 - Creation of intergrade, interschool safety nets for students (Blankstein, 2010)

Meso-System Factors

The interactions that surround each learner directly impact student achievement. The following variables have been specifically identified as important in bolstering student success.

- School climate as a welcoming and safe environment for learning
 - Multicultural competence (Cornelius-White & Harbaugh, 2010)
 - Supportive relationship building in all areas of child, parent, school system promotes values and norm development that positively influence student achievement (Coleman, 1998)
 - Protected team time, advisory time (Blankstein, 2010; Littky, 2004)
- Parent Training and Partnering
 - Outreach programs to parents-authentic connections (Benard, 2004; Blankstein & Noguera, 2010; Dessoiff, 2009)
 - Love & Logic™ parenting courses (Fay, 2012)
 - Shared expectation setting for vision/mission/values/goals with parents
- Professional Development for Teachers (von Frank, 2008)
 - Professional Learning Communities (Darling-Hammond & Rothman, 2011)
 - Personalized and teacher Driven (Darling-Hammond & Rothman, 2011)
 - Strengthened relationships for all stakeholders in the system (Blankstein, 2010)
- Building Leadership Capacity in teachers and administrators (Blankstein, Hargreaves, & Fink, 2010)
 - Redefined educational leadership, the distribution of who leads and systems for sustaining leadership (Darling-Hammond & Rothman, 2011; Hargreaves & Fink, 2010).
- Teacher Evaluation
 - Mentor systems (Darling-Hammond & Rothman, 2011)
 - Support communities of shared responsibility and learning (Blankstein, 2010; Darling-Hammond, 2008; Darling-Hammond & Rothman, 2011)
 - Ongoing and asset based (Danielson, 2007; Darling-Hammond & Rothman, 2011)
 - Shared decision making for professional growth (Danielson, 2007)

- Peer Culture and Achievement (Expectations within the student body collective)
 - Focus groups that equally represent all student groups to meet with administration (Blankstein, 2010)
 - Collaborative, democratic expectations for the classroom (Cornelius-White & Harbaugh, 2010)
 - Clear communication of Schools' Vision, Mission, Values, and Goals for all students (how is this made real in addition to banners and statements)(Blankstein, 2010)

Exo- and Macro-Systems Factors

This layer is characterized by the societal factors and systemic factors that impact student learning. While the factors exist on a large scale, interventions can be made on the meso-system to address the individual realities each student is experiencing. The interrelated risk factors listed below benefit from many of the same items that are listed in the micro and meso-systems. Logic dictates that students who experience the opposite end of the spectrum of the factors here have more beneficial learning opportunities and experiences.

- Socioeconomic disparities between families within schools as well as disparities between communities and states. Students in poverty neighborhoods do not perform as well as students from more affluent neighborhoods.
 - Advocacy and partnerships such as school and university alliances can meet needs within schools
 - Advocacy through national organizations such as the Children's Defense Fund, National Education Association and Association for Supervision and Curriculum Development create opportunities for policy influence.
- Racism/Classism
 - Multicultural competence for Teachers and Administrators
 - Relational trust building with parents, communities and schools (Blankstein, 2010)
 - Advocacy at the building level and up through all levels
- Child Abuse and Neglect
 - Parent effectiveness training (PET) and Filial therapy or child parent relationship therapy (CPRT) all were identified as effective in two meta-analysis studies (Cornelius-White & Harbaugh, 2010)
 - Literacy Programs impact long term student success. (Cornelius-White & Harbaugh, 2010)
- Unhealthy lifestyles
 - Wellness based curriculum integration. (Bertolini, Stremmel & Thorngren, 2012, pp. 3-5)

This model shows that student achievement can be affected by many factors in the lives of students. In order to meet the social and academic needs of all students, a more holistic approach is necessary. This should include teacher recruitment and retention of teachers as well as supporting and promoting learning environments that encourage relationships across many areas of life (Bertolinni et al., 2012, p. 5).

Other studies provide details of other factors that affect student achievement. These factors include family background/socioeconomic status, student aptitude, peer group/classmates, motivation, incentives, instructional materials, teacher and class size, intellectual skills, personality, motivation, abilities, interests, study routines, self-esteem, and the teacher-student bond (Chilca, 2017).

A study completed in Zambia by Kakumbi, Samuel, and Mulendema (2016) focusing on the home environment, found that the home environment of the pupils is multi-dimensional in nature as a number of factors come into play in affecting the intellectual development of pupils. The factors that correlated significantly were between academic achievement for senior secondary school pupils and a summary index of socioeconomic status consisting of parental education, parental occupation, and a number of household possessions. This study establishes a positive relationship between the number of books at home, the language used at home, and students' performance as rated by the teachers (Kakumbi, Samuel, & Mulendema, 2016).

A research institute identified 13 of the 40 assets that have a direct influence on student achievement: caring adults, community support, cultural connectedness, high expectations, parental involvement, peer climate, respectful climate, school safety, social and emotional learning, student involvement, student perceptions of peer alcohol use,

student delinquent behaviors, and student drug and alcohol use (AICE, 2017, para. 1).

“Another related study found that quality facilities, collegial leadership, teacher professional expertise, community engagement, resources support, adequate and cordial relationships all have a positive relationship with academic performance and teacher productivity” (Uline & Tschannen-Moran, 2008, p. 63).

Marzano in 2003 provided a succinct summary of five key aspects that affect student achievement. They were: “(a) guaranteed and viable curriculum, (b) challenging goals and effective feedback, (c) parent and community involvement, (d) safe and orderly environment, and (e) collegiality and professionalism.” The teacher practices were: (a) instructional strategies, (b) classroom management, and (c) classroom curriculum design. In addition, the student factors were: (a) home environment, (b) learned intelligence/background knowledge, and (c) motivation” (Marzano, 2003, p. iv).

Home and School Environment Factors and Student Achievement

School climate is a factor in student achievement. A study in 2005, focusing on school climate and academic performance; found that

compared with youth living in single-parent homes (i.e., single-parent never married, divorced), children living in two-parent homes displayed superior academic achievement across various academic outcomes (i.e., reading, math, science, and social science standardized test results) than children from singleparent homes. (Jeynes, 2005, pp. 2, 3)

Additionally, student academic achievement was shown to be a stronger predictor than parents who checked up on their children’s homework (p. 3).

In a related study by Fakunle and Ale (2018) in schools in Eketi State, Nigeria, the researchers found that providing “good learning environment[s] such as adequate class rooms [*sic*], good laboratories, well-equipped libraries, adequate qualified teacher

[sic] and conducive working conditions” is essential to an excellent climate that promotes student achievement (p. 239).

Teacher and Student Achievement

The RAND Corporation has been a leader for over three decades in examining the relationship between educator’s competency and student achievement. Their web page *K-12 Educator Effectiveness* gives a succinct overview of their research.

Many personal, family, and neighborhood factors contribute to a student's academic performance, but a large body of research suggests that, among school-related factors, teachers matter most. What's less clear, however, is how to measure an individual teacher's effectiveness. What we do know is that across the country—even within districts and schools—there is a wide range in teaching effectiveness. (RAND Corporation, 2020, K-12-educator-effectiveness, para. 1)

Many other researchers have concluded that the role of a teacher in student achievement is vital. “Clearly, the most important factor is student socioeconomic status—aptitude, background, and family. There are also many other factors that affect achievement, including teacher effectiveness” (McMillan & Schumacher, 2010, p. 103). Other factors identified included: Class size, Instructional materials, Incentives, Motivation, and Peer group/classmates (p. 103).

In a study completed by Wahyuddin (2017) at a private Islamic Junior High School in Serang, Banten, Indonesia, headmaster leadership and teacher competence was examined to see if those factors were related to increased achievement by students.

Results of this research showed that there is correlation of the headmaster leadership toward student achievements in school, there is correlation of the teacher competence toward student achievement in school, there are correlation [sic] of headmaster leadership and teacher competence towards student achievement in school. Therefore, it can be seen that the headmaster leadership and teacher competence have a strong and significantly correlation to increasing student achievement in school. High or low student achievement can be caused by headmaster leadership and teacher competence. (p. 215)

In the same study, it was shown that “there is significance [*sic*] and positive correlation of the headmaster leadership and teacher competence towards student achievement. Increasing student achievement in schools can be affected directly by the headmaster leadership and teacher competence” (Wahyuddin, 2017, p. 224). The study concluded that levels of headmaster leadership and teacher competence influence student achievement either higher or lower. In other words, higher levels of headmaster and teacher competence influence higher student achievement, and lower levels of headmaster and teacher competence tend to suppress student achievement (Wahyuddin, 2017, p. 225).

Another quantitative study was done in Texas by Sandoval, Challoo, & Kupczynski (2011). The study, whose purpose was to examine the relationship between the collective efficacy of teachers and student achievement, revealed that

the teachers’ collective efficacy can impact student achievement thus improving the academic rating that is given to a campus These findings suggest that teachers do have the potential to make a difference in the lives of the children they teach. (p. 21)

Student engagement in the classroom by teachers is another factor that contributes to student achievement. In two separate studies, it was found that children who have been portrayed as actively involved in classroom activities have higher positive academic outcomes (Hughes, Luo, Kwok, & Loyd, 2008; DeTeso, 2011).

The motivation of students by teachers is another factor. In a study by Aire, and Tella (2003), it was found that the quality of communication between teacher and student has a significant impact on the quality of learning. The essential role of motivation in the relationship, enhanced by quality communication between teacher and student, has been demonstrated as a factor that impacts academic achievement (Fan & Williams, 2010).

School Leadership and Student Achievement

The review of literature is organized in the following order: (a) Types of School Leadership; Transformational, Transactional, and Passive-Avoidance Leadership Styles; and (b) Comparisons of School Leadership Styles, School Leadership, and Student Achievement.

Types of School Leadership Style

Instructional Leadership

There are many leadership styles that have been used in schools, including instructional, transformational, and transactional, among many others. Some have been more popular and utilized by many school leaders. Instructional Leadership style has received significant attention.

Instructional leadership, which received significant focus in the 1980s, is a school leadership model that focuses predominantly on the role of the school principal as coordinator, controller, supervisor, and developer of curriculum and instruction in the school (Bamburg & Andrews, 1991; Hallinger & Murphy, 1985). Cuban (1984) asserted that instructional leaders lead from a blend of proficiency and charisma, being hands-on principals who are not afraid of working with teachers.

One of the most referred to conceptualizations of instructional leadership is the one developed by Hallinger in 2000, in which he proposes three dimensions of instructional leadership: “Defining the School Mission, Managing the Instructional Program, and Promoting a Positive School Learning Climate” (Kabeta, Manchishi, & Akakandelwa, 2013, p. 1878). In the work of defining the school mission, there are two components: framing the school’s goals and communicating those goals to the staff.

These are clearly measurable goals focusing on the academic progress of its students (p. 1878).

The element of managing the instructional program concentrates on the management and control of instructions and curriculum, seeking for supervising and evaluating what is being taught, managing the curriculum, and overseeing the students' improvement. The element of pushing for a positive school learning atmosphere embraces a good number of functions: Ensuring that instructional time is kept, advocating for development in professionals, sustaining high visibility, giving incentives to those who teach, and those who are learning.

That which is regarded as Shared Instructional Leadership, includes the active partnership of principal and teachers on what is being taught, instructions, and assessment. The head of the school capitalizes on the ideas, views, and capabilities of the teachers in their different areas, thus making the school principals the leader in instruction (Clickman, 1989).

Instructional Leadership is not without its own challenges or limitations. Lambert (1998) and Barth (1990) have observed that while Instructional Leadership may work, context and other factors can be a limitation. Another factor is that many principals of secondary schools have less expertise than the teachers whom they supervise.

Transformational Leadership

Transformational leadership is another school leadership style that has received a lot of attention in different studies with different definitions of transformational leadership. Sergiovanni (2007) believes that teachers who focus on the school's purpose, collective beliefs, and team integration are practicing transformational leadership. Instead

of being concerned about results, a leader who is transformational is attentive regarding the process of obtaining results. This method encourages school leaders, faculty, and staff to participate in sharing leadership as the work together to make decisions regarding curriculum development and instructional practices (Sergiovanni, 2007, pp. 61-66). Transformational leadership has been defined “as the enhancement of individual and collective problem-solving capacities of organizational members; such capacities are exercised in the identification of goals to be achieved and practices to be used in their achievement” (Leithwood & Jantzi, 1990, p. 5).

In a school setting, transformational leaders are “in more or less continuous pursuit of three fundamental goals: (a) helping staff members develop and maintain a collaborative, professional school culture; (b) fostering teacher development; and (c) helping them solve problems together more effectively” (Leithwood & Poplin, 1992, pp. 9, 10).

Bass, Avolio, Jung, & Berson (2003) attest that

Transactional leadership occurs when the leader sets expectations, standards, or goals to reward or discipline a follower depending on the adequacy of a follower’s performance: Contingent Reward (e.g., ‘Rewards us when we do what we are supposed to do’) and Management by Exception (active and passive forms, represented in the items ‘Directs attention toward failures to meet standards’ and ‘Delays responding to urgent problems,’ respectively). (p. 210)

Yukl (2010) characterizes transformational leadership as one in which a leader (a) articulates a vision in a clear and appealing manner, (b) explains how to attain the vision, (c) acts confidently and optimistically, (d) expresses confidence in the followers, (e) emphasizes values with symbolic actions, (f) leads by example, and (g) empowers followers to achieve the vision. The leader engages in the process of building a

commitment to organizational objectives and then enabling followers to accomplish those objectives (Yukl, 2010, pp. 289-291).

There are many school leadership styles. In this study, I will focus on only three: transformational, transactional, and passive-avoidance. Hallinger (2003) shows how some studies have linked these three leadership styles to teacher's self-efficacy.

Transformational Leadership is associated with motivating associates to do more than they originally thought possible. The original expectation for performance is linked to an initial level of confidence or efficacy in the associates' perceived ability and motivation. Thus, associates' perceptions of self-efficacy or confidence, as well as their developmental potential, are enhanced through the Transformational Leadership process.

Through Transformational Leadership, goals and objectives are established to develop others into leaders and/or [sic] a collective leadership group, such as in self-directed teams (Avolio, Bass, & Jung, 1996). . . . The process of transforming associates does not merely empower them or delegate to them the responsibility for fulfilling a goal; rather, it develops their capability to determine their own course of action. (Avolio et al., 2004, p. 28)

Transformational leadership does more than empower associates to the responsibilities for fulfilling a goal. Avolio et al. (2004) add the aspect of raising the level of consciousness about the significance and worth of achieving goals that associates bring into their work.

Transformational leaders are characterized by Burns (1978) as raising associates' consciousness levels about the importance and value of designated outcomes and ways of achieving them. They also motivate associates to transcend their own immediate self-interest for the sake of the mission and vision of the organization. Associates confidence levels are thus raised and their needs broadened by the leader to support development to a higher potential. (Avolio et al., 2004, p. 29)

Transformational and Instructional Leadership Compared

In a noteworthy study by Marks and Printy (2003) involving "24 nationally selected restructured schools—8 elementary, 8 middle, and 8 high schools" (p. 370) and

representing 16 states and 22 school districts in the United States. Three questions were explored:

1. What is the relationship between transformational and shared instructional leadership in restructuring elementary, middle, and high schools?
2. How do schools with varying approaches to leadership differ according to their demographics, organization, and performance?
3. What is the effect of transformational and shared instructional leadership on school performance as measured by the quality of pedagogy and the achievement of students? (Marks & Printy, 2003, p. 378)

The study, which used an analytic approach, found that Transformational Leadership is a necessary but insufficient condition for instructional leadership. When transformational and shared instructional leadership coexists in an integrated form of leadership, the influence on school performance, measured by the quality of its pedagogy and the achievement of its students, is substantial. (Marks & Printy, 2003, p. 370)

When “integrated leadership was normative, teachers provided evidence of high-quality pedagogy and students performed at high levels on authentic measures of achievement” (Marks & Printy, 2003, p. 392).

The study suggests that strong Transformational Leadership by the principal is essential in supporting the commitment of teachers. . . . When teachers perceive principals’ instructional leadership behaviors to be appropriate, they grow in commitment, professional involvement, and willingness to be innovative (Sheppard, 1996). (Marks & Printy, 2003, p. 393)

Marks & Printy also implied that when teachers have a desire and proficiency in leading, teachers will boost and enrich school performance (2003). Additionally, Hallinger (2003), has supported the conclusion of Marks and Printy as a possible way forward.

Transactional Leadership

Oriented by demands, the primary emphasis in transactional leadership is external satisfaction against demands (Kim & Shim, 2003). Howell and Avolio (1993) identify

three dimensions of transactional leadership: (a) contingent reward, (b) management by exceptions-active, and (c) management by exceptions-passive (p.894). Over a decade later, Avolio et al. (2004) expanded the concepts associated with transactional leadership.

Transactional leaders display behaviors associated with constructive and corrective transactions. The constructive style is labeled contingent reward, and the corrective style is labeled management-by-exception. Transactional Leadership defines expectations and promotes performance to achieve these levels.

Contingent Reward is the extent to which the leader sets up productive transactions or exchanges with a follower, by clarifying expectations and instituting rewards for achieving those expectations.

Management by Exception-*Active* monitors followers' behavior, anticipates problems, and takes corrective actions before the behavior creates serious difficulties.

Management by Exception-*Passive* waits until the behavior has created problems before acting.

Transactional Contingent Reward Leadership clarifies expectations and offers recognition when goals are achieved. The clarification of goals and objectives and providing recognition once goals are achieved should result in individuals and groups achieving expected levels of performance. . . . The leader specifies the standard for compliance, as well as what constitutes ineffective performance, and may punish followers for being out of compliance with those standards. This style of leadership implies close monitoring for deviances, mistakes, and errors and then taking corrective action as quickly as possible when they occur. (Avolio et al., 2004, pp. 104, 105)

Passive-Avoidance Leadership Style

Passive avoidance leadership style in some literature is referred to as Laissez-Faire, which avoids getting involved when critical issues arise. This leadership style avoids responding to situations and problems systematically. "Passive leaders avoid specifying agreements, clarifying expectations, and providing goals and standards to be achieved by followers" (Avolio et al., 2004, p. 105). This style of leadership fails to interfere until difficulties become acute before taking any corrective action. The predicament remains unsolved until it has become chronic.

