INSTRUCTIONAL LEADERSHIP AND STUDENT

ACHIEVEMENT IN BELIZEAN

SECONDARY SCHOOLS

By

JEREMY JACQUELINE VALENTINE CAYETANO

Bachelor of Science
University College of Belize
1994

Master of Education
University of North Florida
2003

Submitted to the Faculty of the Graduate College of the
Oklahoma State University
in partial fulfilment of
the requirements for
the Degree of
DOCTOR OF EDUCATION
December, 2011

INSTRUCTIONAL LEADERSHIP AND STUDENT

ACHIEVEMENT IN BELIZEAN

SECONDARY SCHOOLS

Dissertation Approved:

Dr. Bernita Krumm

Dissertation Adviser

Dr. Mwavita Mwarumba

Dr. Edward Harris

Dr. Tami Moore

Outside Committee Member

Dr. Sheryl A. Tucker

Dean of the Graduate College

Dedicated to my loving parents Jerris and Lorraine, my patient and humble husband

Saebot and our two children Luwani and Felisha.

TABLE OF CONTENTS

LIST OF TABLES

Table
     Page

CHAPTER I

INTRODUCTION

Belize, a country located in the heart of Central America, is bordered in the north by

Mexico, south and west by Guatemala and east by the Caribbean Sea. Although surrounded by

Latin American countries, Belize associates more with its Caribbean counterparts as it is the only

English speaking country in Central America. The school system in Belize consists of early

childhood education (Preschool), followed by primary school, secondary school and tertiary

institutions.

Upon completion of primary education, students take the Primary School Examination

(PSE) which determines the high school they qualify to attend. Some high schools have an

entrance requirement, while others do not. The general trend in Belize is for students at schools

with entrance requirements to perform better than those at schools with no entrance

requirements.

Once the students are accepted into a high school, they begin preparation for the

Caribbean Examinations Council's Examinations (CXCs). The curriculum is based on syllabi

produced by CXC and teachers are expected to cover the content. CXC Examinations are taken

after four years of high school; schools are generally judged and classified based on the

performance of their students. Scholarship opportunities exist for students who pass six or more

of these examinations including Mathematics and English Language. It is, therefore, vital to both the institutions and the students that performance in these examinations is commendable. Unfortunately, only about one quarter of the country's high schools perform at levels warranting commendation, and students from the high performing high schools earn scholarships as well as accolades for excellent performance; the others do not.

The leadership of institutions is widely believed to have an indirect effect on the achievement of students (Alig-Mielcarek, 2003; Garuba & Rothstein, 1998; Glickman, Gordon & Ross Gordon, 2001; Green 2010; Guthrie & Schvermann, 2010; Kelehear, 2008; Louis, Leithwood, Whalstrom & Anderson, 2010; Sirinides, 2009; Smith & Andrews, 1989; Taylor, 2001). Instructional leaders define and communicate shared goals, monitor and provide feedback on the teaching and learning process, and promote school wide professional development. (Alig-Mielcarek, 2003).

In defining and communicating shared goals, instructional leaders ensure that all faculty and staff are aware of the goals of the institution and actively work toward attaining them. Goals are critical as they determine the focus and direction taken by the institution. If the institution has student achievement as a goal and teachers focus on student achievement, then instructional practices will be geared toward the achievement of students and the probability that learning occurs will increase (Alig-Mielcarek, 2003).

As instructional leaders monitor and provide feedback on the teaching and learning process, they conduct clinical supervision. Clinical supervision ensures that the leaders are aware of the strengths and weakness of the teachers and afford them the opportunity to work with the teachers on improving skills. Improved teaching skills lead to increases in the level of the performance of the students (Acheson & Gall, 2003; Glanz, 2006; & Kelehear, 2008).

In promoting school wide professional development, instructional leaders are never stationary; rather they move around the school, interact with students and teachers, and visit classrooms. They are, therefore, uniquely aware of the strengths and short comings of each staff member. Their observations and discussions with teachers help to determine the nature of professional development needed in the institution. Professional development is vital to improvement in quality of teaching and, therefore, indirectly leads to increased student achievement (Glanz, 2006).

One researcher found no link between instructional leadership and student achievement. Pantelides (1991), in research for her dissertation titled: *An Exploration of the Relationship Between Specific Instructional Leadership Behaviors of Elementary Principals and Student Achievement,* reported no evidence to support a connection between instructional leadership and student achievement. Other researchers (Alig-Mielcarek, 2003; & Louis et.al) found indirect connections supporting the notion that a relationship exists between instructional leadership and student achievement.

Research Problem

Some Belizean secondary school students are not adequately prepared academically; consequently, they do not perform well in the CXCs. Such inadequate preparation limits their opportunities for gaining scholarships to the junior colleges and maintaining their status as students once they have entered junior college. Generally they are unprepared for the future.

Problem Statement

Leadership facilitates student achievement. Research has shown that when instructional leaders communicate shared goals, monitor and provide feedback on the teaching learning process, and promote school-wide professional development, students have higher academic

achievements than when their leaders do not display those characteristics (Alieg-Mielcarek, 2003). In some high schools in Belize, students generally perform very well in the CXCs, while in other schools students generally perform poorly. Students who perform well over all in these examinations, passing at least six examinations including English Language and Mathematics earn awards of excellence and are recognized publicly. Students, who pass six CXCs or more, including English Language, earn scholarships to any junior college of their choice in Belize. The achievement gap needs to be closed for students to have equal opportunities to succeed, and the leadership in the institutions can facilitate the process. Although principals do not usually directly teach students, if their leadership is effective, they improve the conditions for student achievement (Glanz, 2006).

The purpose of this study was to ascertain if Belizean secondary schools with principals who exemplify instructional leadership behaviors produce students who perform better academically than schools led by principals who do not exemplify instructional leadership behaviors.

Research Questions

1. Do instructional leadership behaviors affect student achievement in Mathematics CXC Examinations?
2. Do instructional leadership behaviors affect student achievement in English Language CXC Examinations?

Research Hypotheses

HO_1: There are no differences among instructional leadership behaviors and student CXC Mathematics achievement.

HO_2: There are no differences among instructional leadership behaviors and student

English Language achievement.

Theoretical Framework

Research indicates that instructional leadership facilitates student achievement. Principals do not teach in most cases, but they are responsible to create atmospheres that foster learning. Instructional leaders are expected to communicate shared goals, monitor and provide feedback on the teaching learning process and promote school-wide professional development (Alig-Mielcarek, 2003). This study's hypothesized framework was created by Alig-Mielcarek (2003) who synthesized three previously formulated models of instructional leadership.

Table 1: Instructional Leadership

Instructional Leadership		
Defines and Communicates Shared Goals	**Monitors and Provides Feedback on Teaching and Learning process**	**Promotes School Wide Professional Development**
The leader works collaboratively to create with staff to define, communicate and use data – driven goals of the school. Goals are used in making organizational decisions, aligning instructional practice, purchasing curricular materials and providing targets for progress. These goals focus the staff around a common mission to achieve	This dimension describes the activities of an instructional leader around the curriculum. These activities include being visible throughout the school, talking with students and teachers, providing praise and feedback to teachers, students and community on academic performances, and ensuring that the instructional time of the school is not interrupted	Encompassed in the dimension are behaviors that are consistent with life-long learning. The instructional leader encourages teachers to learn more about student achievement through data analysis, provides professional development opportunities that are aligned with school goals, and provides professional literature and resources to teachers

Theoretical Framework created by Jana Michelle Alig-Mielcarek for her dissertation titled: A Model of School Success: Instructional Leadership, Academic Press, and Student Achievement, 2003. Adapted with permission of the author.

Procedures

The hypotheses were tested through quantitative non-experimental methodology. The study is considered to be causal comparison research. Causal comparison is a research design that determines causes for existing conditions. This type of research is also referred to as ex-post facto research because both the effect and the supposed cause have occurred and are studied in retrospect (Gay, Mills, & Airasian, 2006; Shavelson, 1996).

The purpose was to determine if differences exist in CXC scores of students in Mathematics and English Language at secondary schools with leaders who exemplify instructional leadership behavior and those without. An instrument was used to measure instructional leadership behaviour from the perspective of teachers. Student achievement was measured by scores earned by students in the Mathematics and English Language CXC examinations.

Surveys (Appendix A) were distributed to 17 secondary schools in Belize. All of these secondary schools were consulted to gain permission to conduct the study (Appendix B). After obtaining permission, the researcher travelled to all schools to administer the surveys personally. All teachers at these high schools were asked to complete the survey. Data for instructional leadership were collected from teachers during a regularly scheduled staff meeting. All respondents were assured confidentiality and anonymity. Data pertaining to the performance of the students in their Mathematics and English Language CXC Examinations were collected from the Examinations Unit in Belize City.

Actual differences among the scores of students based on the instructional leadership bahavior of the principals were determined through the computation of the Analysis of Variance (ANOVA). The statistical analyses were done using IBM SPSS Statistic version 19.

Significance of the Study

The purpose of secondary school should be for students to achieve their fullest potential, academically, which enables them to continue on to higher education. Excellence in the CXC examinations is one indication that students have successfully completed the mandated work for secondary schools in the Caribbean. Lack of excellence could be an indication that the students have not been prepared adequately for continued education. This research investigated one factor that may contribute to the success of students or the lack thereof: instruction leadership. Essential information relative to the leadership of schools and how that leadership affects the achievement of students is provided (Glanz 2006; Smith & Andrew, 1989).

In Belize there is a paucity of very little research material available in any field, including education. An attempt was made to add significantly to the body of knowledge in education. All leaders of institutions of learning, particularly those in Belizean secondary education can benefit from having information based on empirical studies about the relationship between the practices of principals and the success of students.

Assumptions

- Students in Belizean secondary schools sit the English Language and Mathematics CXCs.

- Instructional leadership is the ideal leadership model for principals in secondary schools.

- Teachers' perceptions correctly represent the actions of the principals at the institutions they serve.

- The research instrument used accurately represents instructional leadership behaviors of the principal.

Definitions of Terms

Instructional Leadership

Instructional leadership refers to a leadership style that encourages best practices in teaching (Glanz, 2006). The principal as an instructional leader is held accountable for the academic achievement of students (Smith & Andrews, 1989; Alig-Mielcarek's (2003). This model ascertains that instructional leaders:

- Define and communicate shared goals: meaning that the leader is responsible to establish collaboratively with staff what goals they are aspiring to attain and how they will collectively and individually achieve the outcomes for which they are striving.

- Monitor and provide feedback on the teaching and learning process: the leader should be present to the teachers and students. The instructional leader is visible around the school, constantly communicating with everyone about standards and achievements.

- Promote school-wide professional development: there should be a culture of learning at all levels in the institution. Instructional leaders provide opportunities for professional development as well as data collection for improved instruction and student achievement.

Student Achievement

Student achievement was determined by performance in Mathematics and English Language on the CXC examinations by a score range from grade one to grade six. Grades one to three are considered passing. Grade one is the highest possible score. For the purpose of this study the scores were reversed. Grade one was converted to grade six, grade two was converted to grade five, grade three was converted to grade four, grade four was converted to grade three, five was converted to grade two and grade six was converted to grade one. Passing scores were grades six to four.

Summary and Organization of the Study

Evidence was sought to support the notion that instructional leadership is essential to the success of students. The study adds to the body of knowledge that connects leadership styles to student achievement. Chapter two presents a review of previous research on instructional leadership including types of leadership, the instructional leadership model, the role of the principal, student achievement and the Caribbean Examinations Council (CXC). Chapter three describes the methodology used in conducting the study, chapter four presents the results and chapter five presents the discussions, recommendations and conclusions drawn by the study.

CHAPTER 2

LITERATURE REVIEW

Introduction

The purpose of this study was to ascertain if Belizean secondary schools with principals who exemplify instructional leadership behaviors produce students who perform better academically than schools being led by principals who do not exemplify instructional leadership behaviors. This literature review focuses on leadership, leadership theory, instructional leadership, the role of the principal, student achievement and the Caribbean Examinations Council (CXC).

Leadership

This first section focuses on leadership concepts, traits and leadership styles, attempting to define leadership by discussing those concepts, traits, and styles identified as being reflective of leadership.

Leadership Concepts and Traits

Leadership is a process in which one individual influences a group of individuals to achieve a common goal (Northouse, 2007). A leader is that person who influences, establishes goals and guides individuals towards achieving those goals (Nahavandi, 2012). According to Northouse (2012), there are many different definitions for leadership. Concepts recognized by most as being essential to leadership help in its definition. These concepts are that leadership is a trait, an ability, a skill, a behaviour, a relationship, and a process. In terms of being a trait, there are qualities essential to individuals in leadership positions and it is important that these traits or

qualities manifest themselves in critical moments of leadership. As an ability, individuals should possess the capacity to lead others effectively. When considered to be a behavior, leadership manifests itself in the way leaders conduct themselves. In terms of being a relationship, leadership is suggested to necessitate collaboration and interactions between the leader and the followers, and as a process, leadership influences for the achievement of common goals (Northouse 2001; Northouse, 2012).

Key traits identified as essential to effective leadership are intelligence, confidence, charisma, determination, sociability, and integrity (Northouse, 2012). Intelligence may be thought of having good language, perceptual and reasoning skills. Being knowledgeable and aware of the intricacies of one's responsibilities are also associated with intelligence. Confidence is having the self-assurance of success in leadership. Charisma refers to the likeability of a person and this trait allows others to be influenced by the leader. Determination is the drive that leaders possess to get things done as effectively and efficiently as possible. Sociability is the capability of leaders to establish meaningful social relationships, and integrity is the embodiment of honesty and trustworthiness (Northouse, 2012).

Clawson (2009) views leadership as the effective management of energy. He posits that organizations that are not thriving entities lack luster because they are being led by individuals who are not dynamic. He advocates for leaders to manage effectively their own energy as well as that of their followers to ensure that organizations operate effectively and efficiently.

Leadership Styles

Another concept of leadership purports that leaders either have a Theory X or Theory Y mentality as they lead. Theory X posits that people naturally dislike work and need to be directed and controlled while Theory Y purports that people are self-motivated and like to work. It is

important to be aware of one's personal philosophy of leadership as it has implications as to how leaders and followers respond to each other and the response could be linked to whether the leader has a Theory X or Theory Y mentality (Cunningham & Cordiero, 2009; Northouse, 2012).

Northouse (2012) also discusses the traits of leaders. Leaders have been classified according to one of three personality traits: authoritarian, democratic and, laissez – faire. Authoritarian leadership resembles the Theory X concept of leadership. Authoritarian leaders believe that they have to assert themselves as being in charge and they believe that for production to be maximised, followers are to be controlled. Although the authoritarian leadership style is widely frowned upon, there is merit to such leadership especially in cases when those leaders are effective in motivating others to work and when followers are not concerned with responsibility. Authoritarian leadership may also be effective when followers are new to a particular organization.

Democratic leadership is more like the Theory X mentality because it insists that subordinates are capable of working on their own and a more collegial approach is taken where the leaders and followers work together to accomplish goals. Although this type of leadership is believed to effect positively the atmosphere in such a working environment, the leader has a greater responsibility in ensuring that the organization is managed effectively and the efficiency under such conditions may not be at the level as may be realized by authoritarian leaders (Northouse, 2012).

A form of leadership that neither tries to control nor support subordinates is referred to as Laissez-faire leadership. This form of leadership is sometimes referred to as non- leadership as there is no attempt to influence behaviour. The organization under these conditions thrives or fails depending on the personal motivation of the followers (Northouse, 2012).