Transformational and Transactional Leadership Compared

In gathering ideas and definitions from different studies, the following provides a summary of a comparison of these two models or styles of school leadership: according to Bass (1990), transformational leadership provides these four elements:

Charisma: Provides vision and sense of mission, instills pride, gains respect and trust.

Inspiration: Communicates high expectations, uses symbols to focus efforts, expresses important purposes in simple ways.

Intellectual Stimulation: Promotes intelligence, rationality and careful problem-solving.

Individual Consideration: Gives personal attention, treats each employee individually, coaches, advises. (p. 22)

On the other hand, transactional leadership has these three elements:

Contingent Reward: Contracts exchange of rewards for effort, promises rewards for good performance, recognizes accomplishments.

Management by Exception (active): Watches and searches for deviation from rules and standards, takes corrective actions.

Management by Exception (passive): Intervenes only if standards are not met. (Bass, 1990, p. 22)

In a recent study, Poulson, Smith, Hood, Arthur, and Baznmore (2011)

examined whether women or men reported a higher evaluation of and appreciation for transformational leadership style versus transactional leadership style among their college professors. Results showed that both college men and women tended to report a higher evaluation of, and appreciation for the transformational approach to college instruction as opposed to the more traditional transactional approach. (pp. 58-70)

In the Paulson et al. (2011) study, data obtained through a Professional Leadership Questionnaire, from 233 students were analyzed. The questionnaire which focused on seven elements, included: (a) shared learning, (b) flexibility in homework and projects, (c) grade orientation, (d) personality, (e) student achievement, (f) motivating the transformation of learners, and (g) creative of assignment. Results showed women

inclined to give higher ranking to qualities and traits related to transformational leadership style than did men (Poulson, Smith, Hood, Arthur & Baznmore, 2011).

In another study (Tahir, Said, & Rahman, 2011), 35 school principals and 1,705 teachers responded to two questions: (a) “What are the ideal characteristics that effective school principals must possess?” and (b) “What excellent leadership styles... influenced teachers’ commitment to the schools” (para. 1).

To the first question, four characteristics were identified: First, *humanistic*: this was defined as having interpersonal and positive relations between school principal and teacher, resulting in creating a positive environment and involvement school. This attribute was associated with tolerance, flexibility, trust towards teachers, empathy, open-mindedness, listening openly, inspiring others, and recognizing teacher’s needs. With a positive relationship, teachers find the workplace conducive enough for them to give their commitment because of the flexibility of school leadership.

Second, *management skills*: were associated with strategic planning, ethical decision-making, and problem-solving. This trait was associated with competence in managing curriculum, being an instructional leader, a well-experienced teacher, participating in teaching and learning, sensing teacher’s professional needs, and guiding teachers.

Third, *teaching and learning skills*: these were associated with the role of the principal’s striving to improve and always meet the standard of excellence. This attribute was associated with program evaluation, ability to use power in situational contexts, strategic planning, informed decision making, communicating the vision and the mission with the school, and striving to improve to meet standards of excellence.

Forth, *individual traits*: these were associated with discipline, high commitment, ethical leadership, displaying proactivity, and maintaining integrity (Tahir et al., 2011).

Some proponents of transactional leadership who see value in transformational leadership have argued for *Augmentation Effect*. The “augmentation effect of transformational leadership has been linked to a transformational leader’s ability to motivate followers to perform beyond standard expectations for performance. It has also been argued that transformational leaders help followers achieve a higher level of group performance by elevating the needs of group members from self- to collective interests and inspiring higher levels of commitment to a common mission and/or vision” (Jung & Sosik, 2002, pp. 313, 314).

School Leadership and Student Achievement

The subject of principals’ effect on student achievement has attracted diverse opinions with some holding that the principals have little or no direct impact on student achievement (Hallinger, & Heck, 1996; Leithwood, Janzi, & Steinback, 1999; Witziers, Bosker, & Kruger, 2003). Other researchers claim that the influence of principals’ on students’ achievement is indirectly connected through the creation and growth of a positive instructional climate. This includes higher teacher expectations, student opportunities to learn, a clear mission, and grouping for instructions.

Ross and Gray (2006) studied two variables that are sources of indirect leadership effects on student academic achievement. The two were (a) teacher professional commitment, and (b) collective teacher efficacy. The theoretical framework taken in this study took the transformational leadership as the best model that has elements that motivate teachers.

This study evaluated responses from 205 schools and 3,042 teachers from two Ontario Districts in Canada. Three instruments were used that measured teacher perceptions about how their principal leads, teacher's commitment to organizational values, teachers' acceptance of school goals, and teachers' commitment to sharing teaching ideas (Ross & Gray, 2006).

Findings revealed that there was no statistically significant direct effect of leadership on student achievement. However, the substantive contribution of this study was in the conclusions that demonstrated "teacher beliefs about their capacity and their professional commitment, mediated the impact of principals on student achievement" (Ross & Gray, 2006, p. 811).

The study further indicated that principals who adopt a Transformational Leadership style are likely to have a positive impact on teacher beliefs about their collective capacity and on teacher commitment to organizational values. Principals can expect that these teachers' beliefs will make a modest but significant contribution to enhanced student achievement. (Ross & Gray, 2006, p. 812)

The study further "found that the strongest impact on achievement occurred through teacher commitment to school-community partnerships" (p. 812), confirming what other studies have concluded. They found that "principals' influence on teacher willingness to engage in community partnership occurred through collective teacher efficacy, rather than through attempts to influence teachers' community commitment directly" (p. 812).

A study by Joan Anderson (2008) adds more weight to the role of leadership in student achievement. She examined

the effectiveness of observable and quantifiable traits in and approaches of school principals in enhancing student achievement. . . . Results indicated that both the community environment and instructional roles for principals were associated with increased student achievement. Important variables related to higher student language and math scores included the principal being at a school more years, emphasizing

student evaluation, creating a better work environment for teachers, and spending more time promoting community events with an academic orientation. Variables negatively related to student achievement included a lack of parent participation, high teacher turnover, and principals focusing on student discipline. (Anderson, 2008, p. 36)

Bello, Ibi, and Bukar (2016) conducted a study in which they sought to determine the relationships between the initial structure of leadership styles, consideration structure of leadership styles, and participatory structure of leadership style and how these affected students' academic performance. Findings revealed that there

was a significant relationship between initiatives structure of principal administrative leadership and students' academic performance in Mathematics 2009, English 2009, and Mathematics 2011 and the relationship was in favor of student's academic performance. While it had also revealed that there was no significant relationship between initiatives structure of school leadership and students' academic performance in English language 2010, English language 2011 and Mathematics 2010. Initiative was also found to be most prevalent principals administrative style used in Taraba State Secondary Schools. (Bello, Ibi, and Bukar, 2016, p. 67)

From a meta-analysis study that examined studies done over a period of 30 years regarding the effects of leadership on student achievement (Waters et al., 2003), findings revealed that there is, in fact, "a substantial relationship between leadership and student achievement" (p. 3). A total of 21 behaviors were identified. These 21 are: (a) Culture, (b) Order, (c) Discipline, (d) Resources, (e) Curriculum Instruction and Assessment, (f) Focus, (g) Knowledge of Curriculum Instruction and Assessment, (h) Visibility, (i) Contingent Rewards, (j) Communication, (k) Outreach, (l) Input, (m) Affirmation, (n) Relationship, (o) Change Agent, (p) Optimizer, (q) Ideals-Beliefs, (r) Monitors-Evaluates, (s) Flexibility, (t) Situational Awareness, and (u) Intellectual Stimulation (Waters et al., 2003, p. 4).

Waters, Marzano, and McNulty (2004) quantified the general effect of leadership and concluded that instructional leadership correlated with student achievement by .25,

which translated to 6% (.25 squared), which was the variance that could be explained by instructional leadership (Waters, Marzano, & McNulty, 2004, p. 3).

A careful analysis of the list of these 21 behaviors reveals that seven of these are behaviors that principals accomplish through the teacher. These behaviors are shown below:

Discipline: protects teachers from issues and influences that would detract from their teaching time or focus

Resources: provides teachers with materials & professional development necessary for the successful execution of their jobs

Visibility: has quality contact & interactions with teachers & students.

Communication: establishes strong lines of communication with teachers & among students.

Input: involves teachers in the design & implementation of important decisions & policies.

Relationship: demonstrates an awareness of the personal aspects of teachers & staff.

Intellectual Stimulation: ensures that faculty & staff are aware of the most current theories & practices & makes the discussions of these a regular aspect of the school's culture. (Waters et al., 2003, p. 4)

In a study by Jerry Valentine and Mike Prater (2011), the relationship between school principals' managerial, instructional, and transformational leadership and student achievement in public high schools was examined. They reported,

Differences in student achievement were found when schools were grouped according to principal leadership factors. Principal leadership behaviors promoting instructional and curriculum improvement were linked to achievement. Within transformational leadership, the principal's ability to identify a vision and provide an appropriate model had the greatest relationship to achievement. Principal educational level also positively correlated with each leadership factor. (Valentine & Prater, 2011, p. 5)

Helen Marks and Susan Printy (2003) studied school leadership relations between principals and teachers. In this study, they examined the potential of school principals "active collaboration around instructional matters to enhance the quality of teaching and student performance, the study is grounded in two concepts of leadership—transformational and instructional. . . ." Marks' and Printy's study

found that transformational leadership is a necessary but insufficient condition for instructional leadership. When transformational and shared instructional leadership coexist in an integrated form of leadership, the influence on school performance, measured by the quality of its pedagogy and the achievement of its students, is substantial. (p. 370)

The purpose of a study by Shatzer, Caldarella, Hallam, and Brown (2013)

was to compare transformational and instructional leadership theories, examine the unique impact that school leaders have on student achievement, and determine which specific leadership practices are associated with increased student achievement. . . . Results indicated that instructional leadership explained more of the variance in student achievement than did transformational leadership. (p. 445)

Teacher Self-Efficacy and Student Achievement

In covering the review on teacher self-efficacy and student achievement, the following headings will guide the outline: (a) History of studies on teacher self-efficacy, (b) definitions and history of definitions, (c) teacher self-efficacy and collective teacher efficacy, (d) measurements of teacher self-efficacy, (e) self-efficacy and student achievement, and (f) school leadership, teacher self-efficacy and student achievement.

History of Studies on Teacher Efficacy

While the theory of self-efficacy is associated in its origins with Bandura (1977), the construct, *teacher sense of efficacy* (TSE), which later assumed the shorter version of *teacher efficacy*, was named, defined, and measured in the mid-1970s by researchers from the RAND Corporation (Berman, McLaughlin, Bass, Pauly, & Zellman, 1977). The RAND Corporation had based their study on a theory developed by Rotter named *Locus of Control Theory* in the 60s. It is from this study and later that researchers developed their research using the terms: teacher efficacy, teacher sense of efficacy, and teacher self-efficacy (Dellinger, 2005).

The one name that sparked studies on self-efficacy, and upon whose writings many researchers have based their studies is Bandura. The documentation of these researchers have shown that individuals who believe in their own role in self-development, adapting to change, and the ability to react to changes in their life experiences, demonstrate the importance of self-efficacy. (Bandura, 1995; Bandura et al. 1997). In a 2003 study, several researchers have even broken down the investigation of self-efficacy further to perceived self-efficacy, and perceived empathic self-efficacy (Bandura, Caprara, Barbaranelli, Gerbino, & Pasorelli, 2003).

Definitions of Self-Efficacy

In the research by the two groups from the RAND Corporation, researchers that have oft-cited this study, evaluated teacher's beliefs in their ability to influence student outcomes, due to their internal actions and the influence of students' external environments (their homes) (Dellinger, 2005, p. 752). Bandura et al. (1997) define perceived self-efficacy as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3) or a personal belief that one is able to do what it takes to accomplish a task at a particular level of quality.

Efficacy beliefs are not considered a stable character trait of an individual, but rather, efficacy beliefs are an active and learned system of beliefs held in context (Bandura, 1997). Therefore, self-efficacy can be changed and may vary depending upon the context and specificity of tasks.

In the context of schools, teacher self-efficacy beliefs can be defined as a teacher's individual beliefs in their capabilities to perform specific teaching tasks at a specified level of quality in a specified situation. (Dellinger et al., 2008, p. 752)

In an attempt to clarify some misunderstandings on the definition of teacher self-efficacy, Dellinger et al., (2008) stated the following; "self-efficacy beliefs are task and situation specific; thus, efficacy beliefs are not believed to be traits of an individual

(Bandura et al., 1997; Maddux, 1995), but rather an active and learned system of beliefs held in context” (Dellinger et al., 2008, p. 754).

Teacher Self-Efficacy and Collective Teacher Efficacy

Bandura defines perceived self-efficacy as

beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments, or a personal belief that one is able to do what it takes to accomplish a task at a particular level of quality. (Bandura et al., 1997, p. 3)

Teacher self-efficacy is defined as “a teacher’s individual beliefs in their capabilities to perform specific teaching tasks at a specified level of quality in a specified situation” (Dellinger et al., 2008, p. 752). Collective teacher efficacy is a specific form of self-efficacy in which the target of the beliefs is the organization to which the individual belongs. This “is a perception of teachers in a school that the efforts of the faculty as a whole will have a positive effect on students” (Goddard, Hoy, & Hoy, 2000, p. 503).

Collective teacher efficacy is associated with teacher influence over school decisions (Goddard, 2002) and inspires teachers’ willingness to assist each other to meet the school objectives (Somech & Drach-Zahavy, 2000).

Measuring Teacher Self-Efficacy

The most prominent measurement that has been used to measure teacher’s efficacy in the past two decades has been the *Teacher Efficacy Scale* (TES) (Ashton, & Webb, 1986). This scale was developed based on Bandura’s theory of self-efficacy. Later studies have used this same scale to measure teachers’ self-efficacy beliefs (2008). Attempts have been made to improve on the TES by using other measurements, such as the Ohio State Teacher Efficacy Scale, mainly to address the perceived problematic

issues in the TES (Tschannen-Moran & Hoy, 2001). A group of researchers—(Dellinger et al., 2008)—have proposed a more inclusive scale called the TEBS-Self.

The problem that has been observed by some researchers is that originally the TES was determined to measure two factors: Personal Teaching Efficacy and General Teaching Efficacy. But there seem to be observations indicating that TES, which is the most frequently used scale to measure teacher efficacy, has theoretical and psychometric issues that may invalidate findings based on the use of this scale (Brouwers & Tomic, 2003; Deemer & Minke, 1999; Dellinger, 2005; Denzine, Cooney, & McKenzie, 2005). Dellinger et al. (2008) compiled a list of up to six problematic issues in using TES to measure teacher self-efficacy.

The Ohio State Teacher Efficacy Scale, which is being used frequently in many studies (Chacon, 2005; Shore, 2004), is an improvement on the TES but lacks having reflected explicitly the context aspect under which self-efficacy beliefs about teaching are formed.

A TEBS-Self scale has been developed and proposed to be more comprehensive in covering the measuring of teachers' self-efficacy. Dellinger et al. (2008) showed how the TEBS-Self scale was developed and how it was used in three separate studies. Using principal components analysis of data from these three studies, shows the results of this instrument to be a better scale that future researchers should consider using (p. 763).

Three issues were addressed in Dellinger et al. (2008), issues that would improve the validity of the results.

First, the measure should clearly and accurately reflect the meaning of self-efficacy. Second, the measure must assess teachers' self-efficacy beliefs in the context in which the beliefs are formed. Third, the specific tasks selected for the measure should be meaningful. (p. 756)

The conclusion of this study is that while

the construct of teacher self-efficacy has been around for more than a quarter century, the measurement of teachers' efficacy beliefs is still in its infancy . . . the TEBS-Self, provide[s] a theoretically and psychometrically sound alternative for use in the international arena. (Dellinger et al., 2008, p. 763)

School Principal's Leadership and Teacher Efficacy

In 2012, a study involving 328 participants was conducted “to examine the relationship between school principals' instructional leadership behaviors and teachers' self-efficacy and collective efficacy, and also to observe the direct and indirect effects, through teachers' self-efficacy, of instructional leadership on teachers' collective efficacy” (Calik, Sezgin, Kavgaci, & Kilinc, 2012, p. 2499).

Calik, Sezgin, Kavgaci, and Kilinc (2012) found “that school principals' instructional leadership behaviors have a positive and significant effect on teachers' self-efficacy. The study revealed that instructional leadership affected the collective efficacy indirectly through teachers' self-efficacy” (Calik et al., 2012, p. 2501).

In yet another study (Walker & Slear, 2011), the researcher looked at the relationship between school principal's behavior and teacher efficacy. The study considered two questions:

1. How do the 11 principal behaviors included in the 'Rating of Principal Characteristics Scale' influence teacher efficacy?
2. Do the principal behaviors included on the “Rating of Principal Characteristics Scale” influence efficacy differently for teachers with varying levels of teaching experience? ” (Walker & Slear, 2011)

The study had 366 teachers from six school districts who participated. These teachers were grouped into four teaching levels, namely: 0-3 years, 4-7 years, 8-14 years, and 15 years plus (Walker & Slear, 2011).

The study concluded that three of the eleven principal behaviors had a significant relationship with teacher efficacy. These three behaviors were: (a) modeling instructional expectations, (b) communication, and (c) providing contingent rewards (Walker & Slear, 2011, p. 70). For those with 0-3 years of teaching, modeling instructional expectations predicted teacher efficacy; for those with 4-7 years, modeling instructional expectations and communication predicted teacher efficacy; for those with 8-14 years it was communication, consideration, and modeling instructional expectations in this order that influenced their efficacy, and for those above 15 it was inspiring teachers (pp. 107-110). Based on these results, the study concluded that building teachers' efficacy must be approached in a different manner when working with teachers across a range of teaching experience levels. The most dominant behavior that was reported most often in all levels was modeling instructional expectations, followed by communication (p. 119).