Leadership Theory

Leadership is a process in which an individual influences a group of individuals to achieve a common goal (Northouse, 2007). There are several approaches to leadership. Following is information about trait theory, skills approaches, style approach, path-goal theory, transactional theory and transformational leadership.

Trait Theory

One of the first systemic approaches to leadership was the trait theory (Northouse, 2007). In the early 20th century, this approach was studied to determine whether there were specific attributes that cause some leaders to be more effective than others. Since then this theory has been modified several times. Jago (1982) placed emphasis on identifying the qualities that made some social political and military leaders great. Trait approach to leadership maintains that leaders were born with certain qualities that make them "effective" leaders (Alig-Mielcarek, 2003; Nahavandi, 2012; Northouse, 2007). This theory purports that only certain people have the natural capabilities for leadership, and they should be the only people called upon to lead. These individuals are believed to have certain critical qualities that ensure success such as tirelessness and special insights as well as the capacity for persuasion (Garubo & Rothstein, 1998). This type of leadership affords no credence to the concept that leadership is a process that may be learned (Northouse, 2007).

Skills Approach

Although leadership skills had been studied for many years, an article by Katz (1955) in the *Harvard Business Review,* titled "Skills of an Effective Administrator" chronicled research on skills that contributed greatly to how the concept of skills in leadership is viewed today. This approach emphasizes the importance of three skills in leadership; technical skill - the knowledge

and proficienZcy in a particular type of work or activity; human skill - the knowledge about others and the ability to work with them; and conceptual skill - the ability to work with concepts and ideas. Unlike the trait approach emphasizing that certain great individuals were born to lead, the skills approach advocates that many people have the potential to lead (Northouse, 2007).

In the 1990s a group of researchers set out to develop a leadership theory based on problem solving skills in organizations. Over a number of years they studied army officers and determined that three competencies were necessary for effective performance in leadership: problem solving skills, social judgment skills, and knowledge (Mumford, Zaccaro, Harding, Jacobs & Flieshman, 2000).

Style Approach

The style approach to leadership is concerned primarily with what leaders do and how they act (Northouse, 2007).The emphasis is on facilitating the completion of a task as well as ensuring that subordinates are comfortable in their work situation. Leadership, therefore, emphasizes two general kinds of behavior: task behavior and relationship behavior. Several studies investigated the style approach. At Ohio State University, researchers were interested in how leaders behaved while leading an organization. Subordinates were asked to answer questions about the behavior of the leaders in their organizations. They found that the behavior of those sampled could be categorized as task behaviors and relationship behaviour (Stoghill, 1974). While studies on the style approach were conducted in Ohio, similar studies occurred at the University of Michigan and yielded similar results. They found that leadership behaviors could be categorized as employee oriented and production oriented (Northouse, 2007).

Blake and Mouton (1964) produced a managerial grid to explain how leaders facilitated the process of achieving their goals through two factors: concern for production and concern for

people. The Blake and Mouton Managerial Grid portrays five leadership styles. A leader may place heavy emphasis on task and little on people (authority – compliant), little emphasis on tasks and high emphasis on relationships (country – club management); little emphasis and task and relationship (impoverished management), intermediate concern for task and relationship (middle of the road management), or high emphasis on task and people (team management). Team management would, therefore, be the preferred style of leadership (Cunningham & Cordiero, 2009; Northouse, 2007).

Path – Goal Theory

The motivation of subordinates to accomplish given tasks is the emphasis of Path goal theory. It suggests that subordinates perform tasks well if they are expected to do so and if they expect a reward for the tasks performed. The theory emphasizes that leaders define goals, clarify paths, remove obstacles and provide support (Green, 2010; Guthrie & Schuermann, 2010; Nahavandi, 2012; Northouse, 2007).

House and Mitchell (1974), leading advocates for the path goal theory posited that subordinates are motivated when the number and kind of payoffs are increased by the leadership. They also contend that subordinates are motivated when the path to the goal is easily accessible and when there is adequate guidance and support. Motivation and support are believed to lead to personal satisfaction. According to this theory, leaders need to ensure that they remove obstacles, define and clarify goals, and support subordinates to ensure a maximum output in their organizations (Northouse, 2007).

Transactional Leadership

Transactional leadership involves an exchange of things of value that benefit both the leader and the follower (Alig-Mielcarek, 2003; Burns, 1978; Green, 2010; Guthrie &

Schuermann, 2010; Northouse, 2007). The leader gains cooperation in the completion of tasks through the promise of reward. This contractual relationship is mutually beneficial to both the leader and the follower (Green, 2010). Leadership is also largely managerial as it contributes to the smooth flow of the organization in question. A cost may be attached to not completing one's side of the contract (Green, 2010).

Transformational Leadership

This type of leadership changes people and transforms organizations, (Burns, 1975; Guthrie & Schuermann, 2010). Transformational leaders have a vision for the organization they lead and are able to communicate this vision effectively. Such leaders are uniquely able to inspire others to share and commit to the vision and together work towards its attainment (Green, 2010). People are led to accomplish more than what is expected of them. Motivation of the leaders as well as the followers is raised. Transformational leadership is concerned with emotions, values, ethics and standards with concerns of the followers at the forefront to ensure that their needs are met (Burns, 1975).

According to Nahavandi (2012), three elements comprise transformational leadership: charisma and inspiration, intellectual stimulation and individual stimulation. Charisma and inspiration is the quality in transformational leadership that helps followers to overcome resistance to change. Through intellectual stimulation, new ideas are propagated and followers are made to feel empowered. Individual consideration is when a special bond is forged between the leaders and the followers and followers feel encouraged and motivated to excel (Nahavandi, 2012).

Ethical leadership

A fundamental principle of transformational leadership is ethical behavior. Ethical principles are based on values and morals that an individual or society espouses (Northouse, 2007). Leaders must lead with moral purpose; this means leading with intensions of making a positive difference in the lives of subordinates as well as the society on a whole (Fullan, 2001). Leaders possess a great amount of power (Burns, 1978). What separates transformational leaders from those who are not is that transformational leaders have a moral code by which they live and lead. Hitler had great skills in leadership but he did not inspire people to be better individuals; to be better human beings. His leadership fulfilled his personal missions and his personal aspirations. He is a good example of what it means to lead through coercion (Burns, 1978).

In contrast, Abraham Lincoln was also a powerful leader but he was very concerned with the wellbeing of his people. He was visible to them building strong alliances and focusing on persuasion rather than coercion. He was honest and always ensured that decisions made were in the best interest of those he served and not himself (Phillips, 1988). These are characteristics of a transformational leader.

Another reason it is critical that transformational leaders exhibit moral values and moral courage is that as they transform the institutions which they lead, and in the process they transform minds (Gardner, 2006). Leaders are charged with ensuring that under their tenure the organization grows and becomes more productive. Among other things this means communicating goals which then become shared goals and aspirations. Followers need to be secure in the knowledge that the leaders have only their best interest at heart so that they can trust the leaders and trust the decisions that are made on their behalf. When followers feel confident that they are truly a part of decision making and that their opinions really matter, they

feel vested in their institution and are generally more productive Green (2010). It is, therefore, critical to any leader that he/she is trusted by the followers. Trust is developed through a commitment to the truth (Cunningham & Bacon, 2009; Freire, 1973).

Truth as an element of moral leadership was highlighted by Freire (1973) when he described leaders as oppressors and followers as the oppressed. One of the things that oppressors hold from the oppressed is truth. He maintained that if truth is not spoken, dialogue does not occur. On the contrary, he purported that telling the truth is a part of being human to others and contributes to releasing followers from the tyranny of oppression (Frerie, 1973).

The Daily Grind

One phenomenon that transformational leaders need to guard against is the "daily grind." As leaders there are a lot of issues that threaten to overwhelm the order of the day. These issues can become so poisonous that the attention of the leader is diverted from the institution's mission. Leaders need to lead in a manner that minimizes daily contentious issues. When they do occur, leaders need to ensure there is a plan in place to deal with them effectively, including having individuals in place who are able to address some of these issues so that the leaders could focus on ensuring that there is growth and improvement in their organizations (Bennis, 1989).

Instructional Leadership

Instructional leadership refers a leadership style that encourages best practices in teaching (Glanz, 2006; Louis et al, 2010). The principal as an instructional leader is held accountable for the academic achievement of students (Kelehear, 2008; Smith & Andrews, 1989). Instructional leaders help to support the achievement of students by actively facilitating the development of the most sophisticated pedagogical practices in teachers (Kelehear, 2008). Instructional leaders

are "chief learning officers" who are responsible to establish collaborative and supportive school cultures focused on teaching and learning (Green, 2010).

Instructional leaders have transformational attributes. As facilitators, they exhibit behaviors that enhance the abilities of school faculty and staff. They ensure that the teachers feel empowered to achieve goals of school improvement and student learning (Green, 2010). Support is given for the creation of learning communities that encourage dialogue and collaboration in the quest to accomplish the vision of the learning institution (Green, 2010; Louis et al, 2010). Leadership must also be shared. The leaders must be cognizant of their strengths and weaknesses as well as that of the faculty and staff to ensure that the leadership is shared effectively and that each individual's expertise is being maximized for school improvement (Green, 2010; Louis et al, 2010).

Although instructional leaders have to manage aspects of their institutions effectively, they differ from managers in that they focus on building relationships and gaining commitment from followers through the power of influence (Green, 2010). They also empower followers and encourage them to be creative and to use initiative in tasks that they have to undertake (Green, 2010). Leaders focus on the future, create change and a culture based on shared values, and use personal power. Mangers try to maintain existing structures, focus on the present, and use position power (Nahavandi, 2012).

Instructional leaders define and communicate shared goals, monitor and provide feedback on the teaching and learning process, and promote school-wide professional development (Alig-Mielcarek, 2003). The following section describes these three pillars of instructional leadership.

Define and Communicate Shared Goals

This first pillar of instruction leadership focuses on the convergence of instructional and transformational leadership; it emphasizes reflection as well as adherence to the curriculum. The principles that govern each of these practices are explained as they relate to the pillar of defining and communication of shared goals.

Instructional and Transformational Leadership

Transformational leaders change people and transform organizations, (Burn, 1975). Instructional leaders encourage best practices in teaching (Glanz, 2006; Louis et al, 2010) and help to support the achievement of students by actively facilitating the development of pedagogical practices in teachers (Kelehear, 2008). Instructional and transformational leaders work towards the improvement and transformation of the institutions that they serve.

Vision

One attribute of transformational leadership typical of instructional leaders is that leaders must have a vision for the organizations they lead and they must communicate this vision effectively (Green, 2010). Northouse (2012) refers to vision as being a "mental model for a future state" (p.109); a picture that is better than what currently exists; a change that points to a more positive future; values that are espoused by all; a map that lays out the paths that should be followed; and, a challenge to do things that ensure that things are better for all.

Effective leaders must also articulate their vision. In doing so, leaders must communicate the vision in a manner that shows that the vision is not that different from what currently exists. Leaders need to present the values of the vision so that the followers clearly see themselves as a part of something that is worthwhile. The leaders need to choose the right language in

articulating the vision as it is important that they inspire the followers to want to be a part of the new direction that is being set forth (Northouse, 2012).

Implementation of the vision is also critical, requiring the leader to embody the vision that should be perpetuated by the followers. The leader must also ensure that expectations for the success of vision are high and that the followers have set goals ahead of them that are challenging but attainable (Northouse, 2012).

Goals

Instructional leaders ensure that the goals are shared goals. Individuals perform at higher levels and are more vested when they feel that their opinion matters. They believe that they are working towards the very goals that the leaders are striving towards and that cause productivity in general to increase. On the contrary, when individuals do not feel vested and that their opinions matter, they are less likely to work at peak productivity. (Blanchard & Bowles, 1998; Green, 2010).

Ethical leadership

Freire (1973) wrote about "banking education," where students were considered to be receptacles into which information is deposited and the teachers are considered to be the depositors of education. This concept according to Freire (1973) dehumanizes the students and their creativity becomes stifled. Any potential to achieve the greatness that exists in each of them is compromised.

Another aspect of ethical leadership is trust. Trust is vital to the relationship that should exist between teachers and the principal, the teacher and the students, and the principal and the students. When there is trust, there can be meaningful dialogue. When there is no confidence in

the words spoken, dialogue does not occur (Freire, 1973). Instructional leaders define and communicate shared goals (Alig-Mielcarek, 2003).

Instructional and transformational leaders are visible to their followers (Alig-Mielcarek, 2003; Phillips, 1988). Being visible enlightens leaders on the practices of the teachers and allows them to be able to plan for improvement. It also ensures the followers that the leaders are just as committed to the success of the mission as the followers are (Alig-Mielcarek, 2003; Phillips, 1992).

According to Ubben, Hughes &Norris (2011), being ethical is one of the four important characteristics of transformational leadership. Ethical leaders encourage followers to do self-reflection; they uphold democratic values and encourage moral relationships. Ethical leaders encourage others to attain high morals and values.

Managing conflict

Northouse, (2012) defines conflict as "a felt struggle between two or more interdependent individuals over perceived incompatible differences in beliefs, values, and goals, or over differences in desires for esteem, control, and connectedness." (p.174). In resolving conflict, leaders may implement these strategies that can lead to resolutions and strengthen relationships: differentiation, fractionation and saving face (Northouse, 2012). Differentiation requires that those in conflict clearly delineate the nature of the conflict and their individual stance on the issue. Fractionation is a process that helps to break down the conflict into smaller sections so that the issue is presented in a way that is less overwhelming; reducing the intensity and removing some of the emotions connected to the entire situation (Northouse, 2012). Saving face can be used to ensure that the integrity of those in conflict remains intact during and after deliberations. It is important to people that they are seen by others in a light that is acceptable to them. Conflict

resolution is easier when the threat to the participants of a diminished self-image is minimized (Northouse, 2012).

Reflection

An essential aspect of instructional leadership is reflection, a process where leaders reflect upon the needs of the school, problems that exist, and ways to address issues effectively. Reflection is critical in the establishment of goals, and leaders need to assess constantly to determine if the goals of the institution are being met. Reflection is so vital to success that leaders are encouraged to make it a routine aspect of their daily existence (Kelehear, 2008; Glanz, 2006; Smith & Andrews, 1989).

Each day poses new challenges for leaders. For each challenge there may be many ways to reach amicable solutions and it is up to the leaders to decide on the best course of action. An instructional leader arrives at solutions that benefit the students, the faculty, and the community as a whole. Sometimes the waters that lead to that solution are not the calmest to navigate but the instructional leader is committed to ensuring that the institution is not compromised by decisions taken. These decisions need to be made when the leader is calm and in a frame of mind that allows the leader to look rationally at all possibilities and chose the alternative that works in the best interest of the institution (Kelehear, 2008; Glanz, 2006; Smith & Andrews, 1989).

Reflection is so critical that researchers have even suggested that it is done either at the beginning of the day before the regular daily routine ensues or at the end of the day when the daily routine has come to an end. The only stipulation with the time for reflection is that it is done when there is no pressing commitment. (Kelehear, 2008; Glanz, 2006; Smith & Andrews, 1989).

Reflection, however, is recommended not only for the leaders, but also for the followers. Instructional leaders should see the need for teachers to practice reflection as they hone their practices and should therefore encourage teachers to be reflective as well. Reflection helps teachers construct meaning out of their experiences (Kelehear, 2008). A wide range of strategies could be implemented in teaching. Teachers should constantly reflect on best practice to ensure that learning is occurring at the highest possible levels. Kelehear (2008) sees lessons as performances. Reflection helps the teachers to produce their best performance as these will make lasting impressions on the learners.