Nir and Kranot (2006) undertook a study that explored whether personal teacher efficacy “varies across leadership styles and the value of the principal's leadership style for personal teacher efficacy when job-related variables are statistically controlled” (p. 205). The study involved 24 schools, with 8 from elementary, 8 from middle school, and 8 from high school.

Findings from this study (Nir, & Kranot, 2006), suggested

that transformational leaders are more likely to promote [personal teacher efficacy] PTE. The results also show that individual consideration, active management by exceptions, and passive-avoidance are leadership styles that have no implication for PTE. . . . The results show that the contribution of the Transformational Leadership

style to the explanation of personal teacher efficacy is statistically insignificant when job-related variables are controlled in the analysis. The findings suggest that the relation between the principal's leadership style and PTE is mediated by the positive experiences that teachers undergo on the job, mainly, their satisfaction. Therefore, Transformational Leadership that affects the intra-school circumstances by promoting teachers' satisfaction on the job is likely to indirectly contribute to PTE. (p. 212)

The major conclusion is that the connection between personal teacher efficacy and the principal's leadership style is somewhat complicated, but displayed by a teacher's satisfaction on the job.

These findings do not verify causation but rather suggest positive job experiences that promote teacher's satisfaction may contribute to the enhancement of PTE. Transformational leaders are more likely to shape the kind of job circumstances that enable individual satisfaction and, therefore, allow PTE to develop. (Nir, & Kranot, 2006, p. 213)

Teacher Efficacy and Student Achievement

Research shows that a teacher who exhibits high self-efficacy is, organized, open to new ideas that link with needs of students, less condemning when students make mistakes, more assured in their teaching, and likely to make use of affirmative classroom management strategies (Henson, 2001; Pinkston-Miles, 2003; Scharlach, 2008). Other studies have linked teacher efficacy to student outcomes, showing that students did better on standardized tests than their peers when taught by a teacher with high scores on self-efficacy as compared to when taught by a teacher with lower efficacy scores (Henson, 2001; Lin & Tsai, 1999; Muijs & Reynolds, 2002).

A study by Soehner and Ryan (2011) on the interdependence of principal school leadership and student achievement, reviewed other research and literature on the topic. The following findings were made: (a) principals do influence the necessary framework for appropriate instructional leadership and through this make an indirect influence over

student achievement, and (b) the school principal is the key player who can foster trust among staff members, which in return contributes to student achievement.

A study conducted by Shaukat and Iqbal (2012),

examined teacher's self-efficacy as a function of student engagement, by use of instructional strategies, and classroom management over a number of parameters. Findings show[ed] no significant difference between male and female teachers on student engagement and instructional strategies, but male teachers were likely to be significantly better in classroom management than female teachers. A possible reason for this finding may stem from the fact that male teachers usually maintain stricter discipline in the classroom and control disruptive behaviours [*sic*] of students than female teachers do (Shaukat, Abiodullah, & Rashid, 2011). This result carries on with teachers who were more qualified (M.Ed.) than less qualified (B.Ed.) as well. More qualified teachers [*sic*] managed their classrooms better than less qualified teachers however no significant differences were detected across student engagement and instructional strategies as a function of teacher qualification. Professional qualification is a significant variable for teaching profession as teachers participate in professional trainings, workshops and get further professional education to become more competent and knowledgeable to handle classroom discipline. (Shah, 2006). (p. 85)

In the same context, Ahmad, Khan, and Rehman (2015) directed a study in Attock, Pakistan that researched the sense of teacher efficacy between male and female teachers within the school district. The study found that in order to take control of their educational career and effectually direct their students' learning, teachers needed what is called, *teacher sense of efficacy* (TSE). Notably, the study results indicated that male teachers in the district do not have as well developed self-efficacy skills as female teachers. Results of the study "indicated that there was significant mean difference between males and females on Teacher's Self-efficacy Scale of classroom management, instructional strategies, and students' engagement respectively" (Ahmad, Khan, & Rehman, 2015, p. 34). Generally, the study indicated that TSE is a decent predictor of enhancing students' learning, especially for female teachers. The authors attribute some of their results to the general feeling that females "feel more attached and secure in [the] teaching profession

rather than any other profession. . . . On the other hand, it is a common observation that males do not feel comfortable with [the] teaching profession (p. 34).

Tai, Hu, Wang, and Chen (2012) investigated the impact of teacher self-efficacy on student learning outcomes by developing five different hypotheses. These were

(a) teacher self-efficacy has a positive effect on student learning satisfaction; (b) teacher self-efficacy has a positive effect on student learning outcomes; (c) the teaching process has a positive effect on student learning satisfaction; (d) the teaching process has a positive effect on student learning outcomes; and (e) student learning satisfaction has a positive influence on student learning outcomes. (p. 77)

Teacher self-efficacy and the teacher teaching process show a strong association with learning satisfaction. The proposed model accounts for 47.8% of the variance in learning satisfaction, and teacher self-efficacy, the teacher teaching process and learning satisfaction all showed a strong association with learning outcomes. The proposed model accounted for 72.0% of the variance in learning outcome. (p. 81)

Ross (1992) conducted research “in a sample of 18 grade 7 and 8 history teachers in 36 classes, implementing a specific innovation with the help of 6 coaches” (p. 51).

This was to determine the relationship between student performance and teacher self-efficacy. The Ross study

began with the question: Who benefits from coaching? The investigation found that all teachers, regardless of their level of efficacy, were more effective with increased contact with their coaches. . . . The most interesting unforeseen finding of the study was the negative correlations between reliance on school administrators and other measures. Teachers who reported making greater use of school administrators reported less involvement with their coaches, and these teachers obtained lower achievement in their classes. (p. 62)

Two independent teams of researchers found that teachers’ self-efficacy directly improves the students’ academic achievement in the shape of their annual grades.

Teachers with more self-efficacy can understand students easily by reading the pulse of their students through their sharp observation since it is the key to success in class (Gibson & Dembo, 1984; Ashton & Webb, 1986).

In a study conducted by Shahzad and Naureen (2017), the objective was “to find out the impact of teacher self-efficacy on secondary school students’ academic achievement” (p. 48). The results state “that self-efficacy possessed by a teacher improves the students’ academic achievement and they obtain better grades in their examination” (p. 67). “The results indicate that there is a positive relationship between teacher self-efficacy and student academic achievement” (p. 65).

It has also been observed that the teachers are very efficacious and their level of self-efficacy is high, which tends to produce positivity in students’ behavior, attitude, and most importantly, their academic achievement. Those teachers who have a high level of self-efficacy produce better results regarding students’ academic achievements. (Shahzad & Naureen, 2017, p. 68)

Several studies reveal that teachers with high values of self-efficacy have a higher influence on their students to achieve, perform, and experience academic success. A vast majority of teachers with TSE have a higher likelihood to provide exciting and creative teaching techniques, than teachers with a low TSE beliefs (Moore & Esselman, 1994, p. 12, 13). Additionally, classroom climates need to be businesslike yet suitably relaxed and supportive for students, with high teacher expectations who stress the positive attributes in his or her students Muijs & Reynolds, 2001, p. 5).

School Leadership, Teacher Self-Efficacy, and Student Achievement

Past studies have linked school leadership style to teachers’ efficacy. Ross and Gray (2006) claim that by “setting feasible goals, clarifying standards and lining actions of teachers to student outcomes, a principal influences teacher self-assessments that contribute to efficacy beliefs” (p. 801). Self-efficacy is defined as the “‘belief in one’s capabilities to organize and execute the course of action required to produce given attainments’ (Bandura et al., 1997, p. 2)” (Ross & Gray, 2006, p. 801). Teacher’s

efficacy, which is defined as the teachers' beliefs in their ability to have a positive effect on student learning, has been related to student achievement, student motivation, and teachers' classroom management strategies, Hoy and Woolfolk (1993). Further research provides evidence that principals significantly influence a teacher's experiences on the job (Rosenholtz, 1985) and impacts the teacher's efforts (Geijsel, Sleegers, Leithwood, & Jantzi, 2003). Bandura et al. (1997) found support for the notion that school principals' leadership style may be a significant influencing factor on teacher personal self-efficacy. There is evidence in research that effective principals increase student achievement (Waters et al., 2003) and also that there is a positive relationship between high levels of teacher self-efficacy and increased student achievement (Walker & Slear, 2011).

Summary

This review of the literature was divided into four major sections: (a) Student Achievement, (b) School Leadership and Student Achievement, (c) Teachers' Self-Efficacy, Student Achievement, and (d) School Leadership, Teacher Self-efficacy, and Student Achievement.

In the review, it has been observed there are many factors contributing to student achievement. These factors include family background/socioeconomic status, student aptitude, peer group/classmates, motivation, incentives, instructional materials, teacher and class size, intellectual skills, personality, motivation, abilities, interests, study habits, self-esteem, and the teacher-student relationship.

Instructional, transformational, transactional, and passive-avoidance behavior, were reviewed, concentrating on the dimensions each one focuses on, and how much focus contributes to teachers' self-efficacy and student achievement. Following that, this

review discussed the history, definitions, measurements, and meaning of teacher self-efficacy. A relationship between teacher self-efficacy and school leadership styles was also covered.

The review of the literature served as the foundation of this study. By understanding issues relating to principal school leadership style and how that impacts teachers' self-efficacy, a platform was created that explains the relationship between school leadership style, teachers' self-efficacy, and how these can impact student achievement.

Pinkston-Miles has identified and organized the following characteristics for ascertaining efficacious teachers:

Teachers with a strong sense of efficacy are better organized (Allinder, 1994), more willing to try new ideas to meet their students' needs (Stein & Wang, 1988), less critical to students whenever they make errors (Ashton & Webb, 1986), more positive about teaching (Guskey, 1984), less likely to refer children to special education services (Podell & Soodak, 1993), and more likely to implement positive classroom management strategies (Emmer & Hickman, 1990). (Pinkston-Miles, 2003, p. 2)

Some researchers have related educator efficacy to student outcomes, purpose – motivation, or attainment of aspirations (Anderson, Green & Loewen, 1988).

Chapter 3 will explain the methodology used in examining school principals' leadership style; teacher efficacy and the extent to which these two major constructs are related in high- and low-achieving schools in Chikankata, Zambia.

CHAPTER 3

METHODOLOGY

Introduction

The purpose of this study was to examine school principals' leadership style, teacher efficacy, and the extent to which these two major constructs are related in high- and low-achieving schools in Chikankata, Zambia. The research questions leading to the investigation of the topic are:

1. What are the principals' leadership styles in the schools in Chikankata District, Zambia?
2. Are there differences in the way the school principals rate themselves and the way the teachers rate their school principals concerning the style of leadership?
3. What is the level of self-efficacy among teachers in Chikankata District, Zambia?
4. To what extent is teacher self-efficacy related to teachers' ratings of principal leadership styles in Chikankata District, Zambia?
5. To what extent do leadership styles discriminate between high- and low-achieving schools in Chikankata District, Zambia?

Sample

This study was carried out in Chikankata District, Southern Province, in the country of Zambia. Chikankata District had 60 schools. The researcher sought the help of the District Education Board Secretary and her team of officers at the District to determine the criteria that were used in grouping schools into the top ten- and low ten-

achievers. Out of these 60 schools, twenty schools were identified as participants in this research. Ten of them belonged to the top-achievers while the other ten to the low-achievers. For purposes of anonymity, the ten high-achieving schools and the ten low-achieving schools are represented by alphabetical letters, but the actual names of these schools may be shared if needed and necessary. In addition, for purposes of anonymity, the names of the school principals have been left out, but if required, they may be shared.

The following three principles served as the criterion for qualifying a school to be included in the sample in this research:

1. The participating school must have had a school principal, who had served that particular school as principal for at least three years,
2. an average score of 50% or more in the past three years (2013, 2014, and 2015) at the national grade 8 and 12 examinations qualified a school to be rated as a top-achiever while an average of 40% or less in the same years is rated low-achiever, and
3. national results for all participating schools were used as a basis for scores (see Appendix A.)

The reason for a school principal to have served the school for at least three years was to relate the possible influence of that school principal to the academic performance of the same school in the same three years. In other words, the researcher wanted to make sure that the school principal was the leader of the school during the time the school performed those three years (2013, 2014, and 2015). The researcher reasoned that the period of three years had the likelihood of giving the school principal enough time to influence, if he or she could, the teacher's efficacy and, ultimately, student achievement.

Both primary and secondary schools were used in the study in spite of the fact that these are different levels of education. However, the researcher chose to combine both secondary and primary schools because the research did not focus on the levels of administration as much as it was on the leadership style, its influence or relationship to teachers, and the academic performance of the school. Leadership style is leadership style, whether a leader is leading a primary school or a secondary school.

With research evidence that shows effective principals increase student achievement (Waters et al., 2003), and that principals significantly influence both the teacher's experiences on the job (Rosenholtz, 1985) and their efforts (Geijsel et al., 2003). This study focused on examining the relationship between the school principal's leadership style and teacher's efficacy and the extent to which these impacted student achievements.

Research Design

The design of this research was quantitative and non- experimental. "Non-experimental research designs describe phenomena and examine the relationship between different phenomena without any direct manipulation of conditions that are experienced" (McMillan & Schumacher, 2010, p. 22).

The type of quantitative non-experimental research design was a survey. Surveys are generally used to describe attitudes, beliefs, opinions, values, behaviors, habits, desires, ideas, and other types of information. Most surveys describe the incidence, frequency, and distribution of the characteristics of an identified population (MacMillan & Schumacher, 2010, p. 236). MacMillan and Schumacher observe that in addition to

being descriptive, “surveys can be used to explore relationships between variables, or in an explanatory way” (p. 236).

Most often, surveys are used to gather information about a larger group (population) that can be inferred from the responses obtained from a smaller sample group of subjects (McMillan & Schumacher, 2010, p. 235). In this research, the researcher gathered information using a survey approach from nineteen schools, and from that information, the inference was made to the other forty-one schools in Chikankata District. The researcher also described the leadership style from the survey as well as explored relationships between leadership style and teacher efficacy.

Data Collection Procedures

The following served as the procedure for collecting data from the nineteen schools. First, the researcher met with all 60 school principals in the presence of the District Education Board Secretary and her officers’ team to explain to the group the purpose of the research and the significance of it when done well and successfully. At this very first meeting, the researcher then requested to have a separate meeting with the 20 schools that qualified to participate in the research. In that separate meeting, the researcher set the time with each school principal concerning the best time for data collection. The researcher collected the necessary contact information from each school principal.

During the actual time for data collection, the researcher went to each particular school in person, with the permission of the school principal, gathered all the teachers, together with the school principal in one place for about 90 minutes. During that time, the researcher explained to the participants the purpose of the research, had them sign the

consent forms to participate and then described the two instruments to make sure that the participants understood what they were expected to do. Lastly, the participants were then given about an hour to complete the questionnaires, after which the researcher immediately collected them.

Hard copies of questionnaires from two instruments, MLQ and TEBS-Self, were used to survey the opinions of teachers and school principals from nineteen schools in Chikankata on the two constructs, leadership style, and teacher efficacy. These questionnaires had the same questions for all participants.

Hard copies were used to collect data because it was the most practical way in Zambia. Many of the participants did not own computers, and the internet was non-existent in most schools, and where and when available, was not reliable.

Instruments

In this survey type research, the researcher used two tools to collect data. These instruments provided information about the two constructs, leadership style and teacher self-efficacy. To examine leadership style for school principals, the researcher used the Multifactor Leadership Questionnaire (MLQ) (Form-5X) by Bass and Avolio (1997), and for teacher's efficacy, the researcher used the Teacher's Efficacy Belief System-Self (TEBS-Self) by Dellinger et al. (2008).

MLQ (Form 5X) Instrument

Conceptual Definition

(MLQ) (Form 5X) measures three types of leadership behavior: transformational, transactional, and non-transactional laissez-faire leadership [referred to as *passive-avoidance* in my study], which are represented by nine distinct factors These nine are

further grouped into five transformational leadership factors, three transactional leadership factors, and one non-transactional passive-avoidance leadership factor. The five-order elements of transformational leadership are:

(a) *Idealized influence (attributed)* refers to the socialized charisma of the leader, whether the leader is perceived as being confident and powerful, and whether the leader is viewed as focusing on higher-order ideals and ethics; (b) *idealized influence (behavior)* refers to charismatic actions of the leader that are centered on values, beliefs and a sense of mission; (c) *inspirational motivation* refers to the way leaders energize their followers by viewing the future with optimism, stressing ambitious goals, projecting an idealized vision, and communicating to followers that the vision is achievable; (d) *intellectual stimulation* refers to leader behavior that contributes to follower sense of logic and analysis by challenging followers to think creatively and find solutions to difficult problems; and (e) *individualized consideration* refers to leader behavior that contributes to follower satisfaction by advising, supporting, and paying attention to the individual needs of followers, and thus allowing them to develop and self-actualize. (Antonakis, Avolio, & Sivasubramaniam, 2003, pp. 264, 265)

The three first-order factors of transactional leadership are based on the fulfillment of contractual obligations and are typically represented as setting objectives, and monitoring and controlling outcomes. These are:

(a) *Contingent rewards leadership* (i.e., constructive transactions) refers to leader behaviors focused on clarifying role and task requirements and providing followers with material or psychological rewards contingent on the fulfillment of the contractual obligations. (b) *management-by-exception active* (i.e., active corrective transactions) refers to the active vigilance of a leader whose goal is to ensure that standards are met; and (c) *management-by-exception passive* (i.e., passive corrective transactions) leaders only intervene after noncompliance has occurred or when mistakes have already happened. (Antonakis et al., 2003, p. 265)

Passive-avoidance leadership is another form of management that is more passive and reactive. It does not respond to situations and problems systematically. Instead, passive leadership avoids specifying agreements, clarifying expectations, and providing goals and standards to be achieved by the followers. This leadership is divided into two behaviors:

1. Management-by-Exception: Passive (MBEP).

2. Passive-Avoidance (PA).

Management-by-Exception: Passive, fails to interfere until problems become severe, waits for things to go wrong before taking action; shows a firm belief in “if it isn’t broken, don’t fix it”; demonstrates that problems must become chronic before action is taken. Passive-Avoidance evades getting involved when critical issues arise, is absent when needed, avoids making decisions, and delays responding to urgent questions.

Avolio et al. (2004) state that

The major leadership constructs—transformational leadership, transactional leadership, and passive/avoidant [*sic*] leadership—form a new paradigm for understanding both the lower- and higher-order effects of leadership style. This paradigm builds on earlier leadership paradigms, such as those of autocratic versus democratic leadership, directive versus participative leadership, and task-versus relationship oriented leadership, which have dominated selection, training, development, and research in this field for the past half century. (p. 3)

The MLQ instrument has been used in different settings and different countries and, as such, could be used in Zambia and be applicable.

Instrumental and Operational Definition

The MLQ (Form 5X) contains 45 items, 36 of which represent the nine leadership factors described below, with each leadership scale comprised of four items. The remaining nine items from the 45 assess three leadership outcomes scales.

A five-point scale for rating the frequency of observed leader behavior is used and bears a margin of estimation based on a ratio of 4:3:2:1:0. The rating scales of the ratios for each of the items are represented as follows:

0 = Not at all

1 = Once in a while

2 = Sometimes

3 = Fairly often

4 = Frequently, if not always

Specific items on the 45 questions that are in the questionnaire and that relate to each component are shown in Table 1.

The MLQ scale scores are average scores for the items on the scale. The score can be derived by summing the items and dividing by the number of items that make up that scale. If an item is left blank, divide the total for that scale by the number of items answered. All of the leadership style scales have four items, Extra Effort has three items, Effectiveness has four items, and Satisfaction has two items. (Avolio et al., 2004, p. 118)

Table 1

Summary of MLQ Descriptions and Item Numbers

Leadership Style/Description	Item Number				
<u>Transformational Leadership</u>					
Idealized Influence (Attribute)	10	18	21	25	
Idealized Influence (Behavior)	6	14	23	34	
Inspirational Motivation	9	13	26	36	
Intellectual stimulation	2	8	30	32	
Individualized consideration	15	19	29	31	
<u>Transactional Leadership</u>					
Contingent Reward	1	11	16	35	
Management-by-Exception (Active)	4	22	24	27	
Management-by-Exception (Passive)	3	12	17	20	
<u>Passive-Avoidance</u>					
Laissez-Faire	5	7	28	33	
Extra Effort	39	42	44		
Effectiveness	37	40	43	45	
Satisfaction	38	41			

A study by Antonikas and Avolio (2003) gave results that indicated

the current version of the MLQ (Form 5X) is a valid and reliable instrument that can adequately measure the nine components comprising the full-range theory of leadership. Although the MLQ (Form 5X) and indeed, any leadership survey instrument, will never account for all possible leadership dimensions, it represents a foundation from which to conduct further research and to expand our understanding of the ‘new models of leadership. (p. 286)

When tested for exhibiting stability within homogenously coded data sets, which basically was to check if the MLQ (Form-5X) would be fully invariant in homogenous conditions, the results “indicated strong and consistent evidence that the nine-factor model best represented the factor structure underlying the MLQ (Form 5X) instrument” (Antonikas, Avolio, & Sivasubramaniam 2003, p. 283). By providing this comprehensive assessment of the validity and reliability of the MLQ (Form 5X) instrument, Antonikas demonstrated that the MLQ (Form 5X) could be used to represent the full-range model of leadership and its underlying theory.

The researcher added to this instrument demographic information that sought to understand the participant’s personal information.

TEBS-Self Instrument

The second instrument that the researcher used in this study was the Teachers’ Self-Efficacy Belief System (TEBS-Self) by Dellinger et al. (2008).

Conceptual Definition

Teacher self-efficacy: represents the “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” or a personal belief that one is able to do what it takes to accomplish a task at a particular level of quality (Bandura et al., 1997, p. 3). There are four primary sources of efficacy:

1. *Enactive Mastery Experience*: Authentic evidence of one's ability to succeed in accomplishing a particular task at a certain level of quality or difficulty.
2. *Vicarious Experiences*: Active cognitive process in which individuals vicariously engage when thinking about or directly observing modeled behaviors.
3. *Social Persuasion*: Meaningful verbal and or symbolic communication from others about ones' capabilities to succeed at a given task.
4. *Physiological And Emotional States*: Personal, internal, affective, and cognitive states and physical conditions, such as euphoria, stress, anxiety that accompany thought and action as individuals attempt, pursue or complete performance tasks successfully or unsuccessfully (Bandura et al., 1997).

Instrumental and Operational Definition

The Teachers' Self-Efficacy Belief System (TEBS-Self) instrument consists of 31 items (Dellinger et al., 2008), with each of the 31 items using the 4-point Likert-type scale, with anchors as follows:

- 1 = Weak Beliefs in my Capabilities
- 2 = Moderate Beliefs in my Capabilities
- 3 = Strong Beliefs in my Capabilities
- 4 = Very Strong Beliefs in my Capabilities.

The TEBS-Self instrument is made up of six components namely:

1. Communication/Clarification: Monitoring and feedback for learning.
2. Management/Climate: Classroom management and maintaining a positive classroom climate.

3. Accommodating Individual Differences: Planning and accommodating for individual differences.

4. Motivation of Students.

5. Managing Learning Routines.

6. Higher Order Thinking Skills.

Specific items on the 31 questions that are in the questionnaire, issues that relate to each component are displayed in Table 2:

Table 2

Summary of Survey Components and Item Numbers

Component	Item Number
Communication/Clarification (Monitoring feedback for learning)	5,10,11,15,16,17,18,22,23
Management/Climate (Classroom management and maintaining a positive classroom climate)	3,4,5,6,7,8,9,24,30,31
Accommodating Individual Differences (Planning and accommodating for individual differences)	1,2,12,13,14,27,28
Motivation of Student	26,29,30
Managing Learning Routines	3,4,5
Higher Order Thinking Skills	19,20,21,25

(Dellinger et al. 2008, p. 760)

Dellinger et al. (2008) determined four moderately correlated factors that could be used with the instrument:

1. Efficacy in accommodating individual differences,

2. efficacy in managing learning routines,

3. efficacy in maintaining a positive classroom climate, and
4. efficacy in monitoring feedback for learning.

Dellinger et al. (2008) argued that while this instrument was developed in the United States, it is useful to an international audience. (p. 763)

The researcher added to this instrument, demographic information that seeks to understand the participant's personal information.

Data Collection Procedure

Permissions

The first thing the researcher did was to obtain permission from different key people to conduct this research. The researcher obtained permission from the Institutional Review Board of Andrews University to conduct the proposed research.

Next, the researcher obtained permission from the District Education Board Secretary (DEBS) for Chikankata District. District Education Board Secretaries are the chief executive officers of school districts. Approval from the DEBS was to allow the researcher to conduct the study using schools in his or her district, which is Chikankata. A sample of the letter of application for permission is found in Appendix B.

After obtaining permission from the DEBS, the researcher obtained permission from the principals of the schools that participated in the study. This permission sought to allow the researcher access to the individual teachers and school principals to solicit them to be participants in the study. A sample of this request is attached as Appendix C. The last group from whom the researcher sought permission or consent were the teachers of the schools that participated in the research. A copy of that letter is found in Appendix D.

Collecting Data

Logistics of how to collect data were agreed upon with each school principal. The researcher proposed to the school principals that he meets with the teachers, at which time he did five things:

1. Shared a letter to each participant that outlined the purpose of the research.
2. Distributed the Research Participant Consent Forms for signature by those who agreed to be participants in the study.
3. Shared information concerning confidentiality.
4. Handed out the appropriate instruments for them to respond and fill out.
5. Requested them to fill out the questionnaire to be placed in a sealed and secure box when they were done.

The researcher then collected and took the data immediately after thanking them for participating in the research. For the school principal himself or herself, the researcher carried out the same procedure with him or her privately. The researcher repeated this same procedure to all schools involved in the study.

One set of data was collected from 18 school principals to determine their leadership styles. On the other hand, two sets of data were collected from teachers from nineteen schools. The first data focused on the leadership style of the school principals as viewed by the teachers. The second set of data focused on the teacher's efficacy.

Data Analysis

The procedures that the researcher followed to analyze data included the following: First, prepare the data for analysis using SPSS software, conduct the data

analysis itself, report the results after the investigation and finally interpret the results from the data analysis.

Due to the nature of the questions, the researcher analyzed the research questions using different analysis techniques.

Research Question 1 asked: What are the principal leadership styles in the schools in Chikankata District, Zambia? To analyze data relating to this question, the researcher used bivariate descriptive analysis using measures of central tendency such as the means, median, modes, and measures of variability such as the range and standard deviation. Measures of central tendency is an index that is used to represent a group of scores. The mean is the arithmetic average of all the scores calculated by summing all the scores and then dividing the sum by the number of scores. The median is the point that divides a rank-ordered distribution into halves that contain an equal number of scores. “The mode is simply the score that occurs most frequently in a distribution” (McMillan & Schumacher, 2010, p. 159) In order to provide a full description, these statistical measures, are needed.

Research Question 2 asked: Are there differences in the way the school principals rate themselves and the way the teachers rate their school principals with regards to the style of leadership? A series of independent samples *t*-tests were conducted to answer this question.

Research Question 3 asked: What is the level of teacher self-efficacy in the schools in Chikankata District, Zambia? To analyze data relating to this question, the researcher used bivariate descriptive analysis using measures of central tendency such as

the means, median, modes, and measures of variability, such as the range and standard deviation.

Research Question 4 asked: To what extent is teacher self-efficacy related to teachers' ratings of principal leadership styles? Canonical correlation analysis was used to determine the relationships between these two sets of variables. Canonical correlation analysis is a method for exploring the relationships between two multivariate sets of variables.

Research Question 5 asked: To what extent do leadership styles discriminate between high- and low-achieving schools? Descriptive discriminant function analysis was used to determine if the set of teacher ratings of principal leadership styles could reliably distinguish between high- and low-achieving schools

Lastly, in interpreting the results, the researcher summarized the results paying attention to two things:

1. Does the data provide answers to research questions?
3. Compare the findings from existing literature to what this study found.

Summary

Chapter 3 explained how the study planned to find answers to the five research questions stated in Chapter 1. Chapter 3 further provided details of the methodology of the research and described the research design utilized, the research sample, the two instruments used in the study, data collection procedures, and analysis.

Quantitative and non-experimental methods were used to address the five research questions in order to understand the school principal's leadership style and teacher's self-efficacy in high- and low-achieving schools and the extent to which these influence

student achievement in the schools in Chikankata District. Data was collected through a survey. Chapter 4 will provide the results of this study, and Chapter 5 will discuss the implication of the findings.

CHAPTER 4

RESULTS

Introduction

The purpose of this study was to examine school principals' leadership style, teacher self-efficacy, and the extent to which these two constructs are related in high- and low-achieving schools in Chikankata District, Zambia.

There are five research questions that guided this study:

1. What are the principals' leadership styles in the schools in Chikankata District, Zambia?
2. Are there differences in the way the school principals rate themselves and the way the teachers rate their school principals with regards to the style of leadership?
3. What is the level of self-efficacy among teachers in Chikankata District, Zambia?
4. To what extent is teacher self-efficacy related to teachers' ratings of principal leadership styles in Chikankata District, Zambia?
5. To what extent do leadership styles discriminate between high- and low-achieving schools in Chikankata District, Zambia?

This chapter includes a descriptive and statistical analysis of data collected from 18 school principals and 203 teachers who taught at 19 schools in Chikankata District, Zambia. At the beginning of the research, 20 schools had agreed to participate in the study. The selection of a school to participate in the study was based on the following

criteria: (a) the participating school must have had a school principal who must have had served that particular school as principal for at least three years, (b) an average of 50% score or more on the national examinations for grades 8 and 12 in 2013, 2014 and 2015 qualified a school to be rated as a high-achiever while an average of 40% or less in the same years is rated low-achiever, and (c) national results for all participating schools were used as a basis for scores.

After identifying and selecting the 20 schools that qualified for either high- or low-achievers, agreement letters were signed, and data collection began. Out of those 20 schools, one school from the list of low achievers failed to participate due to schedule conflicts and the distance to their location. One school principal from the list of high achievers was unable to return his questionnaire, but those from his teachers were collected. As a result, this study has analyzed data from 18 school principals and 203 teachers from the 19 schools. The analysis in this study has included the responses from the teachers whose principal did not hand in the questionnaire, but only to those research questions that relate to teacher's perceptions of teacher's efficacy in general. To those research questions that deal with relationships between the school principal's leadership style and the teacher's effectiveness, only data from the 18 schools whose principals and teachers filled the responses were used.

Table 3 shows information about the ten-top-achieving schools as was in the records of the District Education Board Secretary (DEBS) at the time of determining which schools were top and which schools were low in achievement. The average percentages of passes over three years range from a low of 62% (Schools TO3, TO8, and T10) to a high of 98% (TO4).

Table 3

High-Achieving Schools in Chikankata Education District Based on the Records of 2013, 2014, and 2015

#	School Code	Principal Code	Years as Principal	Number of Teachers	Perform % 2013	Perform % 2014	Perform % 2015	Perform % Average
1	TO1	PTO1	15	35	80	85	86	84
2	TO2	PTO2	4	8	74	100	100	91
3	TO3	PTO3	5	8	84	42	61	62
4	TO4	PTO4	10	12	97	99	98	98
5	TO5	PTO5	3	8	68	85	97	83
6	TO6	PTO6	9	15	65	62	62	63
7	TO7	PTO7	8	15	76	78	78	77
8	TO8	PTO8	4	21	52	62	73	62
9	TO9	PTO9	4	9	67	100	96	88
10	T10	PT10	10	29	58	78	52	62

Table 4 shows information about the nine low-achieving schools also as in the records at the same time. The average percentage of passes over a 3-year range is from a low of 22% (LO1) to a high of 42% (LO3).

Descriptions of Participants

During data collection, there were 18 school principals that submitted their questionnaires and 211 teachers from the schools administered by those 18 school principals, plus the school whose principal did not turn in the survey. However, after further analysis of the data from the 211 responses, 3 of the 211 answers were disqualified from being a part of the analysis due to too many missing responses on a number of the items in the survey questionnaire. This resulted in a total of 208 responses from teachers remaining.

Table 4

Low-Achieving Schools in Chikankata Education District Based on the Records of 2013, 2014, and 2015

#	School Code	Principal Code	Years as Principal	No. of Teachers	Perform % 2013	Perform % 2014	Perform % 2015	Perform % Average
1	LO1	PLO1	5	5	12	40	15	22
2	LO2	PLO2	6	16	23	20	56	33
3	LO3	PLO3	8	10	42	29	56	42
4	LO4	PLO4	7	12	24	24	34	27
5	LO5	PLO5	3	15	21	40	40	34
6	LO6	PLO6	3	10	33	31	54	39
7	LO7	PLO7	8	16	44	45	27	39
8	LO8	PLO8	9	15	73	24	24	40
9	LO9	PLO9	9	11	61	13	22	32

Data in Table 5 indicates that higher-achieving schools had a higher proportion of male teachers than low-achieving schools (60.4% vs. 45.4%). The proportion of teachers with a diploma (2-year degree) was higher in low-achieving schools than in high-achieving schools (73.9% vs. 63.2%). But with regards to those holding Bachelor's and Master's degrees, there was a higher proportion of teachers in high-achieving schools than in low-achieving schools (31.1% vs. 23.9% and 5.7% vs. 2.2%) respectively.

With regards to the number of years of teaching experience, data in Table 5 shows that the proportion of teachers who had taught more than 16 years is higher in high-achieving schools than in low-achieving schools (27.4% vs. 15.6% respectively). The majority of the teachers, according to Table 5, had taught between 6-10 years of service both in high-achieving school and low-achieving schools (28.3% vs. 38.5% respectively). However, when it came to the number of years teachers had taught under the headship of a particular principal, a majority in both high- and low-achieving schools had served between 1-5 years (70.8% and 80.4% respectively).

Data in Table 5 also reveals that 100% of teachers in low-achieving schools taught in primary school. This is different in high-achieving schools, where 43.4% taught in primary schools while 56.6% taught in secondary school.

Table 5

Description of Participants (Teachers)

Variables		High-Achieving (<i>N</i> = 106)		Low-Achieving (<i>N</i> = 97)	
		<i>n</i>	%	<i>n</i>	%
<u>Gender</u>					
	Male	64	60.4	44	45.4
	Female	42	39.6	53	54.6
<u>Level of Education</u>					
	Diploma	67	63.2	68	73.9
	BA	33	31.1	22	23.9
	Masters	6	5.7	2	2.2
<u>Years of teaching</u>					
	1-5	31	29.2	33	34.4
	6-10	30	28.3	37	38.5
	11-15	16	15.1	11	11.5
	16+	29	27.4	15	15.6
<u>Years of Service in the Current School</u>					
	1-5	59	56.2	72	74.2
	6-10	23	21.9	19	19.6
	11-15	17	16.2	4	4.1
	16+	6	5.7	2	2.1
<u>Years Worked Under the Current School Principal</u>					
	1-5	75	70.8	78	80.4
	6-10	23	21.7	18	18.6
	11-15	8	7.5	1	1.0
<u>School Type</u>					
	Primary (Grades 1-7)	46	43.4	97	100.0
	Secondary (Grades 8-12)	60	56.6	0	0.0

Data in Table 6 indicates that both high-achieving schools and low-achieving schools had the same percentage of male and female school principals (88.9% vs. 11.1%, respectively). However, when it comes to educational levels, higher-achieving schools had a higher proportion of principals who had a Bachelor's degree than principals in low-achieving schools (55.6% vs. 33.3%, respectively). Higher-achieving schools had a lower

Table 6

Description of Participants (Principals)

Variables		High-Achieving (N = 9)		Low-Achieving (N = 9)	
		<i>n</i>	%	<i>n</i>	%
<u>Gender</u>					
	Male	8	88.9	8	88.9
	Female	1	11.1	1	11.1
<u>Level of Education</u>					
	Diploma	4	44.4	6	66.7
	BA	5	55.6	3	33.3
<u>Years of Service</u>					
	6-10	0	0	1	11.1
	11-15	1	11.1	0	0
	16+	8	88.9	8	88.9
<u>Years of Service in Current School</u>					
	1-5	5	55.6	2	22.2
	6-10	4	44.4	7	77.8
<u>School Type</u>					
	Primary (Grades 1-7)	5	55.6	9	100
	Secondary (Grades 8-12)	4	44.4	0	0

proportion who have 6-10 years of experience at the current school compared to those in low-achieving schools (44.4% vs. 77.8% respectively). Lower-achieving schools had all principals heading primary schools (100%), while those in higher-achieving schools had 44.4% in secondary schools, and 55.6% in primary schools.