Reflective practices are, therefore, advisable across all levels. Administrators should reflect on how best to move their institutions forward. Teachers should reflect on best instructional practice. Teachers and administrators should reflect together in the best interests of the students and teachers should also reflect together on the most effective ways forward (Kelehear, 2008).

The Curriculum

Glickman; Gordon& Ross-Gordon (2010) refer to the curriculum as "the what of instruction" (p.362). They posited the elements of the curriculum to be sequence and continuity, scope, and balance. Sequence and continuity refers to the order and length of learning experiences; scope is a reference to the range of these learning experiences while balance refers to the degree to which topics adequately represent what students should know. According to Glickman et al,(2010), a curriculum should be developed based on what should be learned, the order in that should be followed, and the method of evaluation of learning.

Miller & Seller (1985), describe three orientations to the classroom that speak to the purpose of the curriculum as well as education. The first position they propose is the

transmission position that suggests that the purpose of education is to transmit information including facts, skills and values to students. In the second position, the transaction position, education is viewed as students making sense of the curriculum through their interaction with its contents. The third position, the transformation position has students being prepared to be agents of personal and social transformation.

The federal government in the United States has attempted to control the curriculum through high stakes testing (Glickman, et al, 2010; Wiles & Bondi, 2011). Here, the curriculum is aligned with the test instead of the test being aligned with the curriculum. According to Glickman et al (2010), Bloom's taxonomy may serve to guide in determining the kind of learning that should occur across content areas.

According to Glickman et al (2010), there are three approaches to the organization of the curriculum, namely: discipline-based curriculum, the interdisciplinary-based curriculum and the transdisciplinary approach. The disciplinary-based approach adheres strictly to the notion that subjects are to be taught as separate units within designated blocks of time. The interdisciplinary approach purports that subjects are related to each other and have common threads that can be woven together for a greater understanding on the overall curriculum. This approach requires teachers to collaborate and plan together throughout the school year. Transdisciplinary approach does not recognize disciplines, rather the curriculum is arranged in themes and students learn topics in their entirety instead of learning traditional subjects (Applebee, Adler & Flihan, 2007; Glickman et al, 2010).

It is critical that leaders understand the importance of the curriculum and that they are able to communicate its importance to the staff. The leader is responsible for monitoring the teaching of the content in the curriculum and that this is reflected in course outlines as well as

daily lesson plans. Instructional leaders are charged with the responsibility of creating policy as far as the curriculum is concerned. They need to lead the way in deciding on the discipline or interdisciplinary approach to the delivery of the curriculum within all subjects or in subjects where it is relevant (Applebee, Adler & Flihan, 2007; Marsh, 2004; Wiles & Bondi 2011).

In their research on interdisciplinary curricula in middle and high school classrooms, Applebee, Adler & Flihan, (2007), found benefits to the interdisciplinary approach to the curriculum but that instructional leaders need to do more than buy into the idea. They found that the leaders have to ensure that the teachers who take on such a challenge fully take on its responsibilities because they have to ensure that the curriculum content is not diluted in the integration process. The interdisciplinary approach requires a lot more preparation and collaboration on the part of the teachers. The teachers also have to ensure that the lessons are taught in meaningful and constructive ways. Classes that were not properly organized were found to be seemingly unproductive.

It is therefore critical to the learning process that the curriculum and the way it is administered are carefully considered by the instructional leader. The policies that the leader espouses are what the teachers follow and the teachers are the ones charged with implementing the curriculum. It is incumbent upon the leader to create policies on the teaching of the curriculum that will yield the most effective instruction in the classrooms and the highest possible levels of student learning (Applebee, Adler & Flihan, 2007; Wiles & Bondi 2011).

Monitor and Provide Feedback on the Teaching and Learning Process

This second pillar of instructional leadership entails a discussion on supervision. The concept of supervision will first be addressed followed by a focus on clinical supervision and finally a look at the process of clinical supervision.

Supervision

Many times supervision is regarded as a painful experience that should be avoided if possible (Acheson & Gall, 2003; Garubo & Rothstein, 1998). Some teachers believe that the process should be abandoned entirely because it happens as a supervisory process that is horizontal instead of vertical. For too long, supervision was perceived as a tool to control the instructional behavior of teachers (Glickman, Gordon & Ross-Gordon, 2001; Glickman, Gordon & Ross-Gordon, 2010). On the contrary, teachers should see this process as an opportunity for empowerment and improvement (Garubo & Rothstein, 1998). Research is showing that the type of supervision may be the issue. Clinical supervision that is geared towards best practices in teaching and learning may be more effective and appreciated (Acheson & Gall, 2003; Garubo & Rothstein, 1998).

Leaders should be engaged in supervision that enhances teaching skills and subsequently, the achievement of students (Cunningham & Cordeiro, 2009; Glanz, 2006; Smith &Andrews, 1989). The principal, usually the most qualified individual at a school, should be engaged actively with teachers in seeking best practice. Time should be taken to ascertain the level of support needed by each teacher and to determine exactly what each teacher needs to excel in the classroom. Support could mean modelling lessons for weaker teachers, pairing weaker teachers with more experienced, master teachers or ensuring that the teacher attends relevant teaching seminars. All should be done to ensure that the teachers are reaching the students in effective ways and that should be the general purpose of supervision in schools (Acheson & Gall, 2003; Garubo & Rothstein, 1998).

A good metaphor for effective supervision was offered by Glickman, Gordon and Ross-Gordon (2001) who purported that supervision can be thought of as the glue that holds the entire

educational systems of schools in place. Effective supervision provides assistance to teachers, curriculum development, staff development, group development and action research. Supervision, therefore, is critical to bringing together the organizational goals, in line with the needs of the teachers for the improvement of teaching and by extension enhanced student achievement.

Clinical Supervision

Clinical supervision is a process in which the supervisors provide teachers with objective feedback on the state of their instruction; diagnose and solve instructional problems; help teachers develop instructional skills; evaluate for promotion and help teachers develop a positive attitude about professional development (Acheson & Gall, 2003). The main purpose of clinical supervision is improved teaching and enhanced learning through instructional dialogue (Glanz, 2006; Kelehear; 2008). One of the main difficulties with supervision is that it is associated with evaluation (Glanz, 2006). Teachers tend to be very uncomfortable with a process that may threaten their jobs. Often, there is a check list with a rating scale and teachers tend to feel like they are being judged. The entire process, especially if it is unannounced, could be very traumatic to the teacher and could even create tension between the teacher and the principal (Acheson & Gall, 2003).

Often when there is clinical supervision it is followed by an open discussion about strengths and weaknesses. The role of the principal is critical at this point. As an instructional leader, the principal has to communicate the objective effectively so that the teachers understand that the ultimate goal is the achievement of the students, and the quality of their teaching is critical to the success of the students. Quality teaching can be achieved when there are clear lines of communications between the teachers and the principal. The teachers need to be assured that

they can discuss teaching practices with the principal without feeling intimidated, and the principals are responsible to provide this assurance. The principals, therefore, are charged with the responsibility of providing honest feedback with the aim of improving the quality of teaching. This feedback needs to be given in an objective manner. Once this is clear and the teachers buy into this new concept of supervision, the discussion about the best ways to move forward is possible (Glanz, 2006). The principal should also encourage collaboration among teachers as well as teacher self-reflection (Glickman, Gordon & Ross-Gordon, 2001).

The Process of Conducting Clinical Supervision

Clinical supervision usually is a three step process. First, the supervisor meets with the teacher and plans a classroom observation. Second, a lesson is observed systematically and in a non-judgmental fashion and data is recorded as it relates to the objectives. Third, the supervisor meets with the teacher to analyse the data recorded, interpret the meaning of the information from the perspective of the teacher, and decide on the best way forward (Acheson & Gall, 2003; Glanz, 2006). This process should be repeated several times during the school year with experienced and, more so, with newly qualified teachers (Acheson & Gall, 2003).

The meetings are the key to the improvement that the supervision is expected to yield. Opening dialogue is the purpose of the first meeting with each individual. Expectations and concerns from both sides are aired at this time. It is an excellent opportunity to reflect together on the current situation. The second conference is critical as well. Both sides have the opportunity to voice their opinions about strengths and weaknesses and there is an excellent opportunity to reflect together on exactly what the teacher needs to do to improve the quality of instruction. Individual needs of each teacher should be addressed and where there are overlaps

in the needs of teachers, professional development workshops could be implemented to address those needs (Garuba & Rothstein, 1998).

Another purpose for these meetings is to enhance relationships between the teachers and the principal which surely results in improving the general climate of the school. If there are collegial relationships between the teachers and administrators and between the teachers themselves, it is a step in the right direction as far as the school climate is concerned. Collegial relationships among the adults at a learning institution generally results in collegial relationships among the students (Garuba & Rothstein, 1998).

<div align="center">Promote School Wide Professional Development</div>

The third pillar of instructional leadership is the concept of promoting school-wide professional development. This section focuses on professional development, the benefits to an institution, and establishing professional learning institutions.

Professional Development

Glickman (2012) defines professional development as "virtually any experience that enlarges a teacher's knowledge, appreciation, skills and understandings of his or her work under the domain of professional development." (p.335).

Supervision is considered by some to be a form of professional development (Glanz, 2006). After engaging in clinical supervision, professional development workshops could be provided to foster dialogue about teaching and learning. Professional development may include sessions on teaching strategies, the latest theories and practices in education, and feedback on teaching, among others (Glanz, 2006).

Although most schools offer professional development opportunities to the teachers, they are not always presented in a beneficial manner. Teachers complain that many times the

professional development is irrelevant and often weak in content (Glanz, 2006). Principals need to be cognizant of the fact that professional development is expected to lead to improved teaching quality. Therefore, they must plan these encounters purposefully. Professional development should be purposeful and articulate, participatory and collaborative, knowledge based, focused on student learning, on-going development, analytic and reflective (Glanz, 2006).

According to Glickman, Gordon & Ross-Gordon (2010), several characteristics are common to successful professional development programs. These characteristics include the involvement of participants in planning, implementing and evaluating programs; an integration of school-wide goals with individual goals on the foundation of school-wide goals; long range planning and development; coherence; research on schools as a basis for improved instruction; administrative support; adherence to adult learning principles; relevance; continuous evaluation and feedback; and on-going professional development embedded in the school culture.

Professional development is moving away from being a speech to be endured. Several formats believed to be more effective have emerged: new teacher assistance programs where beginning teachers supported through such programs as being assigned mentors; skills development training that entails training teachers to transfer new skills to daily teaching routines; establishing teacher centers where teachers are able to engage in professional dialogue; forming teacher institutes where teachers engage in learning experiences over a period of a few days or months; forming collegial support groups with the purpose of addressing common issues; forming networks so that teachers from different institutions can be jointly engaged; instituting teacher leadership so that teachers can support other teachers as they take on additional responsibility in institutions ; implementing teacher writer where teachers reflect about teaching

31

and share with other teachers; implementing individually planned professional development for personal growth; and establishing partnership with the community (Glickman et al, 2010).

Benefits of Professional Development

Professional development provides teachers with opportunities to develop their teaching skills, although in many instances they have completed formal education. Everyday theories and practices in education are refined and honed. Professional development gives teachers already in the classroom the opportunity to learn about these new practices to improve their practices (Joyce & Showers, 1988).

Professional development can greatly improve the learning of students. As the learning of teachers improves so does the learning of the students. If the teachers are learning new and innovative ways of teaching, it is a natural progression to expect that the students would grasp concepts easier and their leaning would improve. It is therefore imperative that professional development is structured in such a manner that these outcomes are possible (Joyce & Showers, 1988).

Professional development can be an agent for changing unhealthy environmental norms in learning institutions. Professional development may be used to foster professional learning communities. These learning communities are powerful tools for improvement and collaboration (Green, 2010; Louis et al, 2010). Cooperation leads to best practice and improved teaching skills. A collaborative spirit in a learning institution leads to a healthier learning environment (Joyce & Showers, 1988).

Another benefit of professional development is that institutions that purposefully undertake them are constantly reflecting on what is taught, how it is taught and the environment

in which it is taught. This truly is a formula for improved instruction and higher student achievement (Joyce & Showers, 1988).

Action research, closely related to supervision and professional development, may be conducted when teachers have a question about the effectiveness of one strategy over another. When conducting action research, teachers teach different concepts in different ways to determine the method that yields the highest level of achievement in students. Action research, therefore, assists teachers in creating a repertoire of excellent teaching methods. This is a definitive way of determining best practice in teaching and learning (Joyce & Showers, 1988).

Penuel, Fishman, Yamaguchi & Gallagher, (2007) studied what makes professional development effective. Their results indicate that professional development is most effective when teachers are allowed to be engaged with the aligning of activities presented with their curriculum and classroom activities. They also found that when teachers were able to connect with the materials and determine how the students would connect with them as well, the teachers were more likely to use such materials.

Penuel et al (2007), also determined that follow-up sessions after the completion of professional development made the workshop sessions relevant to teachers. They also found that teacher accessibility to materials following the workshop increased the chances that the teachers would use the information attained in professional development workshops. Access to websites with additional support materials was found to increase the chances that teachers found particular professional development workshops useful.

Establishing Professional Learning Communities

Studies have consistently shown that professional learning communities in schools create improved learning because learning communities foster collaboration in the development of the

curriculum, in instruction, and in sharing. Professional learning communities also offer support, as teachers assume the various roles such as mentor, mentee, coach, specialist, advisor, and facilitator (Green, 2010; Louis et al, 2010).

The Role of the Principal

The principal's primary function as the leader in the school is to provide direction and exercise influence (Louis et al, 2010). Through setting direction, developing people, redesigning the organization, and managing the instruction program (Green, 2010). Next is a discussion on establishing a vision for learning, institutional management, principals as instructional leaders, and the academic press.

Establishing a vision for learning

Principals are responsible to provide instructional leadership that establishes a vision for learning. Such vision must be clear to all members of the institution, faculty as well as students and all must be involved in its implementation. It must include the creation of a community of learners who collaborate to achieve goals (Green, 2010; Louis et al, 2010).

This vision must also include facilitating a school culture that insists on high expectations from teachers, students and community stakeholders. It must be conducive to both student learning and professional growth of staff, and it must lead to school improvement in a way that addresses the needs of the students and engages the community in activities geared towards collaboration for student success. The use of data from multiple sources to foster instructional leadership is also critical to the vision created. (Green, 2010).

Institutional Management

Principals are responsible to manage their institutions effectively. They are expected to plan for the improvement of their institutions. In so doing they are expected to coordinate people,

programs and activities. Leaders are expected to manage in such a way that the human resources are adequate for the tasks at hand and that there is sufficient support for the completion of the tasks (Green, 2010). Effective budgeting is a major part of managing institutions of learning. Proper budgets ensure that resources are being used to maximize school improvement. Funds are usually limited and care must be taken to ensure that the finances are managed effectively.

School leaders are also expected to be good directors. Their direction is necessary to ensure that organizational tasks are completed in an effective and efficient manner. As directing managers, they have a responsibility to recruit, train, and place quality staff members. Their duties also include completing reports that demonstrate accountability and that resources are being effectively managed. As managers, schools leaders must organize their institutions in such a manner that teaching and learning is maximized (Green, 2010).

Principals as instructional leaders

In their study investing the links between leadership and learning, Louis, et al (2010), determined that for improved instruction, principals should adopt certain practices. They should ensure that their schools are focused on goals and expectation of student achievement. Principals should keep track of the professional development of the teachers, including prescribing as well as managing the attendance of the teachers. They should also create structures and opportunities for collaboration among teachers, to the extent of scheduling meeting times (Alig-Mielcarek, 2003; Green, 2010).