Results

Leadership Styles of School Principals in Chikankata District

Research Question 1: What are the principals' leadership styles in the schools in Chikankata District, Zambia?

The questionnaire scale was from 0-4, but this was transformed when the data was entered to 1-5. Because of this, the values (Number) changed, but the labels (Description) remained the same. The values and labels can be seen in Figure 2:

Questionnaire Scale	Data Entry Scale	Description
0	1	Not at all
1	2	Once in a while
2	3	Sometimes
3	4	Fairly often
4	5	Frequently if not always

Figure 2. Questionnaire Scale

Principal Self-Rating of Their Leadership Styles

Table 7 shows means and standard deviations of each leadership style and its sub-scales. Principals in high-achieving schools practiced transformational ($M = 4.43$, $SD = 0.19$) and transactional leadership styles ($M = 4.04$, $SD = 0.49$) 'fairly often'. On the other hand, principals of low-achieving schools practiced transformational ($M = 4.40$, SD

= 0.42) ‘fairly often’ and transactional ($M = 3.67$, $SD = 0.84$) leadership styles ‘sometimes’. Principals in high- and low-achieving schools ($M = 1.66$, $SD = 0.43$; $M = 1.83$, $SD = 0.78$) use passive-avoidance only ‘once in a while’.

Table 7

Means and Standard Deviations of Leadership Styles by School Type (Principal Self-Ratings)

Variables	School Type			
	High ($n = 9$)		Low ($n = 9$)	
	M	SD	M	SD
<u>Transformational</u>	4.43	0.19	4.40	0.42
Inspirational motivation	4.81	0.21	4.56	0.45
Idealized behaviors	4.42	0.22	4.61	0.38
Individual consideration	4.36	0.33	4.36	0.64
Intellectual stimulation	4.33	0.31	4.22	0.65
Idealized attributes	4.24	0.65	4.27	0.39
<u>Transactional</u>	4.04	0.49	3.67	0.84
Contingent Reward	4.53	0.36	3.94	0.58
Management by Exception (Active)	3.55	0.83	3.39	1.11
<u>Passive-Avoidance</u>	1.66	0.43	1.83	0.78
Management by Exception (Passive)	1.74	0.75	2.06	0.54
Passive-Avoidance	1.57	0.70	1.61	1.05

On the subscale level, the inspirational motivation aspects of transformational leadership are ‘frequently, if not always’ used by principals of high-achieving ($M = 4.81$, $SD = 0.21$) and low-achieving schools ($M = 4.56$, $SD = 0.45$), the Mean being above 4.50. Idealized behaviors appear to be used more frequently by principals in low-achieving schools ($M = 4.61$, $SD = 0.38$) than principals of high-achieving schools ($M = 4.42$, $SD = 0.22$). Both contingent reward ($M = 4.53$, $SD = 0.36$) and active management

by exception ($M = 3.55$, $SD = 0.83$) aspects of transactional leadership styles are used more frequently by principals of high-achieving schools than by principals of low-achieving schools ($M = 3.94$, $SD = 0.58$ and $M = 3.39$, $SD = 1.11$ respectively).

The passive-avoidance leadership style is ‘once in a while’ used by both high- and low-achieving schools ($M = 1.66$, $SD = 0.43$; $M = 1.83$, $SD = 0.78$ respectively), even though the low-achieving schools appear to use it more frequently than the high-achieving schools when compared.

Teacher Ratings of Principal Leadership Styles

Teachers rated school principals in high-achieving schools ($M = 3.74$, $SD = 0.69$) as utilizing ‘fairly often’ transformational leadership style, while teachers in low-achieving schools ($M = 3.35$, $SD = 0.97$) rated their school principals as practicing transformational leadership ‘sometimes.’ However, in transactional leadership style, both high- and low-performing schools ($M = 3.35$, $SD = 0.64$; $M = 3.29$, $SD = 0.82$ respectively) rated their school principals as practicing transactional leadership ‘sometimes.’ Concerning passive-avoidance leadership style, both high- and low-achieving schools ($M = 2.35$, $SD = 0.84$, $M = 2.57$, $SD = 0.87$ respectively) rated their principals as utilizing this style ‘Once in a while.’ Table 8 displays teacher ratings of principal leadership styles in both high- and low-achieving schools.

Table 8

Means and Standard Deviations of Leadership Styles by School Type (Teachers Ratings)

Variables	School Type			
	High ($n = 101$)		Low ($n = 107$)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Transformational	3.74	0.69	3.35	0.97
Inspirational motivation	4.04	0.83	3.59	1.11
Idealized behaviors	3.88	0.80	3.55	0.90
Individual consideration	3.77	0.96	3.28	1.27
Intellectual stimulation	3.51	0.70	3.26	1.00
Idealized attributes	3.49	0.90	3.07	1.13
Transactional	3.35	0.64	3.29	0.82
Contingent Reward	3.71	0.88	3.37	1.19
Management by Exception (Active)	2.97	0.88	3.20	0.89
Passive-Avoidance	2.35	0.84	2.57	0.87
Management by Exception (Passive)	2.44	0.89	2.56	0.93
Passive-Avoidance	2.26	0.98	2.59	1.12

The inspirational motivation aspects of transformational leadership are ‘fairly often’ used by principals in both high- and low-achieving schools ($M = 4.04$, $SD = 0.83$; $M = 3.59$, $SD = 1.11$ respectively), even though used more frequently by high-achieving schools. Idealized behaviors aspects of transformational leadership style are ‘fairly often’ utilized in high- and low-achieving schools ($M = 3.88$, $SD = 0.80$; $M = 3.55$, $SD = 0.90$ respectively). However, idealized influence aspect of transformational leadership style is ‘fairly often’ utilized in high-achieving schools ($M = 3.77$, $SD = 0.80$) and only ‘sometimes’ used in low-achieving school ($M = 3.28$, $SD = 1.27$).

Contingent reward aspect of transactional leadership style is ‘fairly often’ utilized by principals in high-achieving schools ($M = 3.71$, $SD = 0.88$), but only ‘sometimes’ used in low-achieving schools ($M = 3.37$, $SD = 1.19$).

Differences in Leadership Styles Rating Between School Principals and Teachers

Research Question 2: Are there differences in the way the school principals rate themselves and the way the teachers rate their school principals concerning the style of leadership?

A series of independent samples t -tests were conducted to answer this question. To control Type I error rate inflation, the level of significance was set at 0.01 rather than the conventional 0.05. Descriptions of the results of the independent samples t -tests in all three leadership styles are discussed in the following three sections.

Differences in Ratings of School Principals in Transformational Leadership Style

Teachers’ ratings ($M = 3.53$, $SD = 0.87$) of school principals in transformational leadership style is significantly lower than principals self-rating ($M = 4.42$, $SD = 0.32$). The p -value of 0.001 is lower than the set value of 0.01, showing that the difference in the ratings of the school principals by the teachers and the self-rating of the school principals in transformational leadership style is significant.

The same observation is true even in all subscales of transformational leadership style. Teachers’ ratings ($M = 3.51$, $SD = 1.58$) of school principals in the idealized attributes aspect of transformational leadership style is significantly lower than principals self-rating ($M = 4.26$, $SD = 0.52$). The p value in this aspect was at 0.007. Teachers’ ratings ($M = 3.71$, $SD = 0.87$) of school principals in the idealized behaviors aspect of

transformational leadership style is significantly lower than principals self-rating ($M = 4.51$, $SD = 0.31$). The p value in this aspect was 0.001. Teachers' ratings ($M = 3.80$, $SD = 1.01$) of school principals in the inspirational motivation aspect of transformational leadership style is significantly lower than principals self-rating ($M = 4.68$, $SD = 0.36$). The p value in this aspect was at 0.001. Teachers' ratings ($M = 3.38$, $SD = 0.87$) of school principals in the intellectual stimulation aspect of transformational leadership style is significantly lower than principals self-rating ($M = 4.28$, $SD = 0.50$). The p value was at 0.001. Teachers' ratings ($M = 3.27$, $SD = 1.04$) of school principals in the individualized consideration aspect of transformational leadership style is significantly lower than principals self-rating ($M = 4.36$, $SD = 0.49$). The p value was at 0.001.

With p -values in all five aspects of the transactional leadership style being below the set p -value of 0.01, it shows that there is a significant difference in the rating of the teachers of their school principals and the self-rating of the same school principals. This can readily be seen as displayed in Table 9.

Differences in Ratings of School Principals in Transactional Leadership Style

Teachers' ratings ($M = 3.32$, $SD = 0.73$) of school principals in transactional leadership style is significantly lower than principals self-rating ($M = 3.85$, $SD = 0.70$). The p -value of 0.003 is lower than the set value of 0.01, showing that the difference in the ratings of the school principals by the teachers and the self-rating of the school principals in transactional leadership style is significant.

Table 9

Independent Samples t - Test Results Comparing Principal and Teacher Ratings of Transformational Leadership Styles and its Subscales

Variable	Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>T</i>	<i>df</i>	<i>p</i>	ES(<i>d</i>)
Transformational	Principal	18	4.42	0.32	9.18	44.69	<.001	2.25
	Teacher	205	3.53	0.87				
Idealized Attributes	Principal	18	4.26	0.52	5.08	34.36	<.007	1.25
	Teacher	205	3.51	1.58				
Idealized behaviors	Principal	18	4.51	0.31	8.35	45.82	<.001	2.06
	Teacher	205	3.71	0.87				
Inspirational motivation	Principal	18	4.68	0.36	7.94	46.51	<.001	1.95
	Teacher	205	3.80	1.01				
Intellectual stimulation	Principal	18	4.28	0.50	6.78	27.12	<.001	1.67
	Teacher	205	3.38	0.87				
Individual consideration	Principal	18	4.36	0.49	7.96	32.43	<.001	1.96
	Teacher	205	3.27	1.04				

The same observation is true even in all subscales of transactional leadership style. Teachers' ratings ($M = 3.54$, $SD = 1.07$) of school principals in the contingent reward aspect of transactional leadership style is significantly lower than principals self-rating ($M = 4.24$, $SD = 0.65$). The p -value in this aspect was 0.007. Teachers' ratings ($M = 3.10$, $SD = 0.94$) of school principals in the management by exception (Active) aspect of transactional leadership style is significantly lower than principals self-rating ($M = 3.47$, $SD = 0.95$) as seen in Table 10. However, in spite of the rating being lower, there is no significant difference with a p -value of 0.109, which is higher than the set value of 0.01. The magnitude of the difference in teacher ratings and principal self-ratings on passive-avoidance styles is large ($ES(d) = 1.14$)

Table 10

Independent Samples t - Test Results Comparing Principal and Teacher Ratings of Transactional and Passive-Avoidance Leadership Styles

Variable	Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>ES(d)</i>
Transactional	Principal	18	3.85	0.70	2.98	221	.003	0.73
	Teacher	205	3.32	0.73				
Contingent Reward	Principal	18	4.24	0.65	4.11	25.88	.007	1.01
	Teacher	205	3.54	1.07				
Management by Exception (Active)	Principal	18	3.47	0.95	1.61	221	.109	0.40
	Teacher	205	3.10	0.94				
Passive-Avoidance	Principal	18	1.74	0.62	-4.63	23.33	<.001	1.14
	Teacher	205	2.47	0.87				
Management by Exception (Passive)	Principal	18	1.90	0.66	-3.59	23.22	.002	0.88
	Teacher	205	2.50	0.91				
Passive-Avoidance	Principal	18	1.60	0.86	-3.29	221	.001	0.81
	Teacher	205	2.44	1.07				

Differences in ratings of school principals in Passive-Avoidance Leadership Style

Teachers' ratings ($M = 2.47$, $SD = 0.87$) of school principals in passive-avoidance leadership style is significantly higher than the principals self-rating ($M = 1.74$, $SD = 0.62$). The p -value of 0.001 is lower than the set value of 0.01, showing that the difference in the rating of the school principals by teachers and the self-rating of the school principals in the passive-avoidance leadership style is significant.

The same observation is true even in all subscales of passive-avoidance leadership style. Teachers' ratings ($M = 2.50$, $SD = 0.91$) of school principals in the management by exception (passive) aspect of passive-avoidance is significantly higher than the school principals self-rating ($M = 1.90$, $SD = 0.66$). The p -value is 0.002. Teachers' ratings (M

= 2.44, $SD = 1.07$) of school principals in the passive-avoidance aspect of passive-avoidance is significantly higher than the school principals self-rating ($M = 1.60$, $SD = 0.86$). The p -value is 0.001.

Level of Self-efficacy Among Teachers in Chikankata

Research Question 3: What is the level of self-efficacy among teachers in Chikankata District, Zambia?

Results displayed in Table 11 show that teachers in both high-achieving schools ($M = 3.42$, $SD = 0.36$) and low-achieving schools ($M = 3.38$, $SD = 0.33$) reported having ‘strong beliefs’ in their abilities to deal with various aspects of their students’ learning, classroom management, and managing learning routines.

Table 11

Means and Standard Deviations of Teacher Self-Efficacy by School Type

Variables	School Type			
	High ($n = 101$)		Low ($n = 104$)	
	M	SD	M	SD
Self-Efficacy	3.42	0.36	3.38	0.33
Motivation of students	3.62	0.42	3.59	0.42
Higher order thinking skills	3.47	0.43	3.36	0.46
Classroom Management / Maintaining positive classroom climate	3.47	0.41	3.44	0.35
Monitoring feedback for learning	3.41	0.42	3.43	0.37
Managing learning routines	3.37	0.46	3.30	0.51
Planning and accommodating for individual differences	3.22	0.47	3.20	0.44

With no exception, this observation is carried through even in the sub-scales of teachers' self-efficacy in both high- and low-achieving schools. Teachers in high-achieving schools ($M = 3.62$, $SD = 0.42$) and low-achieving schools ($M = 3.59$, $SD = 0.42$) reported to have 'strong beliefs' in their ability to deal with student motivation. Teachers in high-achieving schools ($M = 3.47$, $SD = 0.43$) and low-achieving schools ($M = 3.36$, $SD = 0.46$) reported to have 'strong beliefs' in their ability to deal with higher order thinking skills. Teachers in high-achieving schools ($M = 3.47$, $SD = 0.41$) and low-achieving schools ($M = 3.44$, $SD = 0.35$) reported to have 'strong beliefs' in their ability to deal with classroom management/maintaining a positive classroom climate. Teachers in high-achieving schools ($M = 3.41$, $SD = 0.42$) and low-achieving schools ($M = 3.43$, $SD = 0.37$) reported to have 'strong beliefs' in their ability to monitor feedback for learning. Teachers in high-achieving schools ($M = 3.37$, $SD = 0.46$) and low-achieving schools ($M = 3.30$, $SD = 0.51$) reported to have 'strong beliefs' in their ability to manage learning routines. The same is the case in the aspect of planning and accommodating for individual differences in student learning, high-achieving schools ($M = 3.22$, $SD = 0.47$) and low-achieving schools ($M = 3.20$, $SD = 0.44$), teachers reported to have 'strong beliefs'.

Independent samples t-tests were conducted to determine if there were statistical differences between low and high performing schools in teacher self-efficacy and its subscales. No statistically significant differences were found between high and low performing schools in teacher self-efficacy and its subscales ($p > .05$). Effect sizes for all group differences are small (Cohen's d of 0.01 to 0.26).

Leadership Styles and Teacher Self-Efficacy

Research Question 4: To what extent is teacher self-efficacy related to teachers' ratings of principal leadership styles in Chikankata District, Zambia?

Question 4 investigated the relationship between leadership styles and teacher self-efficacy, specifically seeking an understanding as to whether leadership style as a set, influenced teacher self-efficacy.

Canonical correlation analysis was used to determine the relationships between these two sets of variables. Canonical correlation analysis is a method for exploring the relationships between two multivariate sets of variables. In this analysis, teacher perceptions of their principal's leadership styles were used rather than the principal's self-ratings of leadership styles. The reason why the teacher's ratings were used instead of the principals' rating is that primarily the sample for teachers ($n = 205$) is more significant than that of school principals ($n = 18$) and, therefore, stands to render a more accurate picture.

Table 12 shows the mean, standard deviation, and bivariate correlation between and among leadership styles and teacher self-efficacy variables. Correlation among self-efficacy variables are weak ($r = .39$ between planning/accommodating individual differences and managing learning routines) to high ($r = .77$ between classroom management/maintaining positive classroom climate and managing learning routines). Correlation among leadership styles are high positive ($r = .70$ between transformation and transactional) to weak negative ($r = -.37$ between transformational and passive-avoidance behavior). Correlation between leadership styles and self-efficacy variables are weak ($r = .22$ between transactional and managing learning routines) to essentially zero ($r = .02$ between monitoring feedback for learning and passive-avoidance behavior).