Other practices that were perceived to be important were monitoring the work of teachers in the classroom, providing mentors to new teacher, being easily accessible, providing backup with discipline and parents and supporting parental involvement in the learning of students (Green, 2010). This study also found that there exists a perception among teachers and principals

that instructional leaders are responsible for establishment of the instructional climate and actions.

Instructional climate is established as a result of a vision that students can all perform at high standards. One means of establishing this vision is through the adoption of value of research-based strategies. Another is through a personal vision of the principals to break cycles of poverty that exists in their communities (Louis et al, 2010).

Instructional action involves providing instructional support to teachers. Principals should be cognizant of the teaching and learning that occurs in their institutions. They should directly be involved with teachers ensuring that formative assessments are conducted (Louis et al, 2010).

The Academic Press

According to Jana Alig-Mielcarek (2003), academic press is a way of conceptualizing learning climate of a school that influences the behavior of the administrators, teachers and students. Academic press is the extent to which the mission, vision and goals of learning institutions are geared towards academic excellence. The administrators ensure that the atmosphere is conducive to learning and provides opportunities for the teachers to foster quality teaching. The teachers believe in the academic abilities of the students and work diligently with them to ensure their success. The students seek opportunities to learn and become better students and they respect their peers who perform well in academic endeavours.

Healthy Schools

According to Hoy and Tarter (1997) healthy schools are able to fulfil their mission of being places where learning occurs. Schools with a healthy climate have faculty who emphasize academic achievement and set high standards for teaching and learning. Teachers and administrators have positive collegial relationships with each other as well as with the students.

There is a heavy emphasis on fulfilling the mission of the schools in these institutions and measures are put in place to ensure that negative influences from the community are not allowed to infiltrate and affect the positive atmosphere.

The principal of healthy schools is a dynamic instructional leader. This leader ensures that instructional tasks are accomplished along with the building of relationships. A serious learning environment is also cultivated by the leader. Another characteristic is that the leader is able to influence decision making by the governing boards as they trust his/ her judgments. This is critical to securing resources for teachers.

Enthusiastic teachers are also vital to the cultivation of healthy schools. These teachers demand high standards from students by setting high but achievable goals. Teachers believe in the abilities of the students and they in turn believe in their abilities. Teachers believe in the mission of the school and genuinely strive for positive relationships with colleagues (Hoy & Tarter, 1997 Louis et al 2010).

Trust-Based Culture

Research has established that trust is vital to positive school culture. It is important that the decision-making of the institution's leaders is trusted by the participants (Louis, al 2010). Trust has been shown to be essential in determining whether or not educators have confidence in institutional leaders in carrying out transformational leadership tasks.

It is important that in the learning environment of schools, leadership is distributed to maximize efficiency. Thus, it is critical for teachers to be empowered to the point of being certain that they are trusted to take the lead in certain aspects of the running of the institution where they teach. Efficiency in the running of the institution leads to greater

effectiveness in the operations of the institutions and greater emphasis on the teaching and learning process (Hoy & Tarter, 1997; Louis et al, 2010).

<div align="center">Student Achievement</div>

Student achievement and the principal's role are will be discussed in this section. The role of the principals and teachers in the achievement of students is described. Studies of the influence of instructional leadership on student achievement complete the section.

The Principal's Role in Student Achievement

Instructional leaders are charged with ensuring that the mission and goals of the institutions they lead are realized (Alig-Mielcarek, 2003). They are also charged with ensuring that their institution is a professional learning community and that there is a focus on instruction. The teachers at the institution are to ensure that they form these learning communities to facilitate interaction in teaching and learning and that advice networks are formed (Sirenides, 2009). This concept is critical to the learning of students. Principals rarely teach the students, but it is their responsibility to ensure that they create the atmosphere at the institution that fosters learning (Alig-Mielcarek, 2003).

The Teacher's Role in Student Achievement

The most critical influence on student's success, apart from the home environment is the teacher (Eggen & Kauchak, 2001). Teachers are responsible to motivate students to want to learn. This means that the teachers themselves need to be motivated. The leader is responsible to ensure that the teachers feel that the work they produce is worthwhile work. When teachers believe that they are appreciated, they are likely to perform at peak proficiency (Blanchard & Bowles, 2001).

Students achieve when teachers are effective. In her dissertation on effective teaching, Taylor (2009) outlined10 things teachers should know and should be able to do. These principles were adopted from the Interstate New Teacher Assessment and Support Consortium (INTASC). To summarize these principles, teachers need to understand concepts in inquiry and discipline to create learning and to ensure that subject matter is delivered in a manner meaningful to the students. Teachers need to understand how children learn and develop and that students differ in their approaches to learning. It is also important that teachers understand individual and group motivation to create a positive learning environment. It is also important that they use media available to them to foster learning. Teachers must plan effectively and foster positive relationships with colleagues and the wider community to facilitate the learning process.

Studies on Instructional Leadership and Student Achievement

Pantelides (1991) wanted to determine what proportion of student achievement can be attributed to the instructional leadership behavior of the elementary principal, while controlling for student socioeconomic status, parental involvement, and district per pupil expenditure. Through quantitative methods, she found that no significant relationship was determined to exist between principal's instructional leadership activities and student achievement.

Knezek (2001), in his mixed methods research on supervision as a selected instructional leadership behaviour of elementary principals and student achievement in reading, found that elementary school principals of high and low performing schools differed in selected instructional leadership behaviors particularly in the case of supervision. In high performing schools collaborative supervisory systems were in place that fostered teacher reflection on instruction as well as collaboration among teachers and with the principal. At higher performing schools there were also supervisory practices such as "walk through" observations and providing

teachers with written as well as verbal feedback. These practices were far less visible in low performing schools. According to Knezek (2001), there were differences in high and low performing schools based on the principal's knowledge of reading research, methodology and pedagogy. Even principals in schools with high poverty rates, who were knowledgeable in these areas, had high performing schools.

Alig-Mielcarek (2003) investigated whether instructional leadership and academic press has a significant effect on student achievement in elementary schools, directly or indirectly. She found that principals can make a difference by exhibiting behavior consistent with instructional leadership and by developing a climate of academic press. She concluded that principals do indirectly affect the achievement of students, and it is therefore critical that they engage in instructional leadership and that they foster a climate of academic press.

Klinginsmith (2007) conducted a quantitative study on the relative effect of principal managerial, instructional and transformational leadership on student achievement in middle level schools and found a significant correlation between principal leadership factors and student achievement. In Mathematics these six factors showed significant correlations: instructional improvement, curriculum improvement, identifying and articulating a vision, fostering group goals, providing individualized support, and providing intellectual stimulation. For Communication Arts partial correlations showed eight of nine factors to be significant with student achievement.

Shatzer (2009) conducted a comparison study between instructional and transformational leadership theories concluding that although it was difficult for him to come to a solid conclusion, there was a stronger effect in instructional leadership than transformational leadership in the case of student achievement.

Hanna (2010) looked at instructional leadership and the impact on student achievement. Because she was interested in the activities of principals in high performing schools, she interviewed principals about their activities and asked teachers about the activities of their principal. Educational plans and reports from each school were used to triangulate what was asserted by both the teachers and principals. She organized her findings into five broad categories of vision/goals, learning/achievement, leadership, accountability, and communication. These principals of high performing schools were very similar in styles where shared leadership and communication was concerned. They expressed clearly the need for regular and clear communication, and they had no desire to and did not lead alone. Principals expressed a need for a clearly articulated vision. Of the five broad categories, Hanna found that those having the most influence on teachers' classroom practice and having the most positive impact on the learning of students were learning/achievement and accountability categories. Those principals of these high performing schools worked with teachers, engaged in professional dialogue on pedagogy and assessment and promoted professional development. Hanna (2010) referred to these activities as capacity building in work teams and she purported that it is critical that teachers work together in teams so that they learn, reflect and grow together; restructuring the role of the principal as being geared towards capacity building and away from supervision. There were inconsistencies when it came to classroom supervisions. Principals acknowledged that it was important to be working with the teachers in the classrooms and planning professional development activities, but expressed that this was not always possible.

Louis et al (2010) conducted a six year study aimed at identifying the nature of successful educational practices and student achievement. Specifically, they wanted to identify practices that directly or indirectly foster improvement in student learning; clarify how successful

leadership directly or indirectly contributes to teaching and learning; determine the extent to which individuals and groups at the state, district, school, and classroom levels possess the will and skill to improve student leaning and to what extent their setting complements that motivation and capacity; describe the extent to which individuals and groups at the state, district, school and classroom levels help other acquire the will and skill to improve student learning; identify the leadership and workplace characteristics conducive to improved student learning. Through quantitative and qualitative means they found that principals are most effective when they work collaboratively with other principals, district personnel and teachers towards clear common goals. These principals experience greater efficacy and are more confident in their leadership. District support of shared leadership at the school level also enhance efficacy.

Louis et al (2010) also indicated that students' achievement is higher when principals and teachers share leadership because the teachers' working relationships with each other are stronger. Shared leadership fosters the development of professional learning communities. When teachers are attached to professional learning communities, they are more likely to engage in instructional practices that are conducive to student learning. The results further indicate that there was no set model for the distribution of leadership, but that the distribution pattern tended to depend on the goals, and the more encompassing the goals, the higher the chance that the distribution of leadership model was appropriate.

Louis et al (2010) also indicated that generally, more input and engagement were requested from a wider variety of stakeholders in higher performing schools. It was also noted that these schools had expectations for students that were higher than state requirements and that teachers used multiple means for measuring success. The results also indicated that the schools saw the states as partners and that the state initiatives mattered.

Caribbean Examinations Council (CXC) Examinations

This section of the literature review provides information about the Caribbean Examinations Council (CXC), a council that creates the CXC examinations and monitors the reporting of the CXC examination results. The history of the examination will be discussed followed by the accreditation and recognition of the examination and finally the grading system.

History of CXC

CXC was established in 1972 with the aim of conducting examinations in an agreement with 16 participating territories in the region: Anguilla, Antigua, Barbados, Belize, British Virgin Islands, Cayman Islands, Dominica, Grenada, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago, and Turks and Caicos Islands. The Council is charged with the responsibility of conducting the examinations as well as awarding certificates and diplomas based on the results. The Council is also responsible to select subjects tested and prescribe the syllabi. Member territories are responsible to collect fees that are payable directly to council. Members of the Council hold office for three years. The Council is sub-divided into two committees – namely the Administrative and Finance Committee and the School Examinations Committee.

CXC provides examinations and certification both at the secondary and at post-secondary levels. At the secondary level, the Caribbean Secondary Education Certificate (CSEC) examination is offered at the completion of secondary school and the Caribbean Advanced Proficiency Examinations (CAPE) is offered to post-secondary candidates.

Accreditation and Recognition

The United Kingdom (UK) National Academic Recognition Information Center, having conducted an assessment of CAPE, agreed that qualification is of the highest standards and

commend CAPE to the UK as a higher education entrance requirement. The University of the West Indies and the University of Guyana accept CXC passes as an entrance requirement. Member territories recognize the examinations and use them as an indication of the achievement of students leaving the secondary level. CXC is working with other colleges and universities to reach articulation agreements.

In Belize, passing six CXCs or more, including Mathematics and English Language, earns students tuition scholarships to junior colleges of their choice or to the University of Belize. In 2010,

CXC Examinations and grading scheme

CXC examinations are criterion-referenced. Examiners are concerned with establishing whether students have met particular levels of mastery. Student performance is compared to preset standards determined to be adequate for the award of a particular score, rather than comparing performance with that of other examinees. Grades are assigned based on competencies, abilities, and skills demonstrated in the performance of the candidates.

CXC reports performance of students under a six point grading scheme: I(one), II(two),III (three), IV (four), V (five), and VI (six). These represent profile grades A, B, C, D, E, and F. The highest grade attainable on any of the examinations is a Grade I (one) and this is an indication that the candidate shows a comprehensive grasp of the key concepts, knowledge, skills and competencies required by the syllabus. Grades I, II and III are considered to be passing scores.

For the purposes of reporting scores in this study all scores were reversed. Grade I (one) was converted to grade VI(six), grade II (two) was converted to grade V(five), grade III(three) was converted to grade IV (four), grade IV (four) was converted to grade III (three), grade V

(five) was converted to grade II (two) and grade VI (six) was converted to grade I (one). Passing scores were grades VI (six) to IV (four).

Summary

Learning institutions are charged with the responsibility of ensuring that the students learn and are capable of functioning beyond that institution. Although school leaders do not generally teach, they should create a learning environment conducive to learning and ensure that the teachers have the knowledge, skills and motivation to enhance learning. Instructional leaders are believed to be equipped with the knowledge and skills necessary to lead institutions that ensure that students succeed. They establish professional learning communities, engage in reflective practices, adhere to the curriculum, conduct clinical supervision, and insist on professional development. These practices are believed to be critical in the teaching and learning process. (Alig-Mielcarek, 2003. Louis et al, 2010). Chapter three will explain the methodology used in conducting this study.

CHAPTER 3

METHODOLOGY

Introduction

This chapter describes the methodology and data collection procedures based on the theoretical framework and hypotheses of this study. The theoretical framework was created by the synthesis of three previously formulated models of instructional leadership and it postulates that instructional leaders define and communicate shared goals; monitor and provide feedback on the teaching and learning process; and promote school wide professional development (Alig-Mielcarek, 2003). For this study, the hypotheses were tested through quantitative methodology and the instruments employed to measure instructional leadership consisted of items based on the theoretical framework that guided the study.

Purpose Statement

The purpose of this study was to ascertain if Belizean secondary schools with principals who exemplify instructional leadership behaviors produce students who perform better academically than schools led by principals who do not exemplify instructional leadership behaviors. In Belize, students are expected to take Caribbean Examinations Council (CXC) examinations upon the completion of four years of secondary school. Students who are successful in English Language and five other CXC examinations receive a scholarship and are able to attend any junior college of their choice with their tuition paid by the government.

Success in the examinations is also the means by which the schools are categorized and judged. Institutions enjoy the reputation of being the top schools in the country based only on repeated excellent performance of students attending such institutions. Schools are viewed as

fulfilling their mission of providing a superior secondary education when students are successful in these examinations. English Language and Mathematics were chosen as the subjects to determine academic achievement because English Language is critical to scholarship achievement and in some schools both subjects are mandatory. In some cases students need to pass these two subjects to be promoted to other classes and to meet requirements to earn their high school diploma.

Research Questions

1. Do instructional leadership behaviors affect student achievement in Mathematics CXC Examinations?

2. Do instructional leadership behaviors affect student achievement in English Language CXC Examinations?

Research Hypotheses

HO_1:   There are no differences among instructional leadership behaviors and student CXC Mathematics achievement.

HO_2:   There are no differences among instructional leadership behaviors and student CXC English Language achievement.

Sample

University Institution Review Board (IRB) permission was sought and obtained to conduct this study. The sample was selected based on the criteria approved by IRB. Fifty-one secondary schools operate in the country and 43 had students sit CXC examinations in 2010. The country of Belize consists of six districts, similar to the fifty state structure of the United States. The distribution of schools across the country is as follows: 5 in Corozal District, 5 in Orange Walk District, 18 in Belize District, 10 in Cayo District , 3 in the Stann Creek District and 2 in the Toledo District. A ratio of 1:3 was used to calculate the number of schools to be surveyed in the Corozal, Orange Walk, Belize and Cayo Districts. In each case half of the number of schools were from rural and half from urban areas. The schools in these districts were randomly selected. The remaining districts, Stann Creek and Toledo had three and two schools respectively. In order to keep the urban and rural pattern and to get adequate representation from each district, two schools were chosen from both districts; one school from the urban areas and one from the rural areas.