Table 12

Means, Standard Deviation, and Bivariate Correlation (n = 205)

Variable	<i>M</i>	<i>SD</i>	Correlation coefficient (r)							
			2	3	4	5	6	7	8	9
1 Monitoring feedback for learning	3.42	0.39	.70**	.61**	.56**	.62**	.60**	.14*	.17*	.02
2 Classroom management/maintaining positive classroom climate	3.46	0.38		.57**	.67**	.77**	.63**	.13	.11	.02
3 Planning/accommodating individual difference	3.21	0.45			.48**	.39**	.57**	.20**	.16*	-.03
4 Motivation for students	3.61	0.42				.41**	.49**	.02**	.07	-.02
5 Managing learning routines	3.33	0.53					.52**	.21**	.22**	-.05
6 Higher-order thinking skills	3.41	0.44						.13	.13	-.09
7 Transformational	3.53	0.88							.70**	-.37**
8 Transactional	3.31	0.75								-.13
9 Passive-Avoidance	2.45	0.88								

**p<.01, *p<.05

Table 13 shows the three recognized functions that are a result of this analysis. Only the first function was statistically significant ($F_{(18, 552.03)} = 1.78, p = .025$). The canonical correlation for function 1 is .295 ($r^2 = .087$), suggesting the perceived leadership styles explains about approximately 9% of the variance in teacher self-efficacy. What this is saying is that about 9% of self-efficacy can be explained by leadership style. With the result showing that 9% of self-efficacy can be explained by leadership style, the question as to whether all three leadership styles affect self-efficacy is addressed.

Table 13

Canonical Correlation

	Correlation	Eigenvalue	Wilks Statistic	<i>F</i>	<i>Df1</i>	<i>Df2</i>	<i>p</i>
1	.295	.095	.853	1.779	18.000	552.029	.025
2	.231	.056	.934	1.365	10.000	392.000	.194
3	.116	.014	.986	.675	4.000	197.000	.610

Structure and standardized coefficients of Function 1 are reported in Table 14 and address this question. Transformational (.95) and transactional (.89) leadership styles are associated with managing learning routines (.77), planning/accommodating individual differences (.68), monitoring feedback (.57), classroom management/maintaining positive classroom climate (.46) and higher-order thinking skills (.45). This result suggests that principals with transformational and transactional leadership styles are more likely to influence teacher self-efficacy in enhancing student learning.

Table 14

Canonical Correlation Analysis Result

	Function 1	
	Structure Coefficient	Standardized Coefficient
Set 1 (Leadership Styles)		
Transformation	.95	0.68
Transactional	.89	0.42
Passive-Avoidance	-.23	0.07
Set 2 (Self-Efficacy)		
Monitoring feedback for learning	.57	0.09
Classroom management/maintaining positive classroom climate	.46	-0.64
Planning/accommodating individual differences	.68	0.72
Motivation of students	.14	-0.23
Managing learning routines	.77	1.04
Higher-order thinking skills	.45	-0.04

Leadership Styles and School Performance

Research Question 5: To what extent do leadership styles discriminate between high- and low-achieving schools in Chikankata District, Zambia?

Question 5 examines school achievements (high vs. low) and how this relates to principal leadership styles. The issue here is to see if leadership styles can explain whether there is a difference between high- and low-achieving schools. Table 15 shows the principal self-ratings of leadership styles by school performance (high vs. low). There appear to be some differences between the high-achieving schools ($M = 4.04$, $SD = 0.49$)

and low-achieving schools ($M = 3.66$, $SD = 0.84$) in transactional leadership styles. However, taken together as a set, principal self-rating of leadership styles does not significantly discriminate between high- and low-achieving schools ($r_c = .31$, Wilk's Lambda = .90, $\chi^2 = 1.51$, $df = 3$, $p = .68$). This may be due to the sample sizes of school principals ($n = 9$) in each school type.

Table 15

Group Descriptive Statistics (Principal Self-Rating)

Leadership Style	School Type			
	High ($n = 9$)		Low ($n = 9$)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Transformational	4.43	0.19	4.40	0.42
Transactional	4.04	0.49	3.66	0.84
Passive-Avoidance	1.66	0.43	1.83	0.78

Table 16 displays teacher ratings of principal leadership styles by school type. High-achieving schools ($M = 3.74$, $SD = 0.69$) appears to be higher in transformational leadership styles than low-achieving schools ($M = 3.33$, $SD = 0.97$). Low-achieving schools appear to be higher in transactional ($M = 3.35$, $SD = 0.64$) and passive-avoidance behavior ($M = 2.59$, $SD = 0.87$) than high-achieving schools ($M = 3.28$, $SD = 0.82$ and $M = 2.35$, $SD = 0.84$ respectively).

Table 16

Group Descriptive Statistics (Teacher Ratings of Leadership Styles)

Leadership Style	School Type			
	High (<i>n</i> = 101)		Low (<i>n</i> = 104)	
	M	SD	M	SD
Transformational	3.74	0.69	3.33	0.97
Transactional	3.28	0.82	3.35	0.64
Passive-Avoidance	2.35	0.84	2.59	0.87

Descriptive discriminant function analysis was used to determine if the set of teacher ratings of principal leadership styles could reliably discriminate between high- and low-achieving schools. The result of the analysis is reported in Table 17. Group centroids are .311 for high-achieving schools and -.30 for low-achieving schools. The canonical correlation (r_c) between teacher ratings of principal leadership styles and school performance is .30 suggesting that about 9% of the variation in school performance may be accounted for by leadership styles. As Table 17 suggests, leadership styles do significantly discriminate between high- and low-achieving schools (Wilk's Lambda = .91, $\chi^2 = 18.31$, $df = 3$, $p < .001$). More specifically, high-achieving schools are more likely to have high transformational leadership styles (.78) and lower transactional leadership styles (-.45). It appears then that teachers' perception of leadership styles does influence student academic performance. What this is saying is that schools where principals used higher levels of transformational leadership and lower levels of transactional leadership, tend to be associated with schools that are high-achieving.

Table 17

Discriminant Function Analysis Result

Variables	Unstandardized Coefficient	Standardized Coefficient	Structure Coefficient
Transformational	1.63	1.37	.78
Transactional	-1.18	-0.87	-.45
Passive-Avoidance	-0.09	-0.08	.13
<i>Constant</i>	-1.60		

$r_c = 0.30$, Wilk's lambda = .91, $\chi^2 = 18.31$, $df = 3$, $p < .001$
Group centroids: High (.311), low (-.30)

Summary

Chapter 4 has shared major findings of this study whose purpose was to examine school principals' leadership style, teacher efficacy, and the extent to which these two constructs are related in high- and low-achieving schools in Chikankata District, Zambia.

Descriptive and statistical analysis of data coming from the self-rating done by school principals, indicates that principals in high achieving schools practiced transformational ($M = 4.43$, $SD = 0.19$) and transactional leadership styles ($M = 4.04$, $SD = 0.49$) 'fairly often'. On the other hand, principals of low-achieving schools practiced transformational ($M = 4.40$, $SD = 0.42$) 'fairly often' and transactional ($M = 3.67$, $SD = 0.84$) leadership styles 'sometimes'. Principals in high- and low-achieving schools ($M = 1.66$, $SD = 0.43$; $M = 1.83$, $SD = 0.78$) use passive-avoidance only 'once in a while'

Teacher's rating of the same school principals indicates that school principals in high-achieving schools ($M = 3.74$, $SD = 0.69$) as utilizing 'fairly often' transformational leadership style, while teachers in low-achieving schools ($M = 3.35$, $SD = 0.97$) rated their school principals as practicing transformational leadership 'sometimes.' However,

in transactional leadership style, both high- and low-performing schools ($M = 3.35$, $SD = 0.64$; $M = 3.29$, $SD = 0.82$ respectively) rated their school principals as practicing transactional leadership ‘sometimes.’ Concerning passive-avoidance leadership style, both high- and low-achieving schools ($M = 2.35$, $SD = 0.84$, $M = 2.57$, $SD = 0.87$ respectively) rated their principals as utilizing this style ‘Once in a while.’

When independent sample t -tests were conducted to determine if the school principals self-rating and the teachers’ ratings of the same principals were significantly different, results showed that teachers’ ratings ($M = 3.53$, $SD = 0.87$) of school principals in the transformational leadership style is significantly lower than principals self-rating ($M = 4.42$, $SD = 0.32$). Teachers’ ratings ($M = 3.32$, $SD = 0.73$) of school principals in transactional leadership style is significantly lower than principals self-rating ($M = 3.85$, $SD = 0.70$). The p -value of 0.003 is lower than the set value of 0.01, showing that the difference in the ratings of the school principals by the teachers and the self-rating of the school principals in the transactional leadership style is significant.

Descriptive and statistical analysis of the data from teachers on levels of self-efficacy among high- and low-achieving schools indicated that teachers in both high-achieving schools ($M = 3.42$, $SD = 0.36$) and low-achieving schools ($M = 3.38$, $SD = 0.33$) reported to have ‘strong beliefs’ in their abilities to deal with various aspects of their students’ learning, classroom management, and managing learning routines. No statistically significant differences were found between high and low performing schools in teacher self-efficacy and its subscales ($p > .05$). Effect sizes for all group differences are small (Cohen’s d of 0.01 to 0.26).

Canonical correlation analysis was used to determine the relationships between self-efficacy and leadership styles, and whether all three leadership styles affected self-efficacy. Results indicated that transformational (.95) and transactional (.89) leadership styles are associated with managing learning routines (.77), planning and accommodating individual differences (.68), monitoring feedback (.57), classroom management and maintaining positive classroom climate (.46) and higher-order thinking skills (.45). This result suggests that principals with transformational and transactional leadership styles are more likely to influence teacher self-efficacy in enhancing student learning.

Descriptive discriminant function analysis was used to determine if the set of teacher ratings of principal leadership styles could reliably discriminate between high- and low-achieving schools. The result of the analysis is reported that group centroids are .311 for high-achieving schools and -.30 for low-achieving schools. The canonical correlation (r_c) between teacher ratings of principal leadership styles and school performance is .30, suggesting that about 9% of the variation in school performance may be accounted for by leadership styles. More specifically, high-achieving schools are more likely to have high transformational leadership styles (.78) and lower transactional leadership styles (-.45), indicating that teachers' perception of leadership styles do influence student academic performance. What this is saying is that schools, where principals use higher levels of transformational leadership and lower levels of transactional leadership, tend to be associated with schools that are high achieving.

In Chapter 4, the researcher has presented the main findings of this study. Chapter 5 presents a summary of procedures, a summary of results, discussions, limitations, and recommendations for policy and practice, and proposals for future study.

CHAPTER 5

SUMMARY, DISCUSSIONS, AND RECOMMENDATIONS

Introduction

Zambia takes student achievement in education seriously as a key to the future development of the nation. As a result, Zambia, like other nations in the world, continues to explore factors that enhance student's achievement. Student achievement at primary and secondary levels of education has become a significant concern for the government.

The purpose of this study was to examine school principals' leadership style, teacher efficacy, and the extent to which these two leading constructs are related in high- and low-achieving schools in Chikankata, Zambia. The study (a) determined which leadership styles were used in high- and low-achieving schools, (b) explored the levels of self-efficacy of teachers in these two sets of schools to determine if leadership type impacted teacher's efficacy, and (c) defined the extent to which both leadership styles and teacher self-efficacy determined the achievement of students on their grade 7, 9 and 12 national examinations. The study engaged ten high-achieving schools and nine low-achieving schools located in Chikankata District, Zambia.

Research Questions

The five questions that guided this study are:

1. What are the principals' leadership styles in the schools in Chikankata District, Zambia?

2. Are there differences in the way the school principals rate themselves and the way the teachers rate their school principals concerning the style of leadership?
3. What is the level of self-efficacy among teachers in Chikankata District, Zambia?
4. To what extent is teacher self-efficacy related to teachers' ratings of principal leadership styles in Chikankata District, Zambia?
5. To what extent do leadership styles discriminate between high- and low-achieving schools in Chikankata District, Zambia?

Research Design and Sampling

This study was structured as a quantitative non-experimental. Data were collected from 19 schools through a survey utilizing two questionnaires, 10 of which were high-achieving schools, while nine were low-achieving schools. Eighteen school principals responded to the 45 questions in the MLQ instrument, and 208 teachers responded to the MLQ and TEBS-Self instruments to express their views on the school principal's leadership style and Teacher Self-Efficacy.

Out of the possible 241 teachers who taught in those schools, 211 responded, representing 88% of the potential teachers. Out of 20 available school principals, 18 responded, representing 90% of the possible school principals. However, after further analysis of the data from the 211 responses, 3 of the 211 responses were disqualified from being a part of the report due to too many missing responses in the survey questionnaire. Because of this, only the remaining 18 responses from school principals and 208 responses from teachers were analyzed.

The two instruments used in this study examined leadership styles and teacher efficacy. To examine leadership styles for school principals, the 45 questions instrument

Multifactor Leadership Questionnaire (MLQ) (Form-5X) by Bass and Avolio (1997) was used; and for teacher's efficacy, the 31 questions instrument Teacher's Efficacy Belief System-Self (TEBS-Self) by Dellinger et al. (2008) was used.

Permission to conduct this study was obtained from the Institutional Review Board of Andrews University, from the District Education Board Secretary for Chikankata District, from the principals of the schools, and finally from teachers of the schools that participated in the research.

A diverse statistical analysis was used. To analyze Questions 1 and 3, bivariate descriptive analysis using measures of central tendency such as the means, median, modes, and measures of variability such as the range and the standard deviation was used. A series of independent samples *t*-tests were conducted to analyze Question 2. To determine the extent to which teacher self-efficacy related to teachers' ratings of principal leadership styles, Canonical correlation analysis was used. To determine the magnitude to which leadership styles discriminate between high- and low-achieving schools, descriptive discriminant function analysis was used.

Conceptual Framework

There are undeniable leadership styles that foster or enhance efficacy in employees, and in this instance, teachers. Some leadership styles highly enhance self-efficacy while others minimally. When a leadership style enhances self-efficacy in a teacher, such a teacher may then be able to perform their given tasks in a context that could result in helping students' achievement.

Ross and Gray (2006) argue that while there are many leadership styles in schools, research has shown that transformational leadership style appears to have the

greatest direct influence on teacher efficacy and an immediate effect on student achievement. Teachers with high efficacy tend to create successful learning experiences for their students and foster high efficacy beliefs among students in their classrooms, while a teacher with low efficacy beliefs fail to foster the development of students' confidence in their capabilities (Bandura et al., 1997)

Transformational, transactional, and passive-avoidance behavior, when practiced, will affect the teacher's self-efficacy so that it is either high, moderate, or low. Transformational leadership fosters the highest possibility for a high teacher self-efficacy, while passive-avoidance behavior brings the lowest. When a teacher has high self-efficacy, their teaching experience may promote high student achievement.

With regard to self-efficacy, this study was based on constructs drawn from Bandura's theory on self-efficacy. Bandura et al. (1997) defined *self-efficacy* as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3). Research shows that a teacher who exhibits shows high self-efficacy is better organized, is willing to try new ideas to meet students' needs, is less critical of students wherever they make mistakes, is more positive about teaching, and is more likely to implement positive classroom management strategies (Henson, 2001; Pinkston-Miles, 2003; Scharlach, 2008). Other studies have linked teacher efficacy to student outcomes, showing that when a student has been taught by a teacher with a high score on self-efficacy, students did better on standardized tests than their peers who were educated by teachers with lower efficacy scores (Henson, 2001; Lin & Tsai, 1999; Muijs & Reynolds, 2002).

Summary of Literature Review

Literature has a lot to say about the relationship between school leadership, teacher efficacy, and student achievement, with most of it establishing that there is a relationship.

A study was conducted by Wahyuddin (2017) in a Private Islamic Junior High School in Serang, Banten, Indonesia, whose purpose was to identify and analyze the headmaster leadership and teacher competence in increasing student achievement in school. The study

showed that there is correlation of the headmaster leadership toward student achievements in school, there is correlation of the teacher competence toward student achievement in school, there are correlation of headmaster leadership and teacher competence towards student achievement in school. Therefore, it can be seen that the headmaster leadership and teacher competence have a strong and significantly [*sic*] correlation to increasing student achievement in school. High or low student achievement can be caused by headmaster leadership and teacher competence. (Wahyuddin, 2017, p. 215)

Another quantitative study was done in Texas by Sandoval et al. (2011), whose purpose “was to examine the relationship between the collective efficacy of teachers and student achievement”. . . . “This study found that the collective efficacy of a campus influences student achievement at the middle school level” (p. 9).

Nir and Krunot (2006) undertook a study that explored whether personal teacher efficacy (PTE) “varies across leadership styles and what is the added value of the principal's leadership style for PTE when job-related variables are statistically controlled” (p. 205). Findings from this study suggested that transformation leaders are more likely to promote personal teacher efficacy.

The results also show that individual consideration, active management by exceptions, and passive-avoidance are leadership styles that have no implication for PTE. . . . The results show that the contribution of the transformational leadership style to the explanation of PTE is statistically insignificant when job-related variables

are controlled in the analysis. The findings suggest that the relation between the principal's leadership style and PTE is mediated by the positive experiences that teachers undergo on the job, mainly, their satisfaction. Therefore, transformational leadership that affects the intra-school circumstances by promoting teachers' satisfaction on the job is likely to indirectly contribute to PTE. (Nir & Krunot, 2006 pp. 221, 212)

The major conclusion is that "the relationship between personal teacher efficacy and the school principal's leadership style. . . is rather complex and mediated by a teacher's satisfaction on the job" (p. 212).