Table 3.1
Population of Teachers and Schools

District	Secondary Schools	Teachers[1]	Sample	Teachers
Corozal	5	139	2	76
Orange Walk	5	150	2	37
Belize	18	465	6	190
Cayo	10	273	3	93
Stann Creek	3	119	2	84
Toledo	2	92	2	92
Total	43	1,238	17	572

Note. [1] represents total number of teachers in the population. Districts are listed in order from north to south of the country.

Having selected the schools, a letter seeking permission to conduct the study (Appendix B) was taken to the principals requesting their participation in the study. Upon delivery of the letters, the researcher explained the purpose of the research and requested a date when the survey could be conducted. The researcher explained that the best time would be during staff meetings or briefings. Having set a date with each school, the researcher created a calendar and travelled to each school to administer the survey personally during staff meetings. All teachers were given a Participation Information Form to read (Appendix C) before receiving the survey (Appendix A) to complete. Completion of the survey signified the teacher's consent to participate in the study. Participants were ensured anonymity, and they had the option to decline participation with no penalty attached. They were also assured that they could decline to answer any question and that results would be published as group means. Their identities and that of their institutions would not be revealed in any way in the reporting of the findings.

Of the possible 572 teachers in the target population, 452 (79%) responded. The total

population of secondary school teachers in the country of Belize is 1,238; the response rate,

therefore, was 37% of the total population. Seventeen of the 43 schools were surveyed, and that

represents 40% of the secondary schools in the country.

Data Collection

Surveys were administered by the researcher in the months of February and March 2011.

Data were collected from 17 of the 43 secondary schools that administered CXC examinations in

Belize in 2010. The survey was used to determine the instructional leadership behaviour of

principals from the perspective of the teachers. All teachers from each high school were asked to

fill out the survey during a regularly scheduled staff meeting. In five of the 17 schools, there

were teachers off on field trips with students and teachers who did not attend the staff meetings.

All respondents were assured confidentiality and anonymity.

Students in Belizean Secondary Schools sit the Caribbean Examinations Council (CXC)

Examinations and the end of four years of high school. CXC is comprised of 16 member

territories, and each has representation on the council; council representatives decide on the

content of the syllabi and what is tested. These examinations are recognized by all Caribbean

territories. Students' test scores in Mathematics and English Language CXC Examinations were

collected from the Examinations Unit in the Ministry of Education in Belize City.

Research Instrument

The instrument for this study was designed by Alig-Mielcarek (2003) who granted

permission for the use of her instrument. The instrument is comprised of thirty-one items based

on three dimensions of leadership--defining and communicating school goals, monitoring and

providing feedback on the teaching and learning process and promoting school-wide professional development.

Data Analysis

The researcher sought to determine if there were differences in the exam scores of students attending schools being led by principals who exemplify instructional leadership behaviors and the exam scores of students whose principals do not exemplify such behaviors. The hypotheses were tested through quantitative non-experimental methodology. The study is causal comparison research. This type of research is also referred to as ex-post facto research because both the effect and the presumed cause have occurred and are studied in retrospect (Gay, Mills, & Airasian, 2006; Shavelson, 1996).

When more than two groups are to be simultaneously compared with at least one dependent variable, analysis of variance (ANOVA) is used to calculate the differences (Gay, Mills & Airasian, 2006; Shavelson, 1996; Stevens, 2007). ANOVA is based on three assumptions. One of these assumptions is Independence, meaning that any particular subject's score is independent of the scores of all the other subjects. Another assumption is Normality; scores in each population groups should be normally distributed. These scores are assumed to be sampled from a population of scores that are normal in form. The final assumption is Homogeneity of Variance where the variance in scores in each population is equal (Gay, Mills & Airasian, 2006; Shavelson, 1996; Stevens, 2007).

The null hypothesis is a key component of ANOVA. For this study, there are no differences among instructional leadership behaviors and student CXC English or CXC Mathematics achievement. If there are differences, the null hypothesis will be rejected. In ANOVA the F-Test is used in deciding whether or not to reject the null hypothesis. For this

study, the independent variable is instructional leadership and the dependent variable is student exam scores in Mathematics and English Language CXCs.

After collecting data on the instructional leadership, the researcher added the scores so that each teacher in a school gave a score to the principal. These scores were averaged, and each principal was assigned an instructional leadership score. The scores of the principals were divided into three categories of high, medium and low instructional leadership behaviour. The range of scores was determined and all 17schools were categorized based on the score each received from the teachers.

CXC scores range on a scale from grade I (one) to grade VI (six). Grades I (one), II (two) and III (three) are considered to be passing scores while, grades IV (four), V (five) and VI (six) are failing scores. For the purposes of reporting scores in this study all scores were reversed. Grade I (one) was converted to grade VI(six), grade II (two) was converted to grade V(five), grade III(three) was converted to grade IV (four), grade IV (four) was converted to grade III (three), grade V (five) was converted to grade II (two) and grade VI (six) was converted to grade I (one). Passing scores were grades VI (six) to IV (four).

The grade of each student in Mathematics and English Language was recorded and tabled. All scores were entered into IBM SPSS version 19 and an F-Test score was determined. If the significance of the F-Test was less than 0.05, it was determined to be significant and the null hypothesis was rejected.

<center>Summary</center>

Data collection procedures were conducted according to IRB stipulations. CXC test scores were used to categorize students and the scores given by teachers were used to determine whether principals were demonstrating high, medium or low instructional leadership. Differences

were calculated by using IBM SPSS version 19 to calculate the F-statistic. If the significance of the F-statistic was less than 0.05, it was considered to be significant and the null hypotheses would have to be rejected. Chapter Four provides a detailed account of the results of the study. Tables and graphs are used to illustrate and further explain the findings.

CHAPTER 4

RESULTS

The data presented in this chapter begins with a restatement of the research questions and hypotheses. This is followed by a description of the sample and descriptive statistics of the instructional leadership construct. Next in order are the tests of research hypotheses. Through Analyses of Variance (ANOVA) calculations the F-statistic was determined which indicated if the null hypotheses was to be rejected. The calculations were done using IBM SPSS version 19. Post hoc calculations indicate exactly where differences lie. Following these operations, further calculations explain why differences were found.

Sample

The sample for this study consisted of 452 teacher participants in 17 secondary schools in Belize. This represents 79% of the target population and 36% of the entire population of Belizean secondary school teachers. Nine of these schools were located in rural areas and eight were located in towns and cities. Table 4.1 illustrates instructional leadership and student achievement at a glance. Each school was given a code number by the researcher.

Research Questions

1. Do instructional leadership behaviors affect student achievement in Mathematics CXC Examinations?
2. Do instructional leadership behaviors affect student achievement in English Language CXC Examinations?

<div align="center">Research Hypotheses</div>

HO$_1$:   There are no differences among instructional leadership behaviors and student

CXC Mathematics achievement.

HO$_2$:   There are no differences among instructional leadership behaviors and student

English Language achievement.

Table 4.1

Schools, Teachers and Students in the Study

School Code	Number of teachers (2010)	Number of students who took English Language CXC	Number of students who took Mathematics CXC
1	24	50	35
2	50	129	126
3	9	15	9
4	51	167	159
5	35	120	119
6	40	119	120
7	52	139	138
8	44	75	65
9	32	84	86
10	30	125	123
11	49	138	136
12	27	40	39
13	16	20	18
14	26	41	34

15	15	44	42
16	42	24	26
17	21	25	23

Instructional Leadership Construct

The instrument used to measure instructional leadership consisted of 31 items divided into three subsections: 1.) Defines and communicates shared goals 2.) Monitors and provides feedback on the teaching learning process 3.) Promotes school wide professional development. The teachers' average scores were calculated and each principal was given a percentage score for instructional leadership. These scores were used to categorize principals as exemplifying high, medium or low instructional leadership behaviors. The scores were set up in a range; the top 1/3 was considered to exemplify high instructional leadership. The second 1/3 was considered as exemplifying medium instructional leadership and the bottom 1/3 was considered to exemplify low instructional leadership.

In the category of exemplifying high instructional leadership qualities, 35.2% of the leaders were so categorized, 35.2% were categorized as exemplifying medium instructional leadership qualities and 29.4% were categorized as exemplifying low instructional leadership behaviors. Each principal was then ascribed a score of 1, 2, or 3. The number 1 signifies low instructional leadership behavior; 2 signifies medium instructional leadership behavior; and 3 signifies high instructional leadership behaviour.

The results of the sub-categories for instructional leadership indicated that 75% of the leaders defined and communicated shared goals, 65% monitored and provided feedback on the teaching and learning process and 65 % promoted school wide professional development. The average score for all three subcategories combined for leaders with high instructional leadership behavior was 77%, for leaders with medium instructional leadership behavior the average was 69% and for leaders with low instructional leadership behavior the average was 59%. As Table 4.2 indicates 83.7 % of the leaders with high instructional leadership, 75.9 % of leaders with medium instructional leadership, and 64% with low instructional leadership behaviour define and communicate shared goals. Seventy-three percent of principals with high instructional leadership behaviour, 65% of those with medium instructional leadership behavior and 57% of those with low instructional leadership behaviour monitor and provide feedback on the teaching and learning process. Seventy-four percent of the leaders with high instructional leadership behavior, 66% with medium and, 57 % with low instructional leadership behavior promote school wide professional development.

Table 4.2

Instructional Leadership Sub-Category Breakdown

Instructional Leadership	Define and Communicates Shared Goals %	Monitors and Provides feedback on the Teaching and Learning process %	Promotes School Wide Professional Development %	Average %
3 (High)	83.7	73	74	77
2 (Medium)	75.9	65	66	69
1 (Low)	64	57	57	59
Total	75	65	66	

Caribbean Examionations Council Scores and Instructional Leadership

Caribbean Examination Council (CXC) has a six-point grading system to report the performance of the students under six overall and profile grades. The overall grades are I, II,III, IV, V, and VI and the corresponding profile grades are A, B, C, D, E, and F. For this study, CXC scores in Mathematics and English Language were obtained and averaged for the 17 secondary schools and each school was assigned one score in English Language and one in Mathematics. Scores in Table 4.3 were placed in order of highest to lowest instructional leadership score.

For the purposes of reporting scores in this study all scores were reversed. Grade I (one) was converted to grade VI(six), grade II (two) was converted to grade V(five), grade III (three) was converted to grade IV (four), grade IV (four) was converted to grade III (three), grade V (five) was converted to grade II (two) and grade VI (six) was converted to grade I (one). Passing scores were grades VI (six) to IV (four).

Table 4.3

Principal Instructional Leadership Category (PILC) and Average Student CXC Scores in Math and English Language

School Code	Instructional Leadership Category	Score in English Language	Score in Mathematics
5	3	5	4
10	3	5	4
14	3	4	3
12	3	5	3
13	3	3	3
7	3	5	5
4	2	5	4
11	2	4	4
6	2	6	5
16	2	5	3
3	2	4	3
9	2	4	3
17	1	4	4
15	1	4	2
1	1	4	3
2	1	4	4
8	1	3	2

Note. Scores in the table were placed in order of the highest to lowest instructional leadership score.

Descriptive Statistics of Instructional Leadership and Student Achievement

Descriptive Statistics in Mathematics

Table 4.4

Principal Instructional Leadership Category and CXC Mathematics Scores

PILC *	N	Mean	Std. Deviation	Std. Error
1	294	3.41	1.292	0.075
2	533	3.78	1.176	0.051
3	469	4.20	1.166	0.054
Total	1,296	3.85	1.236	0.34

*PILC – Principal Instructional Leadership Category

The results from Table 4.4 indicate that the mean Mathematics score of the students of leaders with low instructional leadership behavior was 3.41; with leaders of medium instructional leadership behavior was 3.78; and with leaders of high instructional leadership behaviour was 4.20. For all 1,296 students, the mean Mathematics score was 3.85. In this study, the minimum score for passing is 4 and the highest possible score is 6. CXC reports scores as 1 being the highest score, 3 as the minimum score for passing and 6 as the lowest score.

ANOVA Calculations for Mathematics

Table 4.5

ANOVA Calculations in Mathematics

	Sum of Squares	Df	Mean Square	F	Significance
Between Group	116.652	2	58.326	40.524	0.000
Within Group	1861.007	1293	1.439		
Total	1977.660	1295			

In the case of Mathematics in this study the significance of the F-statistic is 0.000. This score is less than 0.05. The Mathematics score is therefore significant and the null hypothesis must therefore be rejected.

Post Hoc Mathematics

Table 4.6

Mathematics Post Hoc (Tukey HSD)

	(I) Inst. Leadership behaviour 123	(J)Inst. Leadership Behavior 123	Mean Difference (I – J)
Tukey HSD	1	2	.364*
		3	.788*
	2	1	.364*
		3	.424*
	3	1	-.788*
		2	-.424*

The ANOVA results show statistically significant differences among the scores of students whose principals exemplify instructional leadership qualities and the scores of students who had principals who do not exemplify this quality. The Tukey HSD (honesty significant differences) Post Hoc operations show that there were differences at all levels in Mathematics. There is no evidence to support the hypothesis that there are no differences in the mathematics scores of students based on the instructional leadership of the principal.

Means Plot

Principal Instructional Leadership Category and CXC Mathematics Scores
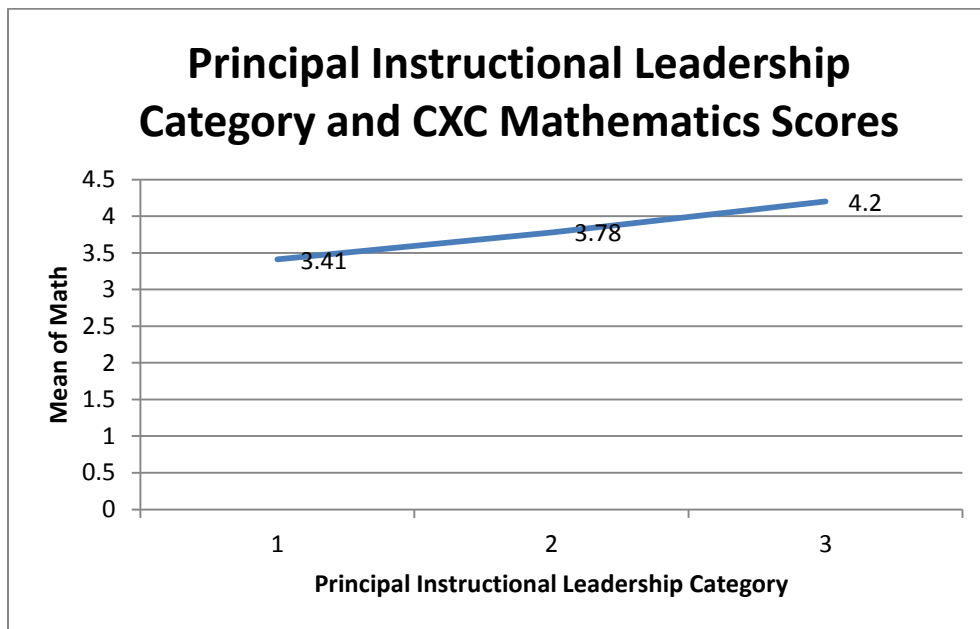
The means plot above is a visual representation of the tabulated data presented. It shows that students with low CXC scores (4-6 passing; 1-3 failing) have leaders with low instructional leadership behavior. It also shows that students with high CXC scores have leaders with high instructional leadership behaviors. Therefore, insufficient evidence exists to support the null

hypothesis of no difference between the scores of students in Mathematics based on the instructional leadership behaviors of the principals.

Descriptive Statistics in English Language

Table 4.7

Principal Instructional Leadership Category and CXC English Language Scores

PILC*	N	Mean	Std. Deviation	Std. Error
1	321	4.04	1.036	.058
2	549	4.79	1.027	.044
3	484	4.81	1.031	.047
Total	1,354	4.62	1.080	.029

*PILC-. Principal Instructional leadership Category

For English Language, the mean score for students with principals with low instructional leadership was 4.04. For students with leaders of medium instructional leadership the mean score as 4.79, while for students with leaders of high instructional leadership, the mean score was 4.81. The overall mean score for students in English Language was 4.62.

ANOVA Calculations for English Language

Table 4.8

ANOVA Calculations for English Language

	Sum of Squares	Df	Mean Square	F	Significance
Between Group	143.453	2	71.726	67.519	0.000
Within Group	1358.410	1349	1.062		
Total	1514.135	1351			

The F statistic for English Language is 71.726. The significance level is 0.000. This is significant and is cause to reject the null hypothesis. The ANOVA calculations indicate that there are differences in the scores of students in English Language who had leaders who exemplified high instructional leadership behaviour and those who did not.

Post Hoc English Language

Table 4.9

Post Hoc for English Language (Tukey HSD)

	(I) Inst. Leadership behaviour 123	(J)Inst. Leadership Behavior 123	Mean Difference (I – J)
Tukey HSD	1	2	.757*
		3	-.775*
	2	1	.757*
		3	-.018
		1	.775*
	3	2	.018

*The mean difference is significant.

Post Hoc Results

Post Hoc procedures are used to determine exactly where differences lie, after the F-statistic has indicated that there is overall significance. In the case of English Language the results indicate differences in the scores of students who have principals with high instructional leadership behavior and those of students who have principals with low instructional leadership behaviour. There is no evidence to support differences between the scores of students who have leaders with medium instructional leadership behaviors and those who have high instructional leadership behaviors.

Means Plot

Principal Instructional Leadership Category and CXC Eglish Language Scores

Mean of English

4.04 ... 4.79 ... 4.81

Principal Instructional Leadership Category
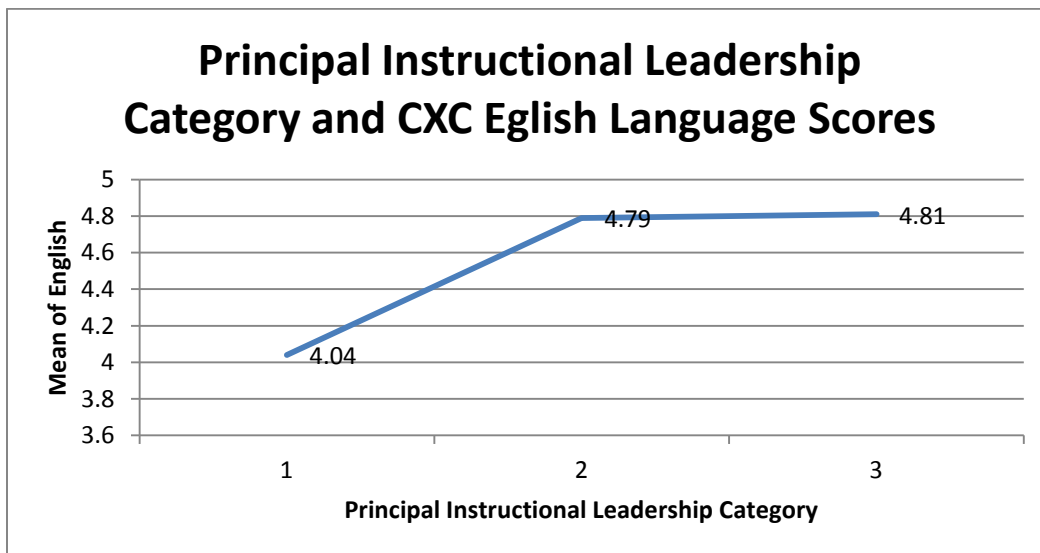
The means plot shows that there are differences among the scores of students who have leaders with high instructional leadership qualities and those who have low instructional leadership qualities. It is clear that there are no significant differences in the scores of students

who have leaders with medium and high instructional leadership qualities. Differences also exist among scores of students who have leaders with low and medium instructional leadership qualities.

Entrance Requirements

One issue about the secondary schools in Belize that must be discussed when comparing CXC results is that some schools have entrance requirements while others do not. Schools in this study had varying entrance requirements. Some schools used the Primary School Examinations Score (PSE) to admit students. The PSE is an examination taken by Belizean students in standard six (eighth grade). Capabilities in Mathematics, English Language, Science and Social Studies are tested in this examination. Schools that accept students based on performance on the PSE generally have a score that they select to indicate competence of students. For this study the lowest score that was used an entrance requirement was 55% and the highest was 65%. Some schools do not use the PSE scores but require students to have above average report card scores. These schools are also considered in this study as having an entrance requirement.

Most of the other schools in this study accept students with any score on the PSE. One school that participated in this study had an entrance requirement of 40%. These are the schools that are referred to as having no entrance requirement.

Statistics Based on Entrance Requirements

Further studies were conducted to test for any differences in the scores of students attending schools with principals of high, medium and low instructional leadership and schools' entrance requirement. Nine schools that participated in this study had no entrance requirements

and eight schools had entrance requirements.Table 4.10 shows the Principal Instructional

Leadership Quality and Schools' entrance requirements.

Table 4.10

Principal Instructional Leadership Category and Entrance Requirement

School Code	PILC*	Entrance Requirement
1	1	No
2	1	Yes
3	2	No
4	2	Yes
5	3	Yes
6	2	Yes
7	3	Yes
8	1	No
9	2	No
10	3	Yes
11	2	Yes
12	3	No
13	3	No
14	3	No
15	1	Yes

| 16 | 2 | No |
| 17 | 1 | No |

Note. PILC 3-1(high to low); Entrance requirement either PSE above average report card scores

Descriptive Statistic for Schools with Entrance Requirements

Table 4.11

Descriptive Statistic for Schools with Entrance Requirements

	Instructional Leadership	N	Mean
English	1	172	4.29
	2	424	4.91
	3	384	5.01
	Total	980	4.84
Math	1	167	3.80
	2	415	4.07
	3	380	4.51
	Total	962	4.19

The descriptive statistics for schools with entrance requirements indicate an average score of the students was 4.84 for English Language and 4.19 for Mathematics. For students who had leaders with high instructional leadership behavior their average score was 5.01 in English Language and 4.51 for Mathematics. For students who had leaders with low instructional leadership behavior the average score for English Language was 4.29 and 3.80 for Mathematics. For this study the highest score possible is 6.0 and the range for passing is 4 to 6. CXC report the highest score as 1.0 and the lowest score as 6.0.

ANOVA Calculations For Students With Entrance Requirements

Table 4.12

ANOVA Calculations For Students With Entrance Requirements

	Sum of Squares	Df	Mean Square	F	Significance
English Between Groups	64.622	2	32.311	33.117	.000
Within Groups	953.226	977	.976		
Total	1017.848	979			
Math Between Groups	70.485	2	35.242	30.720	.000
Within Groups	1100.165	959	1.147		
Total	1170.650	961			

Note. The F-statistic for both English Language and Mathematics is significant for students who attend school with an entrance requirement.

In Table 4.12, the F statistic is significant in English Language and Mathematics. There are differences in the scores of students who have leaders with high, low and medium instructional leadership qualities who attend schools with an entrance requirement.

Post Hoc(Tukey Test)

Table 4.13

Post Hoc Results (Tukey HSD)

Dependent Variable	(I)Instr. Leadership	(J)Instr. Leadership	Mean difference(I-J)	Std.Error
English	1	2	-.622*	.086
		3	-.715*	.087
	2	1	.622*	.086
		3	-.092	.067
	3	1	.715*	.087
		2	.092	.067
Math	1	2	-.271*	.098
		3	-.711*	.099
	2	1	.271*	.098
		3	-.440*	.099
	3	1	.711*	.099
		2	.440*	.076

*The mean difference is significant at the 0.05 level.

The Tukey Post Hoc Test indicates differences among all levels of instructional leadership behaviors in Mathematics for students who attend schools with entrance requirements. For English Language there are differences among the scores for students with leaders who had high and medium and high and low instructional leadership qualities. There are no differences among the scores of students who high and medium instructional leadership qualities.

Means Plots for Schools with Entrance Requirements

70

Principal Instructional Leadership Category and Schools With Entrance Requirements
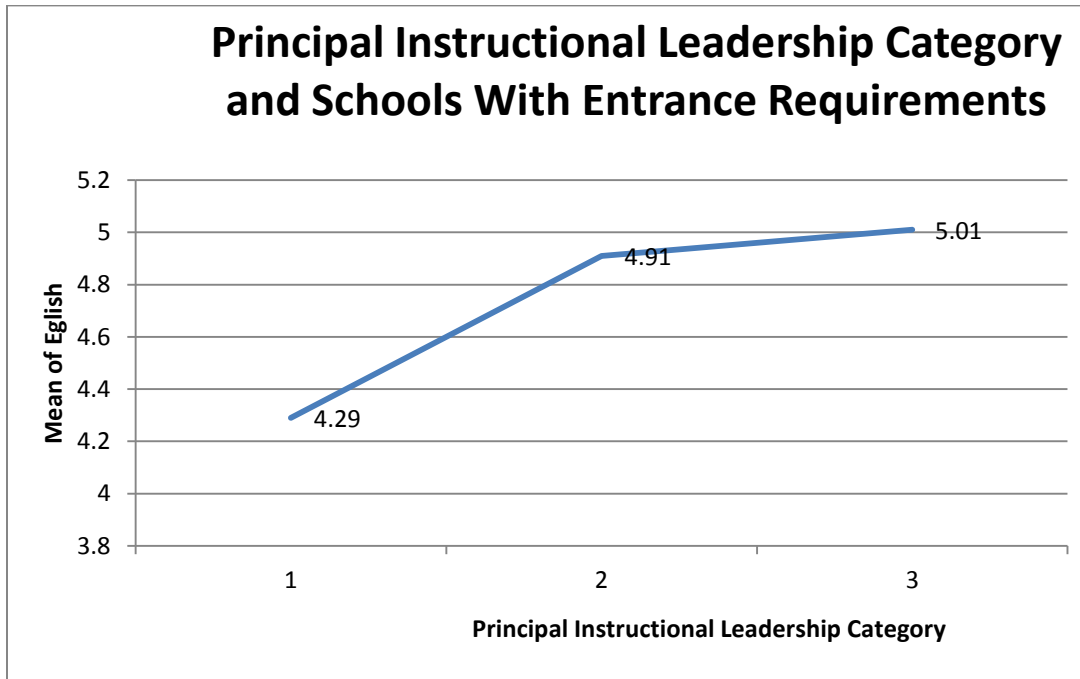
The means plot for English Language indicates that there are significant differences among the scores of students with leaders of low and high and leaders with low and medium instructional leadership behaviors. There is little difference between the scores of students who have leaders with medium and high instructional leadership qualities.

The results indicate that students with leaders who have low instructional leadership qualities have low scores in English Language. Students with leaders who have medium and high instructional leadership qualities have high scores in English Language. These are the results for students who attend schools where there is entrance requirement.

Means Plot for Mathematics

Principal Instructional Leadership Category and Schools With Entrance Requirements
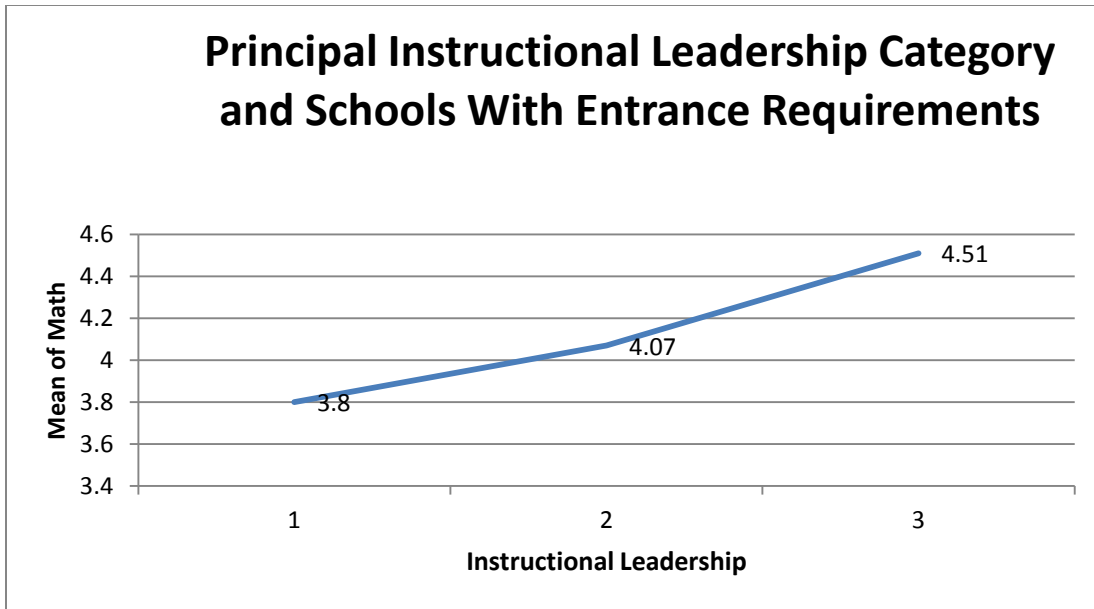
The means plot above shows there are differences between the CXC Mathematics scores of students who have leaders with low instructional leadership behavior and those with leaders who have high instructional leadership behaviors. There are also differences in the CXC scores of students who have leaders with medium instructional leadership behaviors and those who have low instructional leadership behaviors for students who attend schools that have entrance requirements.

These result indicate that the scores of students in Mathematics is low for students who have leaders with low instructional leadership bahavior, average for students who have medium instructional leadership behaviour and high for students who have leaders with high instructional leadership behaviour. Scores in Mathematics range from 1 to 6; the highest possible score is 6.

Table 4.14

Principal Instructional Leadership Category and No Entrance Requirements

	PILC	N	Mean
English	1	148	3.73
	2	125	4.39
	3	100	4.07
	Total	373	4.04
Math	1	125	2.86
	2	118	2.76
	3	89	2.90
	Total	332	2.84

The average CXC score of students who attend schools with no entrance requirement is 4.04 in English Language and 2.84 in Mathematics. Students who have leaders with high instructional leadership behaviour achieved an average of 4.07 in English Language and 2.90 in Mathematics. The average score for the students who have leaders with low instructional leadership qualities is 3.73 in English Language and 2.86 in Mathematics.

Table 4.15

ANOVA Calculations for Students with No Entrance Requirements

	Sum of Squares	Df	Mean Square	F	Significance
English Between Groups	29.822	2	14.911	15.433	.000
Within Groups	357.491	370	.966		
Total	387.314	372			
Math Between Groups	1.083	2	.542	.521	.636
Within Groups	342.134	329	1.040		
Total	343.217	331			

The F – statistic is significant for English Language but not Mathematics for students who attend schools with no entrance requirements. The F-statistic shows that there are differences between the scores of students in English Language who have leaders who have who have high instructional leadership qualities and those who do not. The F-statistic is not significant in the case of Mathematics for students who attend schools that do not have a requirement for entrance. The significance is .636 which is above .05. This is an indication that for those students who attend schools that have no entrance requirement the level of instructional leadership does not affect the scores in Mathematics.