Ross and Gray (2006) studied two variables that are sources of indirect leadership effects on student academic achievement, teacher professional commitment, and collective teacher efficacy. Findings revealed that there was no statistically significant direct effect of leadership on student achievement. However, the substantive contribution of this study was the findings "demonstrated that teacher beliefs about their capacity and their professional commitment mediated the impact of principals on student achievement" (p. 811). The study indicated that

principals who adopt a Transformational Leadership style are likely to have a positive impact on teacher beliefs about their collective capacity and on teacher commitment to organizational values. Principals can expect that these teacher beliefs will make a modest but significant contribution to enhanced student achievement. (Ross & Gray, 2006, pp. 811, 812)

In a study conducted by Bello et al. (2016), the purpose was to determine the relationships between initiative, consideration, and participatory structures of leadership styles as they affect a student's academic performance. The study findings revealed there

was a significant relationship between initiatives structure of principal administrative leadership and students' academic performance in Mathematics 2009, English 2009, and Mathematics 2011 and the relationship was in favor of student's academic performance. While it had also revealed that there was no significant relationship between initiatives structure of school leadership and students' academic performance in English language 2010, English language 2011 and Mathematics 2010. Initiative was also found to be most prevalent principals administrative style used in Taraba State Secondary Schools. (Bello et al., 2016, p. 67)

Data from Table 5 shows that of the teachers from the 19 schools that participated in this study, 60% of them were male employed at the high-achieving schools, while 45% of males were at the low-achieving schools. Females from high-achieving schools were 40%, while 55% were from low-achieving schools. Their levels of education indicated that 63% from high-achieving schools had a Diploma (Two-year training), and 74% of the same level from low-achieving schools. There were 31% with a Bachelor's degree from high-achieving schools, while 24% with Bachelors's were from low-achieving schools. From high-achieving schools, 6% had a Master's degree, but only 2% from low-achieving schools.

Concerning school principals, as displayed in Table 6, both high- and low-achieving schools had 89% male principals and 11% female. Out of these, 44% from high-achieving schools had a diploma, while 67% with diplomas were from low-achieving school principals. From high-achieving schools, 56% had a Bachelor's degree, but from low-achieving schools, only 33%. Low-achieving school principals were all from primary schools, but of principals from high-achieving schools, 56% were from primary schools, and 44% from secondary schools.

In order to determine the possible influence school principals may have had on the teachers, only those teachers who had been working under the same principal for three years were included in the study. From high achieving schools, 71% had worked under the same principal up to five years, while 80% from low achieving school had done the same. Those who had worked with the same school principal for six years and above from high achieving schools were 29%, and those from low achieving schools were 20%.

This study has revealed a number of significant findings.

Research Question One sought to understand the principals' leadership styles in the schools in the Chikankata District of Zambia. This study found the following self-ratings of school principals on their use of leadership styles:

1. School principals in high achieving schools practiced both transformational and transactional leadership styles 'fairly often'.
2. School principals in low achieving schools practiced transformational 'fairly often' and transactional leadership styles 'sometimes'.
3. School principals in both high and low schools used passive-avoidance behavior only 'once in a while'.

This study found the following as ratings of teachers regarding the same school principals' leadership styles:

1. School principals in high-achieving schools utilized 'fairly often' transformational leadership style, while teachers in low-achieving schools rated their school principals as practicing transformational leadership 'sometimes.'
2. Teachers of both high- and low-achieving schools rated their school principals as practicing transactional leadership 'sometimes.'
3. Teachers of both high- and low-achieving schools rated their principals as utilizing passive-avoidance behavior leadership style 'once in a while.'

Research Question Two examined the differences in the way the school principals rated themselves and the way the teachers rated their school principals in both high- and low-achieving schools. This study found the following about this question:

1. There is a statistical difference in all three leadership styles, transformational, transactional, and passive-avoidance behavior, between how the school principals rated themselves and how the teachers rated their school principals.

2. Teachers' ratings of school principals in the transformational leadership style are significantly lower than principals' self-rating, and this is true even in all the sub-scales of the transformational leadership style.

3. Teachers' ratings of school principals in the transactional leadership style are significantly lower than principals' self-rating, and this is true even in all the sub-scales of the transactional leadership style.

4. Teachers' ratings of school principals in the passive-avoidance behavior leadership style are significantly higher than the principal's self-rating, and this is true even in all the sub-scales of the passive-avoidance leadership style.

Research Question Three examined the levels of self-efficacy among teachers in Chikankata District, Zambia. This study found the following about this question:

1. Teachers in both high- and low-achieving schools reported having 'strong beliefs' in their abilities to deal with various aspects with no exception in any area.

2. In all the seven sub-scales as shown in Table 7: motivation of students, higher-order thinking skills, classroom management, maintaining positive classroom climate, monitoring feedback for learning, managing learning routines, and planning and accommodating for individual differences, teachers in both high and low schools reported possessing 'strong beliefs' in their ability.

3. There were no statistically significant differences found between high and low performing schools in teacher self-efficacy and its subscales.

4. Teacher perceptions of principal leadership styles do influence teacher self-efficacy. However, teacher self-efficacy did not appear to influence student achievement.

Research Question Four examined the extent to which teacher self-efficacy related to teachers' rating of principals' leadership styles. This study found the following about this question:

1. Correlation among self-efficacy variables is weak between planning or accommodating individual differences and managing learning routines, to high between classroom management or maintaining a positive classroom climate, and managing learning routines.

2. Correlation among leadership styles is high-positive between transformational and transactional, too weak-negative between transformational and passive-avoidance behavior.

3. Correlation between leadership styles and self-efficacy variables is weak between transactional and managing learning routines to essentially zero between monitoring feedback for learning and passive-avoidance behavior.

4. Canonical correlation for function 1 suggests the perceived leadership styles explain approximately 9% of the variance in teacher self-efficacy, meaning that about 9% of self-efficacy can be defined by leadership style.

5. It is not all three leadership styles that can explain or account for the 9% of self-efficacy, but rather principals with transformational and transactional leadership styles are more likely to influence teacher self-efficacy in enhancing student learning.

Research Question Five examined the extent to which leadership styles discriminated between high- and low-achieving schools. This study found the following about this question:

1. There appear to be some differences between the high-achieving schools and low-achieving schools in transactional leadership styles. However, taken together as a set, principal self-rating of leadership styles does not significantly discriminate between high- and low-achieving schools. This may be due to the sample sizes of school principals in each school type.
2. The canonical correlation between teacher ratings of principal leadership styles and school performance suggests that about 9% of the variation in school performance may be accounted for by leadership styles.
3. High-achieving schools are more likely to have high transformational leadership styles and lower transactional leadership styles, suggesting that schools where principals use higher levels of transformational leadership and lower levels of transactional leadership tend to be associated with schools that are high-achieving.

Discussion

The purpose of this study was to examine school principals' leadership style, teacher self-efficacy, and the extent to which these two major constructs are related in high- and low-achieving schools in Chikankata District, Zambia. The study attempted to determine which leadership styles were used in high- and low-achieving schools, explore the levels of self-efficacy of teachers in these two sets of schools to discover if leadership type impacted teacher's efficacy, and determine the extent to which both leadership styles

and teacher self-efficacy determined the achievement of students on their grade 7, 9 and 12 national examinations.

Data from the research has provided conclusions about these issues. Literature also has confirmed or not confirmed the findings from this study. In our discussion, we will take each research question one by one.

In this study, *Research Question One* sought to understand the principals' leadership styles in the schools in the Chikankata District of Zambia. The study revealed that school principals in high achieving schools rated themselves as practicing both transformational and transactional leadership styles 'fairly often'; School principals in low achieving schools practiced transformational 'fairly often' and transactional leadership styles 'sometimes' and school principals in high and low schools use passive-avoidance only 'Once in a while.'

And yet going by ratings of teachers regarding leadership styles of the same principals, this study found that teachers rated school principals in high-achieving schools as utilizing 'fairly often' transformational leadership style, while teachers in low-achieving schools rated their school principals as practicing transformational and transactional leadership 'sometimes.' Principals used passive-avoidance leadership style 'Once in a while' in both high- and low-achieving schools.

The researcher chose to use the teachers' ratings because of the numbers of the sample being more than those of school principals ($n = 208$ vs. $n = 18$). When responses from teachers are taken, instead of those of school principals due to the number of respondents, this study appears to support that transformational leadership style was the dominant leadership style utilized in high-achieving schools and, therefore, could be a

contributing factor to student achievement. This finding agrees well with the results of Ross and Gray (2006), whose study concluded that principals who adopt a transformational leadership style are likely to have a positive impact on teachers' self-efficacy belief, which in turn impacts student achievement positively.

The reason the study grouped the schools into high- and low-achieving schools and sought to find out what leadership style was practiced in either, was to see if there was a particular leadership style that dominated in one school and not the other. Based on these findings, the only difference between high- and low-achieving schools concerning leadership styles practiced is that school principals in high achieving schools utilized transformational and transactional leadership styles 'Fairly often', while those in low-achieving schools practiced transformational 'fairly often' but only 'sometimes' transactional leadership.

The instruments used in this study limited the leadership styles evaluated in schools to three: transformational, transactional, and passive-avoidance. Other school leadership styles, like instructional, were not measured. As such, these conclusions would need to be limited to the contribution of these three leadership styles to student achievement. If Instructional leadership was one of those studied, maybe the results could have been different. The researcher observes this because, in literature, the instructional leadership style combined with the transformational leadership style appears to support student achievement. This observation is in line with the Marks and Printy (2003) findings, which found that when transformational and shared Instructional leadership coexists in an integrated form of leadership, the influence on school performance,

measured by the quality of its pedagogy and the achievement of its students, is substantial.

Research Question Two examined the differences in the way the school principals rated themselves and the way the teachers rated their school principals in both high- and low-achieving schools. This study found that there is a statistical difference in all three leadership styles, transformational, transactional, and passive-avoidance, between how the school principals rated themselves and how the teachers rated their school principals. Teachers' ratings of school principals in the transformational leadership style are significantly lower than principals' self-rating, and this is true even in all the sub-scales of the transformational leadership style. Similarly, teachers' ratings of school principals in the transactional leadership style are significantly lower than principals' self-rating, and that was true even in all the sub-scales of the transactional leadership style. Teachers' rating of school principals in passive-avoidance is significantly higher than the principals' self-rating.

In this study in which the sample size of principals was only 18, it was important that the views of the teachers about the school principal's leadership style be determined. There were 208 teachers, a number large enough to give a clearer picture than if only the opinions of principals were taken.

While the results show that there is a statistical difference in the way the principals rated themselves and the way the teachers rated the principals, what is significant is that both sets evaluate the school principals as utilizing a more transformational leadership style, followed by transactional and less of passive-avoidance.

What this study has revealed is that leaders overrate their leadership ability. This finding seems to support what the researcher has experienced both as a leader and a follower. The researcher once served as a College President when the Adventist Accreditation Association (AAA) visited the University where he was President (February 2018). The opinion the researcher had about his own leadership in the school, turned out to be different from the ratings the employees gave to AAA examiners about his leadership. The researcher was rated lower than he had rated himself. The researcher admits that he was shocked at this outcome, and yet this study agrees with what the researcher experienced with AAA reviews. The significance of this is that to get an accurate picture of leadership ability or style, more than the opinion of the leaders themselves must be considered. As a result, the researcher used the teacher's ratings of the school principals in the analysis rather than just the self-ratings of the school principals.

Research Question Three examined the levels of self-efficacy among teachers in Chikankata District, Zambia. This study found teachers in both high- and low-achieving schools reported to have 'strong beliefs' in their abilities to deal with various aspects with no exception in many areas. This extended even to all the seven sub-scales: Motivation of students, higher-order thinking skills, classroom management, maintaining positive classroom climate, monitoring feedback for learning, managing learning routines, and planning and accommodating for individual differences. Teachers in both high- and low-achieving schools reported possessing 'strong beliefs' in their ability. There were no statistically significant differences found between high and low performing schools in teacher self-efficacy and its subscales. Teacher perceptions of principal leadership styles

do influence teacher self-efficacy. However, teacher self-efficacy did not appear to influence student achievement

There are two implications to these findings. The first one is that the principal's leadership style affected teacher efficacy. The second is that teacher efficacy was not a factor in student achievement.

The first conclusion that states that the type of leadership at both high- and low-achieving schools influenced teacher self-efficacy has the following reasons to back it. School principals self-rating, in both high- and low-achieving schools, show that the transformational leadership style was the leadership utilized most, followed by transactional and least used was passive-avoidance. If the leadership style used were the same in both sets of schools, then that would explain why both sets of schools recorded very high efficacy. Data from teachers' ratings of their school principals indicate that principals from high-achieving schools utilized 'more often' transformational leadership style and transactional leadership style "sometimes," while their counterparts from low-achieving schools utilized transformational and transactional leadership "sometimes." The two leadership styles, transformational and transactional, dominate in use in both sets of schools, and therefore it would not come as a surprise that teachers in both sets of schools scored themselves very high in self-efficacy. This finding agrees with the study by Nir and Krunot (2006), which stated that school principals who use transformational leadership style are more likely to promote personal teacher efficacy by shaping the kind of job circumstances that enable individual satisfaction and, therefore, allow personal teacher efficacy to develop.

The second is that teacher efficacy was not a factor in student achievement. Here is why: Both sets of schools, high and low, recorded teacher's responses have 'very strong' convictions of their self-efficacy. Students were, therefore, in both sets, being taught by teachers whose efficacy was equal. The fact that one set of schools performed high and the other low, would then exclude the teacher's self-efficacy as a factor in the student performance. The finding that teacher efficacy was not a factor in student achievement would run into opposition with many results in studies showing there is a relationship between high teacher self-efficacy and student achievement (Ashton & Webb, 1986; Henson, 2001; Pinkston-Miles, 2003; Scharlach, 2008).

The question then that begs an explanation is how then do we account for this apparent contradiction in these studies and in the findings of this study? This could be explained by the fact that there are many factors that contribute to student achievement besides leadership and teacher self-efficacy. The study by Bertolini et al. (2012) agrees with this. In a case of this kind, the researcher turned to contextual factors that could explain this state, without necessarily denying the conclusions made by other studies. The explanation below may shed light on the contextual factors in Zambia that could have played a role.

The demographic data reported that teachers who taught in high achieving schools were more educated than those who taught in low achieving schools. There were more degree holders, both at Bachelors and Masters level in high achieving schools than in low achieving schools. There were fewer teachers with a diploma (2-year training program) in high achieving schools than low achieving schools. To the extent that the education of teachers could have been a factor in student achievement is something we can postulate.

The observation that high achieving schools had highly educated teachers is carried even among the school principals themselves. A study by Shaukat and Iqbal (2012) found that teachers with a higher level of education have a higher perception of self- efficacy. They sustain and support their classroom far better than teachers with lower educational abilities are capable to support. This study seems to agree with this assertion.

In the context of Zambia, teachers who are trained at degree-granting institutions where either bachelors or master degrees are offered, tend to receive better than average preparation for teaching than those educated in non-degree schools or programs. Even the government of Zambia recognized this early in the 2000s and embarked on a policy to upgrade all teachers from diploma level to degree level. This program initiative is still ongoing.

There could be a second factor. In this study, data shows that all low-achieving school principals worked at the primary level of schools, while almost half of the higher-achieving school principals were leading secondary schools. The extent to which this could have influenced the ability of students to achieve or not achieve may not be established in this study. Nevertheless, the experience in Zambia may shed some light. In Zambia, teachers and principals who prove to teach well are promoted to teaching in secondary schools. In fact, there are few teachers at primary schools who have a degree, and yet in secondary schools, having a degree is the norm. What this could lead to is that the best teachers and principals end up at secondary school level and hence could influence student achievement at the expense of student achievement at the primary school level.

Research Question Four examined the extent to which teacher self-efficacy related to teachers' rating of principals' leadership styles. This study found that the correlations among self-efficacy variables were weak between planning or accommodating individual differences and managing learning routines, to high between classroom management or maintaining a positive classroom climate, and accomplishing learning routines. Correlation among leadership styles is high positive between transformation and transactional, to weak negative between transformational and passive-avoidance behavior. Correlation between leadership styles and self-efficacy variables was weak between transactional and managing learning routines to essentially zero between monitoring feedback for learning and passive-avoidance behavior. Canonical correlation for function 1, suggests the perceived leadership styles explain about approximately 9% of the variance in teacher self-efficacy, meaning that about 9% of self-efficacy can be explained by leadership style. According to these results, all three leadership styles cannot explain or account for the 9% of self-efficacy, but rather principals with transformational and transactional leadership styles are more likely to influence teacher self-efficacy in enhancing student learning.

The finding that principals with transformational and transactional leadership styles are more likely to influence self-efficacy agrees with the results by Walker and Slear (2011) and Nir and Krunot (2006), whose conclusions suggested that transformational leadership style is more likely to promote teacher efficacy.

The discussions in Question 2 had concluded that leadership style did affect teacher efficacy. Question 2 did not settle the issue of what particular leadership style enhanced teacher efficacy. Now that question 4 has indicated that it is transformational

and transactional that accounts for 9% of teacher's self-efficacy, the researcher can discuss the implications of this study. The teacher ratings of school principals who lead high-achieving schools showed that they utilized transformational and transactional leadership styles 'fairly often'. What this could mean is that while other factors may be there that will account for student achievement in high-achieving schools, the very fact that transformational and transactional leadership are practiced 'fairly often' could then be regarded as a factor in student achievement.

At a school principals' leadership conference held at Rusangu University in 2016, the researcher asked 100 school principals through a questionnaire to indicate which leadership characteristics or traits would attract them to work under an administrator exhibiting those traits. The researcher had a list of 16 traits, with eight picked from transformational leadership and the other eight from transactional leadership. With no exceptions, all school principals chose to work under a leader with transformational leadership traits. Reasons they gave for this choice included that they felt trusted and motivated under a leadership style that included and challenged them to aim at reaching their full potential and had less focus on just articulating standards and the consequences of failing to meet standards, the latter being a key trait in transactional leadership style. This agrees with the observation in this question that transformational leadership traits may influence employee's self-efficacy.

Research Question Five examined the extent to which leadership styles discriminated between high- and low-achieving schools. This study found that there appear to be some differences between the high-achieving schools and low-achieving schools in transactional leadership styles. However, when taken together as a set,

principal self-rating of leadership styles does not significantly discriminate between high- and low-achieving schools. This, the researcher, would attribute to the sample sizes of school principals in each school type ($n = 9$). However, a canonical correlation between teacher ratings of principal leadership styles and school performance suggests that about 9% of the variation in school performance may be accounted for by leadership styles. What this means is that the Chikankata study has shown that high-achieving schools are more likely to have high transformational leadership styles and lower transactional leadership styles, suggesting that schools, where principals used higher levels of transformational leadership and lower levels of transactional leadership, tended to be associated with schools that were high achievers.