Table 14.16

Post Hoc Results (Tukey HSD)

Dependent Variable	(I)Instr. Leadership	(J)Instr. Leadership	Mean difference(I-J)	Std.Error
English	1	2	-.662*	.119
		3	-.340*	.127
	2	1	.662*	.119
		3	.322*	.132
	3	1	.340*	.127
		2	-.322*	.132
Math	1	2	.101	.132
		3	-.035	.143
	2	1	-.101	.132
		3	-.136	.144
	3	1	.035	.143
		2	.136	.144

There are no differences among the scores of students who have leaders at any level of instructional leadership in Mathematics for students who attend schools with no entrance requirements. In English, differences lie with leaders of all levels of instructional leadership behavior. This is an indication that instructional leadership behavior affects English Language scores but not Mathematics scores.

Means Plot for Schools with No Entrance Requirements

Means Plot for English Language

Principal Instructional Leadership Category and No Entrance Requirements
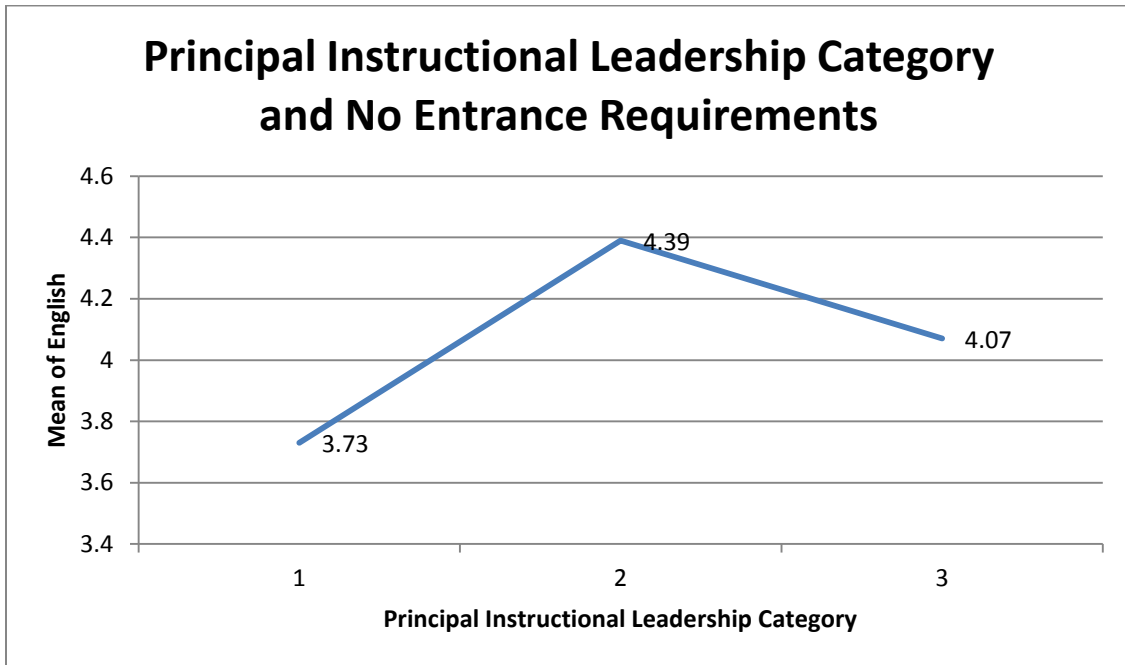
The means plot above indicates that in English Language differences lie in the scores of students for among all levels of leadership behaviour for students who attend schools with no entrance requirements. Students with leaders having low instructional leadership have low English Language scores. Students with leaders having medium instructional leadership behaviour have the highest scores and students with leaders having high instructional leadership bahavior have average scores in English Language.

Means Plot for Mathematics

Principal Instructional Leadership Category and No Entrance Requirements
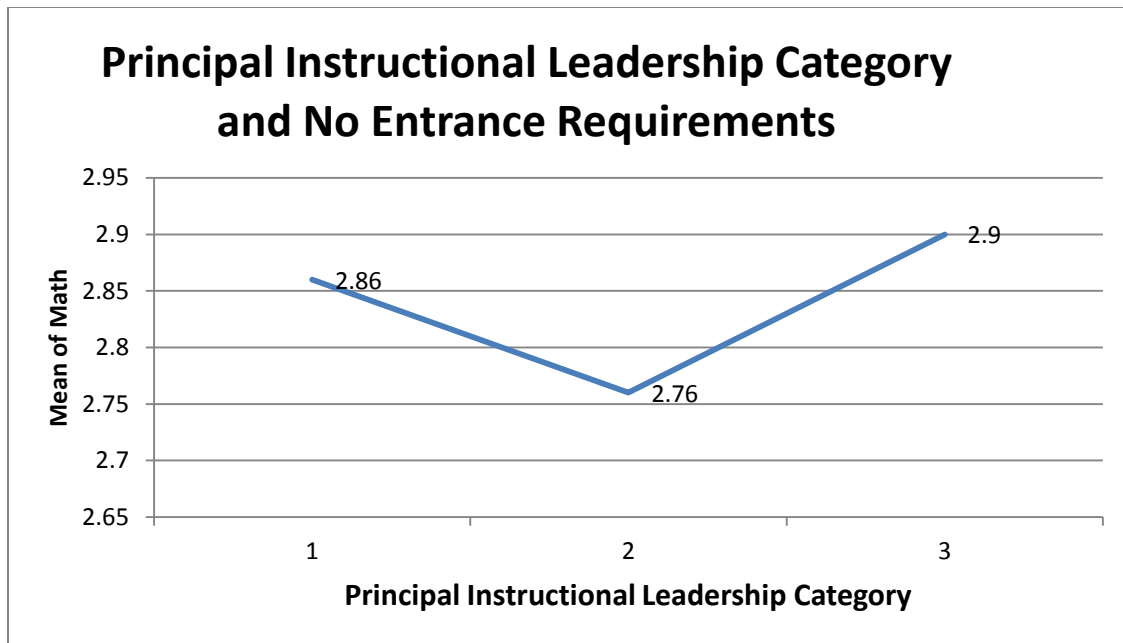
In the case of students who attended schools with no entrance requirements, there are no differences in the scores of the students in Mathematics regardless of the instructional leadership qualities of the leaders. On average, none of the students attending these schools passed Mathematics CXC examinations in 2010. The score for students who had leaders with and low and high instructional leadership qualities were similar, but they were lower for students with leaders having medium instructional leadership qualities.

Summary

Results indicate that the while most of the leaders are believed to define and communicate shared goals, there needs to be improvement in the other dimensions of instructional leadership. The results reveal that the teachers who participated in the study believe that their principals do not monitor and provide feedback on the teaching and learning process and do not promote school-wide professional development at the level required of instructional leaders. The results also indicate that differences exist between the scores of students depending on the instructional leadership behaviour of the principals. The null hypotheses were, therefore, rejected in both cases. The results also indicated that the preparation of students is also a factor in their performance after four years of secondary school.

CHAPTER 5

DISCUSSION/CONCLUSION/RECOMMENDATIONS

This chapter discusses the results and conclusions drawn based on the theoretical framework and the hypotheses of the is study. The theoretical framework was created by the synthesis of three previously formulated models of instructional leadership and it postulates that instructional leaders define and communicate shared goals; monitor and provide feedback on the teaching and learning process; and promote school wide professional development (Alig-Mielcarek, 2003). For this study, the hypotheses were tested through quantitative methodology and the instruments employed to measure instructional leadership consisted of items based on the theoretical framework that guided the study. The purpose of this study was to ascertain if Belizean secondary schools with principals who exemplify instructional leadership behaviors produce students who perform better academically than schools led by principals who do not exemplify instructional leadership behaviors.

In Belize, success in the examinations is the means by which the schools are categorized and judged. English Language and Mathematics were chosen as the subjects to determine academic achievement because they are critical to scholarship achievement and in some schools these subjects are mandatory. In some cases students need to pass these two subjects to be promoted to other classes and to meet requirements to earn their high school diploma.

<center>Research Questions</center>

1. Do instructional leadership behaviors affect student achievement in Mathematics CXC Examinations?

2. Do instructional leadership behaviors affect student achievement in English Language CXC Examinations?

<center>Research Hypotheses</center>

HO_1:   There are no differences among instructional leadership behaviors and student CXC Mathematics achievement.

HO_2:   There are no differences among instructional leadership behaviors and student English Language achievement.

The findings of the current research are reported in this chapter. It begins with a summary of the results followed by a discussion about instructional leadership as it relates to the differences detected in the study. This chapter continues with a conclusion based on the findings, and recommendations are made followed by implications for further research.

<center>Summary of the Results</center>

Based on the perceptions of the Belize secondary schools teachers who participated in this study, 35.2 % of their principals have high instructional leadership behaviors, 32.5% of their principals have medium instructional leadership behaviors and 29.4% of their principals have low leadership behaviors. The average instructional leadership score of the principal with high instructional leadership behaviour was 77%, the average score of those with medium instructional leadership behavior was 69% and the average of the average instructional leadership score of those with low instructional leadership behaviour was 59%. Seventy-five

<center>80</center>

percent of the principals defined and communicated shared goals, 65% of the principals

monitored and provided feedback on the teaching and learning process and 66% promoted

school-wide professional development.

The mean score in Mathematics CXC in 2010 for the 17 secondary schools surveyed was

3.85. The mean score for students with principals having high instructional leadership qualities

was 4.20. The mean score for students with principals having medium instructional leadership

was 3.78 and the mean score for students with principals having low instructional leadership was

3.41.

The mean score for English Language CXC in 2010 for the17 schools surveyed was 4.62.

The mean score for students with principals having high instructional leadership behaviors was

4.81. The mean score of principals with medium instructional leadership behaviors was 4.79, and

the mean score of principals with low instructional leadership behaviors was 4.04.

Differences were found among the scores of students who took Mathematics CXC

examinations in 2010 who had principals with high, medium and low instructional leadership

behaviour. The null hypothesis had to be rejected in Mathematics. Differences were also found

among the scores of students who took English Language and had principals with high, medium

and low instructional leadership behaviour; the null hypotheses also had to be rejected in the case

of English Language.

The mean score of students in English Language who attend schools that have an

entrance requirement is 4.82and their mean score in Mathematics is 4.19. The mean score in

English Language of students who do not attend schools with an entrance requirement is 4.04

and their mean score in Mathematics is 2.84.

There are significant differences among the Mathematics and English Language scores of students who have leaders of with high, medium and low instructional leadership behaviors and attend schools that have an entrance requirement. In the case of students who attend schools with no entrance requirement, there are significant differences among the scores of students who have leaders of high, medium and low instructional leadership behaviors in English Language but not in Mathematics.

Discussion of the Findings

Instructional leadership

Principals in Belizean secondary schools do not fully adhere to the principles of instructional leadership. According to the secondary school teachers who participated in the study, 75% of the principals defined and communicated shared goals, 65 % monitored and provided feedback on the teaching and learning process and 66% promoted school-wide professional development.

The literature (Alig-Mielcarek, 2003; Hanna 2010; Klingsmith 2007, & Knezek 2001), was clear about characteristics that define a leader as being an instructional leader. Twenty-five percent of the high school principals did not define and communicate shared goals. If goals are not clearly defined the teachers might not have a clear idea of the mission of the institution and it may be difficult to work together toward an undefined location.

Only 65% of the principals monitored and provided feedback on the teaching and learning process. Supervision is the glue that holds the educational systems in place (Glickman et al, 2001). If 35% of the teachers are not being monitored there is no guarantee that they are teaching the prescribed curriculum. If the curriculum is not closely monitored, the students in

those schools could be at risk of not completing the CXC syllabi which could undermine their chances of success in those examinations (Wiles & Bondi 2011). Supervision also provides support for teachers. The teachers who are not being supported may have a difficult time improving instruction (Glickman et al, 2001).

Instructional leaders promote school-wide professional development. Professional development exercises that are well planned, relevant, and provide direct links to instruction help teachers to become better practitioners (Glickman et al, 2010). Thirty-five percent of the principals in Belizean secondary schools are not providing such experiences for the teachers. These teachers are therefore, not getting the opportunity to grow, develop and hone their educational practices. Quality teaching leads to improved learning by students (Alig-Mielcarek, 2003).

Although the principals do not directly teach the students, the climate they foster helps to set the standard and quality of instruction, hence helping to determine the quality of education offered in each institution (Alig-Mielcarek, 2003; Ubben et al 2011). Data show that much more could be done on the part of the principals to foster a climate of academic press. Academic press is the extent to which the mission, vision and goals of learning are geared towards academic excellence (Alig-Mielcarek, 2003).

CXC Mathematics and English Language scores for the students who attend schools led by instructional leaders had higher mean scores than those who did not. These findings indicate that students who attend schools led by instructional leaders have a better chance of success in the CXC examinations at the end of four years of high school than students in schools where the principals are not instructional leaders. These results support the notion that more of the leaders of secondary schools need to embrace and follow the principles of instructional leadership.

83

Further calculations found definite advantages to attending secondary schools that have an entrance requirement. Students attending such schools had higher scores in both Mathematics and English Language. On the contrary, the students who attended schools with no entrance requirements did not perform as well. The mean score for those students in Mathematics was actually a failing score.

Conclusions

The results of this study were similar to other studies that have been conducted on the relationship between instructional leadership and student achievement. Knezek (2001) found differences in the behaviour of leaders at high performing schools and those at low performing schools. At high performing schools, there was collaboration, reflection and the leader was knowledgeable about research on methodology and pedagogy. Shatzer (2009) found that schools with principals who exemplify instructional leadership behaviors have students with higher levels of success than leaders who exemplify transformational leadership qualities due to the specificity of the activities of instructional leaders. Klinginsmith (2007) found a significant relationship between instructional leadership factors and student achievement. Hanna (2010) found that principals in high performing schools establish and articulate vision and goals, focus on learning and achievement and were effective accountable leaders who fostered communication in their schools. She also found that through their actions in these categories they accomplish the task of capacity building in teachers which translates into greater student achievement. Louis et al (2010) found that principals were most effective when they work with other principals, with district personnel and with teachers on shared goals.

This study used the theoretical framework of Alig-Meilcarek(2003) that posited that instructional leaders who define and communicate shared goals, monitor and provide feedback on the teaching and learning process, and promote school-wide professional development have students who perform better than the students of leaders who do not exemplify such qualities. Her research found an indirect relationship between student achievement and instructional leadership. In this current study differences existed among principals who exemplify instructional leadership behavior and student achievement in CXC examinations. Students who had instructional leaders performed better in both English Language and Mathematics.

Student preparation is also a factor in the performance of students in Mathematics and English Language CXC examinations. In this study, students who attended schools with no entrance requirement did not perform as well as students who attended schools where they were required to have earned at least a score of 55% on the Primary School Examination or have to have had scores in the higher percentage range at the primary school they were leaving.

Recommendations

Recommendations for Ministry of Education

There is the need in the country of Belize to have instructional leaders as principals in the high schools. Students who have principals as instructional leaders perform better than students who do not have principals who are instructional leaders at their high schools (Alig-Mielcarek, 2003; Hanna, 2010; Klinginsmith, 2007; Knezek, 2001; Shatzer, 2009).

Only 65% of the principals in this study conducted effective supervision in the schools and only 66% promoted effective school-wide professional development. In the interest of

improved general results and higher levels of student achievement, these statistics need to be improved. It is essential that principals are trained to be instructional leaders.

The Ministry of Education can improve the status-quo by helping the leaders of all learning institutions in the country become qualified in leadership. The ministry should adopt a policy that insists that all principals lead according to the instructional leadership model. Knezek, (2001) found that even under dire circumstances principals who exemplified instructional leadership qualities had high performing schools.