This finding does not agree with studies that have concluded that school principals have no or near-zero direct effect on student achievement (Hallinger & Heck, 1996; Leithwood et al., 1999; Witziers et al., 2003). These findings are consistent with those of Wahyuddin (2017), whose results state that there is a correlation of the school principals' leadership towards student achievement in schools.

Wahyuddin (2017) therefore, agrees with Waters et al. (2003) 30-year meta-analysis study in stating that leadership affects student performance. However, the difference with the Waters et al. study and Wahyuddin (2017) is in the percentage. Waters et al. (2003) suggested that 6% of student achievement could be explained by the instructional leadership style, whereas Wahyuddin (2017) has explained 9% by transformational and transactional leadership styles.

A possible explanation of this difference could be in different factors. First, the study by Waters et al. (2003) included instructional leadership style; was an extensive

study covering much data; surveyed a large number of schools in a western context, while this study comprised 19 schools, had only 208 teachers in one small region of Zimbabwe with a rural setting.

The researcher agrees with Soehner and Ryan (2011), whose studies indicate an indirect influence of school principals on student achievement. They state that principals do influence the necessary framework for appropriate instructional leadership and, through this, make an indirect influence over student achievement. Secondly, school principals are the key players who can foster trust among staff members, which, in return, contribute to student achievement.

Teachers are regarded as the key persons in determining success in meeting the system's goals, as stated in the Zambian document.

Nothing in the principal's role is more important for ensuring successful student learning than effective instructional leadership. School principals who focus on a vision for their schools nurture the leadership capabilities of their teachers. Additionally, if their schools are moving in the right direction, they model effective leading and learning. Combining these efforts with using data appropriately, as well as monitoring what takes place at the classroom level, will increase the likelihood that schools will achieve their goals for student learning. (Stronge, Richard, & Catano, 2008, para. A Final Word)

In this respect, the assertion of the same document about school heads as a “critically important group” of educational leaders who need “purpose-designed training programs” to keep their leadership skills abreast in order to provide the quality leadership schools need for high academic achievement (Curriculum Development Center, 2012, p. 114), is in line with the observation that school principals' leadership contribute to student achievement.

Specifically, the identification of the transformational leadership style in student achievement in this study agrees with the elements found in the study by Waters et al.

(2003). Among the 21 responsibilities identified in that study, five of them are typical of traits that characterize the transformational leadership style. These are Focus, Relationships, Change Agent, Optimizer, Ideal/beliefs, and Intellectual Stimulation.

Conclusion

The conclusion of this study, whose purpose was to examine school principals' leadership style; teacher efficacy and the extent to which these two major constructs are related in high- and low-achieving schools in Chikankata, Zambia is that school principals' leadership style, particularly transformational and transactional, play an essential role in influencing student achievement. Teacher perceptions of principal leadership styles do influence teacher self-efficacy. However, teacher self-efficacy did not appear to impact student achievement.

Limitations

As the researcher came to the end of this study, he could see some limitations that could have affected the outcome, the most significant one being that of language. Because English is a second language in Zambia, there could be some teachers who may have not clearly comprehended the questions to which they were asked to respond. This was evidenced by questions raised to the researcher to clarify what was meant by some questions. The researcher reduced this limitation by explaining the meaning of a question when asked by a respondent.

The other limitation is that Chikankata District is in a rural area, something that could render the generalizing of results a challenge because the phenomena would most likely be different in urban districts, such as Lusaka, the capital city, or Livingstone the provincial headquarters.

Lastly, the other unverified limitation is that of potential rigging or illegal interference of examination processes. The results of Grade 7, 9, and 12 that were used as a basis for this study can sometimes be unreliable due to illegal interference of examination processes, especially in rural areas. While there was no evidence that this happened, if it did, it would render the basis for classifying schools erroneous.

Recommendations for Practice and Policy

The findings of this research have revealed some essential information that needs to be used in informing teachers and educational leaders in Zambia. The following are some recommendations for practice:

1. With evidence suggesting that schools, where principals use higher levels of transformational leadership and lower levels of transactional leadership, tend to be associated with schools that are high achieving, the researcher recommends that Higher Education Authority, the entity that shapes curriculums for programs, consider placing a course in school leadership in all teacher-training programs. In such a class, transformational and transactional styles could be taught, and their key elements shared:

- Charisma: Provides vision and sense of mission, instills pride, gains respect and trust.
- Inspiration: Communicates high expectations, uses symbols to focus efforts, and expresses important purposes in simple ways.
- Intellectual stimulation: promotes intelligence, rationality, and careful problem-solving.
- Individual consideration: Gives personal attention, treats each employee individually, coaches, advises. (Antonakis et al., 2003, pp. 264-265)

2. During the orientation of school principals to head schools, the researcher recommends that District Education Board Secretaries consider offering a crash course to all newly appointed school principals or provide materials to anyone named to leadership so that they are acquainted with the transformational leadership style.

3. The study shows there was a significant difference in the rating between school principals' self-rating and teachers' rating of school principals, with school principals rating themselves higher than the teachers rated them. The researcher, therefore, recommends that in the selection of school principals, teachers be involved because they may possess an in-depth understanding of leadership style among those being considered.

4. The researcher recommends that books be written tailored to educational leadership in which essential leadership styles like transformational, transactional, and instructional, are explained and taught. This will help provide literature that describes the transformational leadership style with its dimensions, transactional leadership style with its relevant application and instructional leadership, and how to practice and apply them into actual leadership functions.

5. Ministry of Education to consider establishing a Leadership Institute for educational leaders, at which institute effective leadership styles like transformational and transactional could be taught.

6. Ministry of Education to consider conducting on-the-job training programs in leadership where different leadership styles, primarily transformational leadership styles, could be taught.

7. Lastly, but not the least, realizing that there are many factors that play a role in student achievement, school principals should be exposed through conference meetings

to the many factors identified in the literature review that contribute to student achievement.

Future Research

Based on the findings of this study, the following recommendations for the future should be considered to further knowledge on this topic:

1. A replication of this study, but done in an urban District to see if the results would be different if the setting were urban.
2. A replication of the same study, but with larger samples of school principals than the 18 that were in this study.
3. A replication of this study, but with much longer than three years of results and tenure of office by the school principal to determine with better accuracy the influence of principals on teachers' self-efficacy.
4. A replication of the same study, but with segregation of primary and secondary schools so that the comparisons are more homogenous.
5. A study should be done to determine the impact of a teacher's educational level on student achievement, particularly those with a bachelor's degree compared to those with a two-year diploma degree in Zambia.
6. A study should be done that will look at the impact of education on teacher self-efficacy.
7. A study should be done that will look into whether teachers who teach at secondary school perform better in student achievement than teachers who teach at primary school and why?

8. Future research could look at the extent to which gender may contribute to school achievement.

APPENDICES

Appendix A – Top Ten Schools

High-achieving schools in Chikankata Education District Based on the records of 2013, 2014 and 2015

#	Name of school	Name of Principal	Years as Principal	No. Teachers	2013 Perform %	2014 Perform %	2015 Perform %
1	TO1	PTO1	15	35	80	85	86
2	TO2	PTO2	4	8	74	100	100
3	TO3	PTO3	5	8	84	42	61
4	TO4	PTO4	10	12	97	99	98
5	TO5	PTO5	3	8	68	85	97
6	TO6	PTO6	9	15	65	62	62
7	TO7	PTO7	10		55	49	44
8	TO8	PTO8	8	15	76	78	78
9	TO9	PTO9	4	21	52	62	73
10	TO10	PTO10	4	9	67	100	96

Appendix B – Low Ten Schools

Low performing schools in Chikankata Education District
Based on the records of 2013, 2014 and 2015

#	Name of school	Name of Principal	Years as principal	No. Teachers	2013 Perform %	2014 Perform %	2015 Perform %
1	LO1	PLO1	5	5	12	40	15
2	LO2	PLO2	6	16	23	20	56
3	LO3	PLO3	8	10	42	29	56
4	LO4	PLO4	7	12	24	24	34
5	LO5	PLO5	3	15	21	40	40
6	LO6	PLO6	3	10	33	31	54
7	LO7	PLO7	8	16	44	45	27
8	LO8	PLO8	9	15	73	24	24
9	LO9	PLO9	8	8	24	15	32
10	LO10	PLO10	9	11	61	13	22

The basis for selection: (1) The participating school must have had a school principal who has served that particular school as principal for at least three years, and (2) An average of 50% or more score in the past three years (2013, 2014 and 2015) qualifies a school to be rated as a high-achiever while an average of 40% or less in the same years is rated, low-achiever.

Appendix C – Permission Letters

PERMISSION LETTER TO THE DISTRICT EDUCATION BOARD SECRETARY TO
USE HIS DISTRICT IN THIS RESEARCH

PARDON MWANSA

Vice Chancellor, Rusangu University
P.O. Box XXX
Monze, Zambia

XXXX

Chikankata District Education Board Secretary
Chikankata Ministry of Education
P.O. Box XXXX
Chikankata, Zambia

Dear Mr. XXXX

My name is Pardon Mwansa, and I am currently enrolled in a Ph.D. program with Andrews University in the State of Michigan, USA, while serving as Vice Chancellor for Rusangu University in Monze, Zambia.

The purpose of writing to you is to obtain your permission to allow me to use your District for my Ph.D. research. In my research, I am trying to examine school principals' leadership style, teacher self-efficacy, and the extent to which these two major constructs are related in low and high achieving schools in Chikankata, Zambia. Once your office has given me approval, I will then, with your help, write for permission to the school principals to allow me to conduct the same research in their schools.

Your help in this matter will be greatly appreciated.

Pardon Mwansa
VC-Rusangu

If you are agreeable to this, please sign on the dotted lines below to signify your approval and return a copy of the signed letter to me at the above address:

NAME IN FULL

SIGNATURE

CELL PHONE

PERMISSION LETTER TO THE SCHOOL PRINCIPALS TO USE HIS SCHOOL IN
THIS RESEARCH

PARDON MWANSA
Vice Chancellor, Rusangu University
P.O. Box XXX
Monze, Zambia

School Principal
XXX school
P.O. Box XXXX
Chikankata, Zambia

Dear Mr. XXXX

My name is Pardon Mwansa, and I am currently enrolled in a Ph.D. program with Andrews University in the State of Michigan, USA, while serving as Vice Chancellor for Rusangu University in Monze, Zambia.

The purpose of writing to you is to obtain your permission to allow me to use your school for my Ph.D. research. In my research, I am trying to examine school principals' leadership style, teacher self-efficacy, and the extent to which these two major constructs are related in low and high achieving schools in Chikankata, Zambia.

My understanding is that the DEBS for Chikankata has written to you, indicating his permission for me to use your school in this study. Once your office has given me approval, I will then, with your help, write for permission to the school classroom teachers to ask them to participate in this study.

Your help in this matter will be greatly appreciated.

Pardon Mwansa
VC-Rusangu

If you are agreeable to this, please sign on the dotted lines below to signify your approval and return a copy of the signed letter to me at the above address:

NAME IN FULL

SIGNATURE

CELL PHONE

PERMISSION LETTER TO TEACHERS TO PARTICIPATE IN THIS RESEARCH

PARDON MWANSA
Vice Chancellor, Rusangu University
P.O. Box XXX
Monze, Zambia

XXXX
School Principal
XXX school
P.O. Box XXXX
Chikankata, Zambia

Dear Mr. XXXX

My name is Pardon Mwansa, and I am currently enrolled in a Ph.D. program with Andrews University in the State of Michigan, USA, while serving as Vice Chancellor for Rusangu University in Monze, Zambia.

The purpose of writing to you is to obtain your permission to allow me to use your school for my Ph.D. research. In my research, I am trying to examine school principals' leadership style, teacher self-efficacy, and the extent to which these two major constructs are related in low and high achieving schools in Chikankata, Zambia.

This study is important in that it will help us determine the leadership style that enhances a teacher's efficacy. Upon your approval, I will visit your school to conduct the interview session with the two research instruments, one about leadership style and the other about teacher's self-efficacy.

Your help in this matter will be greatly appreciated.

Pardon Mwansa
VC-Rusangu

If you are agreeable to this, please sign on the dotted lines below to signify your approval and return a copy of the signed letter to me at the above address:

NAME IN FULL

SIGNATURE

CELL PHONE

PERMISSION LETTER TO SCHOOL PRINCIPAL TO PARTICIPATE IN THIS
RESEARCH

PARDON MWANSA
Vice Chancellor, Rusangu University
P.O. Box XXX
Monze, Zambia

School Principal
XXX school
P.O. Box XXXX
Chikankata, Zambia

Dear Mr. XXXX

My name is Pardon Mwansa, and I am currently enrolled in a Ph.D. program with Andrews University in the State of Michigan, USA, while serving as Vice Chancellor for Rusangu University in Monze, Zambia.

The purpose of writing to you is to obtain your permission to allow me to use your school for my Ph.D. research. In my research, I am trying to examine school principals' leadership style, teacher self-efficacy, and the extent to which these two major constructs are related in low and high achieving schools in Chikankata, Zambia.

This study is important in that it will help us determine the leadership style that enhances teacher's efficacy and consequently may impact student achievement. Upon your approval, I will mail you the research instrument that deals with leadership style for you to fill.

Your help in this matter will be greatly appreciated.

Pardon Mwansa
VC-Rusangu

If you are agreeable to this, please sign on the dotted lines below to signify your approval and return a copy of the signed letter to me at the above address:

NAME IN FULL

SIGNATURE

CELL PHONE

Appendix D – School Principal Demographic Information Survey

School code (T10 - _____)

1. Gender
 - a. Male
 - b. Female
2. Level of education
 - a. Diploma (Less than 4 years of training)
 - b. Bachelor's degree
 - c. Master's degree
 - d. Ph.D./Doctorate
3. Years of serving as a school principal
 - a. 1-5
 - b. 6-10
 - c. 11-15
 - d. 16 +
4. Years of serving as school principal at this particular school
 - a. 1-5
 - b. 6-10
 - c. 11-15
 - d. 16 +
5. Level of your school
 - a. Primary (Grade 1-7)
 - b. Secondary (Grade 8-12)

Appendix E – School Teacher Demographic Information Survey

School code: (T10 - _____)

1. Gender
 - a. Male
 - b. Female
2. Level of education
 - a. Diploma (Less than 4 years of training)
 - b. Bachelor's degree
 - c. Master's degree
 - d. Ph.D./Doctorate
3. Years of teaching
 - a. 1-5
 - b. 6-10
 - c. 11-15
 - d. 16 +
4. Years taught at this particular school
 - a. 1-5
 - b. 6-10
 - c. 11-15
 - d. 16 +

5. Years you have worked under the current school principal
 - a. 1-5
 - b. 5-10
 - c. 11-15
 - d. 16 +
6. Teaching level:
 - a. Primary (Grade 1-7)
 - b. Secondary (Grade 8-12)

Appendix F - School Teacher Demographic Information Survey

School code (T10 - _____)

Please circle the letter that describes your situation with regard to the following 6 demographic survey questions.

1. Gender
 - a. Male
 - b. Female
2. Level of education
 - a. Diploma (Less than 4 years of training)
 - b. Bachelor's degree
 - c. Master's degree
 - d. Ph.D./Doctorate
3. Years of teaching
 - a. 1-5
 - b. 6-10
 - c. 11-15
 - d. 16 +
4. Years taught at this particular school
 - a. 1-5
 - b. 6-10
 - c. 11-15
 - d. 16 +

5. Years you have worked under the current school principal
 - a. 1-5
 - b. 6-10
 - c. 11-15
 - d. 16 +
6. The level of teaching:
 - a. Primary (Grade 5-7)
 - b. Secondary (Grade 10-12)

Appendix G – NIH Certificate

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CURRICULUM VITA

Pardon Kandanga Mwansa

HIGHLIGHTS OF PROFESSIONAL EXPERIENCE

2015-Present	Vice-Chancellor, Rusangu University, Zambia.
2005-2015	General Vice President, Seventh-day Adventist World Headquarters, Silver Springs, Maryland
2004-2005	President, Southern Africa Indian Ocean Division, Harare, Zimbabwe.
2000-2003	President, Eastern African Division, Harare, Zimbabwe
1995-2000	Associate Stewardship Director, General Conference of SDA, Silver Springs, Maryland.
1994-1995	President, Zambia Union Mission, Lusaka, Zambia.
1993-1994	Communications Director, Zambia Union Mission, Lusaka, Zambia.
1987-1989	Stewardship Director, Zambia Union, Lusaka, Zambia
1986-1987	Stewardship Director, North Zambia Field/Mission, Mansa, Zambia
1982-1983	Chililabombwe District Pastor, Zambia.

EDUCATION

- Doctor of Ministry, June 1993
Andrews University, Berrien Springs, MI
- Masters of Divinity, June 1992
Andrews University, Berrien Springs, MI
- Bachelors of Arts in Theology, **Solusi University**, Bulawayo, Zimbabwe (An affiliate of **Andrews University, Berrien Springs, MI**)

SPECIAL ADMINISTRATIVE FUNCTIONS

- Chairman of Hope International (2010-2015)
- Chancellor and Chairman of Adventist University of Africa (2005-2015)
- Chairman of the General Conference Session Planning Committee (2005-2015)
- Chairman of Family Life Department (2010-2015)
- Chairman of Children's Ministry Department (2010-2015)
- Vice-Chair, Adventist Development and Relief Agency (2005-2010)
- Vice-Chair, Hope International (2005-2010)
- Chairman of Solusi University Board (2000-2005)
- Chairman of University of Eastern African Board (2000-2005)
- Chairman of Maxwell Adventist Academy, (2000-2005)
- Chairman of Division Committee (2000-2005)
- Chairman of Union Committee (1993-1994)

PERSONAL INFORMATION

- Born in Zambia
- A citizen of Zambia and the USA
- Married to Judith Mwansa (December 1983)
- Four children: Paul, Maggie, Helen and David