Support systems need to be put in place to scaffold the teachers who teach at institutions with no entrance requirements. The students are not performing as well as those in institutions that have entrance requirements. If those students are not as prepared for high school they need to be supported and their teachers need to know how to assist them. Principals again need to insist that there is focus on academic excellence in all learning institutions. The Ministry of Education can hold the principals accountable who in turn will hold the teachers accountable for the success of every student.

Recommendations for Principals

There is evidence to support the notion that instructional leadership behaviors lead to student achievement. Principals in Belize need to adopt instructional leadership principles of defining and communicating shared goals, monitoring and providing feedback on the teaching and learning process and promoting school-wide professional development (Alig-Mielcarek, 2003)

Principals need to be transformational. They should have the ability to inspire their followers to be better. They need to transform the organizations that they lead (Burns, 1975;

Guthrie & Schuermann, 2010; Green, 2010). Leaders need to be ethical leaders and lead based on morals and values. They need to be able to stand on moral principles (Burns, 1975; Fullan, 2001; Northouse, 2007). It is very important that principals are trusted by their followers as trust makes for healthy working relationships (Freire, 1973).

Principals must be instructional leaders; they must create and share a vision for the institution that they lead. Working collectively towards common goals makes followers feel like what they do is worthwhile and that increases the possibility that they will perform their duties effectively and efficiently (Blanchard & Bowles, 2000; Green, 2010).

Principals need to ensure that teachers adhere to the curriculum prescribed by the Ministry of Education. The Curriculum is the 'What" of instruction (Glickman et al, 2010). Principals need to decide on the approach that is most suited for the development of their institutions and ensure that the teachers are teaching what they are supposed to teach (Applebee et al, 2007; Glickman et al, 2010).

Supervision is the glue that holds the educational systems in place (Glickman et al, 2001). Principals need to supervise their teachers. Ideally, principals should conduct clinical supervision to ensure that teachers are supported in their classes so that instruction improves and student achievement increases (Acheson & Gall, 2003).

Information on teaching and learning changes constantly; professional development in each school should be mandatory and on-going (Joyce & Showers, 1988). These professional development exercises must be relevant, must take into consideration the needs of the teachers, must be transferrable to the classroom, and must be based on the needs of the institution (Glickman et al, 2010).

Each school should develop into thriving professional learning communities (Green, 2010; Louis, et al, 2010) and the principals can ensure that this is a reality. Professional learning communities foster collaboration in the development of the curriculum and collaboration in instruction. Professional learning communities are a support to teachers as they perform the various tasks that they undertake each day (Louis, et al, 2010).

Principals of schools that do not have an entrance requirement need to find support for the teachers to ensure that they are able to help their students achieve their fullest potential as they enter high school at an assumed disadvantage. A new initiative in Belize has begun that will compensate schools that accept students with PSE scores that are less than 50%. Principals should use the additional finances to institute programs that support students in areas where they are weak. This finance should also be used to help teachers become better trained to support students who need additional scaffolding.

Recommendations for teachers

The best predictor of the success of a student next to the home environment is the teacher (Eggen & Kauchak, 2001). All teachers need to realize their role in the success of students. There were schools with leaders with medium instructional leadership behavior and they had students who performed better than some students who had leaders with high instructional leadership behavior. This could be a result of teacher preparation, teacher self-efficacy, and teacher motivation. Teachers who have leaders with medium or low instructional leadership qualities can have successful students if they are prepared to work hard.

Teachers need to be open to the ideas of professional development, supervision and curriculum development (Applebee et al, 2007; Glickman et al, 2010; Green, 2010; Louis, et al,

2010). All of these lead to quality instruction which is an indication of improved learning. Teachers also need to see themselves as co-leaders in the institutions where they teach. They have an obligation to assist in leadership by helping with the creation and realization of the vision, by being active member of the professional learning communities in their schools, and by generally being supportive of the leaders.

Recommendations for Parents

Parents have two issues to bear in mind as they choose educational institutions for their children to attend. First, students who attend secondary schools led by instructional leaders perform better than students who do not attend such institutions. Second, students who attend schools that have entrance requirements perform better than students who attend schools that have no entrance requirements. Parents need to support their children in their schooling to ensure that they are prepared for high school. They need to monitor the progress of their children and if there are causes for concern with the teachers they need to ensure that the leaders are aware. There are implications for the future of their children when they enter high school seemingly unprepared. Parents also need to ensure that they monitor the progress of the high school that they want their children to attend. If students generally perform well on the CXCs at a particular school, it may be possible that their children can do well in that institution. They need not consider those schools that do not perform well as viable options for their children.

Parents also need to monitor the behavior of the principal of the schools that their children attend. The principal needs to define and communicate the shared goals of the institution not only with the teachers, but also with all stake- holders and that includes the parents. The principal should be visible throughout the institution and should also be seen in the

classrooms observing and supporting the teachers. The principal should be very interested in the professional development of the teachers (Alig-Mielcarek 2003; Ubben et at, 2011). Parents can look for such behavior in principals and choose to have their children attend schools being led by such individuals.

Implication for Further Research

The current research indicated that, although leaders of secondary schools do not directly teach students, their leadership behaviors affect how students learn. Questions that can be addressed in further research:

1. Is there a relationship between PSE and CXC scores in Mathematics and English Language?

2. Are there differences between Mathematics and English Language scores for males and females?

3. Does SES in Belizean secondary schools affect the scores of students in Mathematics and English Language?

4. Is there a relationship between scores of students in schools that have effective professional development initiatives and those that do not?

5. Is there a relationship between the scores of students in schools that have different approaches to curriculum development?

Significance Statement

Instructional leadership and its effects on the achievement of students has been researched using different methodologies (Alig-Mielcarek, 2003; Hanna, 2010; Klinginsmith, 2007; Knezek, 2001; Shatzer, 2009). These researchers have used both quantitative and qualitative means to make a connection between the two constructs. Although quantitative means were used, this study sought to determine whether or not there were differences among the scores of students based on the instructional leadership of the principals. As the results indicated, there were determined to be differences. The research of others that have found effects but used other methods are therefore supported by this study.

As has been mentioned the theoretical framework was created by the synthesis of three previously formulated models of instructional leadership and it postulates that instructional leaders define and communicate shared goals; monitor and provide feedback on the teaching and learning process; and promote school wide professional development (Alig-Mielcarek, 2003). Although the instruments in other studies do not use these pillars directly, the basic precepts of shared goals, monitoring and professional development are reoccurring themes in the studies. Again, this study supports these other studies that have found connections using these themes.

Another area of significance is the circumstances under which the study was conducted. This study was conducted in country of Belize. It therefore adds to body of research conducted on Instructional leadership and achievement and adds to research conducted from a Belizean perspective, extending the theory to the Belizean educational system.

Final Thoughts

There is evidence to support the notion that for institutions to be high performing institutions, principals must exemplify instructional leadership behaviors. Principals must be capacity builders, putting measures in place that ensure that the teachers are prepared to teach, and the school climate is conducive to learning. Leaders of academic institutions must lead. They must ensure that professional learning communities are alive and well in their schools. They need to ensure that supervision of teachers is a priority. They have to clearly establish and articulate the vision and goals of their institution and they must ensure that the teachers adhere to the curriculum. The leaders must be aware of the strengths and weaknesses of their teachers and plan professional-development workshops based on the needs of the teachers. Leaders who have adhered to these practices in the past have had students who have achieved more than students who have had leaders who have not done so (Alig-Meilcarek, 2003).

It is critical to the success of our students that we ensure that the leaders in Belizean high schools are instructional leaders who define and communicate shared goals, monitor and provide feedback on the teaching and learning process and who promote school-wide professional development (Alig-Meilcarek, 2003). Principals need to use data to inform the decisions that they make regarding the students entrusted into their care. Principals who lead schools that are not higher performing schools and have students who enter their schools with lower scores need to realize that those students also have dreams and they also deserve to have the kind of future that they believe will make them successful in life.

Instructional leaders ensure that their teachers are prepared for any eventually. The best predictor of the success of a student next to the home environment is the teacher (Eggen &

Kauchak, 2001). If the principal works on building the capacity of the teachers and focuses on the learning of their students, the students in these institutions can excel.

References

Acheson,K., & Gall, M. (2003). *Clinical supervision and teacher development: Perspective and inservice applications.* Hoboken, NJ: John Wiley & Sons, Inc.

Alig-Mielcarek, J. (2003). A model for school success: instructional leadership, academic press, and student achievement. Unpublished doctoral dissertation, Ohio State University.

Applebee, A., Adler, M,. Filhan, S. (2007) Interdisciplinary curriculum in middle and high school classrooms: Case studies of approaches to curriculum and instruction. *American educational research journal, (4)* 44, pp. 1002-1039.

Bennis,W. (1989). *Why leaders can't lead.* San Francisco, C.A: Jossey-Bass.

Blanchard, K., & Bowles, K. (1998). *Gung Ho.* New York: William Marrow & Co. Inc.

Burns, J. (1979). *Leadership.* New York, NY: Harper & Row Publishers, Inc.

Clawson, J. (2009). *Level three leadership*. Upper Saddle River, NJ: Pearson Education, Inc.

Conningham,W., & Cordero, P. (2009). *Educational leadership: A bridge to improved practice*. (4th ed) Boston, MA: Allyn & Bacon

Eggin, P., & Kauchak, D. (2001). *Strategies for teaching teachers teaching and content skills*. (4th ed) Massachusetts: Pearson Education Company.

Estrada, P. (2005). A researcher and teacher linking professional development with small group reading instruction and student achievement. *Research in teaching of English, (4)*39, pp. 320-364.

Friere, P. (1993). *Pedagogy of the oppressed*. (M.B. Ramos, Trans.). New York: NY. (Original work published 1921).

Fullan, M. (2001). *Leading in a culture of change.* San Francisco: Jossey-Bass. 150 pp.

Gardner, H. (2004). Changing *minds: The art and science of changing our own and other people's minds.* Boston, MA: Harvard Business School Press.

Garuba, R., Rothstein, S. (1998). *Supportive supervision in schools.* Westport, CU: Greenwood Press.

Gay, L., Mills, G., & Airasian, P. (2006). *Educational research: Competencies for analysis and application* (8th ed). Upper Saddle River, NJ: Pearson Education Inc.

Glanz, J. (2006). *What every principal should know about instructional leadership.* Thousand Oaks, CA: Corwin Press.

Glickman, C., Gordon, S. & Ross-Gordon, J. (2001). *SuperVision:and instructional leadership.* Needham Heights, MA: Allyn & Bacon.

Glickman, C., Gordon, S.Ross-Gordon.J (2010). *SuperVison: and instructional leadership.* (8th ed).Needham Heights, MA: Allyn & Bacon.

Green, R. (2010). *The four dimensions of principal leadership: A framework for leading 21st century schools.* Boston, MA: Allyn & Bacon.

Guthrie, J., Schuermann.P. (2010) *Successful school leadership: planning, politics, performance and power.* Boston, MA: Ally & Bacon.

Hanna, P. (2010). Instructional leadership and the impact on student achievement. Ed.D dissertation, University of Calgary. Alberta Canada.

Hoy, W.K., Tarter, C. J (1997). *The road to open and healthy schools: A handbook for change.* Thousand Oaks, CA: Corwin Press, Inc.

Jago, A. G. (1982). Leadership: Perspectives in theory and research. *Management Science, (4)* 28, pp. 315-336.

Joyce, B., Showers, B. (1988). *Student achievement through staff development*. New York, NY:

    Longman, Inc.

Katz, R. L. (1955). Skills of an effective administrator. *Harvard Business Review, 33*(1), 33-42.

Kelehear, Z. (2008). *Instructional leadership as an art.* Landham, MA: Rowman & Littlefield

    Education.

Klinginsmith, E. (2007). The relative impact of principal managerial, instructional and

    transformational leadership on student achievement in Missouri middle level schools.

    Ed.D dissertation, University of Missouri-Columbia, United States.

Knezek, E. (2001). Supervision as a selected instructional leadership behaviour of elementary

    principals and student achievement in reading. Ed.D dissertation, University of Texas,

    United States-Texas.

Louis, K., Leithwood, K., Wahlstrom, K., & Anderson, S. (2010). *Investigating the links to*

    improved student learning: Final report of research findings. University of Minnesota.

Miller, J.P., & Seller,W. (1985). *Curriculum: Perspectives and practice*. NewYork:Longman.

Nahavandi, A. (2012). *The art and science of leadership* (6th ed). Upper Saddle River, NJ:

    Prentice Hall.

Northouse, P. (2007). *Leadership: Theory and practice.* Thousand Oaks, CA: Sage Publications

    Inc.

Northouse, P. (2012). *Introduction to leadership*. Thousand Oaks, CA: Sage Publications Inc.

Pantelides, J. (1991). An exploration of the relationship between specific instructional leadership

    behaviors of elementary principals and student achievement. Ed.D dissertation, Virginia

    Polytechnic Institute and State University, United States-Virginia.

Penuel,W., Fishman, B., Yamaguch, R., & Gallager, L. (200). What makes professional

    development effective? Strategies that foster curriculum implementation. *American*

    Educational Research Journal (4) 44, pp.921-958).

Phillips, D. (1992). *Lincoln on leadership.* New York, NY: Warner Business Books.

Shatzer, R. (2010). A comparison between instructional and transformational leadership theories:

    Effects on student achievement and teacher job satisfaction. Ph. D. dissertation, Brigham

    Young University.

Shavelson, R. (1996*). Statistical reasoning for the behavioral sciences*, Boston, MA: Pearson

    Custom Publishing.

Sirinides, P. (2009). Educational leadership and achievement: Pathways of instructional

    influence. Ph.D. dissertation, University of Pennsylvania, U.S.—Pennsylvania. Retrieved

    April 30, 2010, from Dissertations & Theses: A & I (Publication No. AAT-3384131.

Smith, W. & Andrews, R. (1989). Instructional leadership: How principals make a difference.

    Alexandria, VA: Edwards Brothers, Inc.

Stevens, J. (2007). *A modern approach to intermediate statistics.* New York, NY: Taylor &

    Francis Group.

Taylor, K. (2009). Effective teaching. Ph.D. dissertation, University of Denver, United States:

    Colorado. Retrieved April 30, 2010, from Dissertations & Theses: A & I. (Publication

    No. AAT 3372494

Ubben, G., Hughes, L., & Norris, C. (2011). *The principal: Creative leadership for excellence in*

    schools. (7th ed) Boston, MA: Pearson Publication Inc.

Directions: The following are statements about your principal. Please, indicate the extent to which each occurs, from Not at all (1) to Frequently if not Always (5).

	Not at all	Once in a while	Sometimes	Fairly often	Frequently if not always
Defining and Communicating School Goals					
Promotes the school's academic goals to students	①	②	③	④	⑤
Develops school goals which promote high standards and expectations for all students	①	②	③	④	⑤
Visits the classroom to ensure classroom instruction aligns with school goals	①	②	③	④	⑤
Communicates the school's academic goals to faculty	①	②	③	④	⑤
Ensures the curricular materials are consistent with school goals	①	②	③	④	⑤
Uses school goals when making academic decisions	①	②	③	④	⑤
Develops school goals that are well defined (eg. Responsibilities, time frame and evaluation criteria)	①	②	③	④	⑤
Uses data on student achievement to guide faculty discussion regarding the instructional program	①	②	③	④	⑤
Sets high but achieveble standards for all students	①	②	③	④	⑤
Develops data-driven academic school goals in collaboration with teachers	①	②	③	④	⑤
Monitoring and Providing Feedback on the Teaching and Learning Process					
Provides private feedback to student's effort	①	②	③	④	⑤
Works with students on academic tasks	①	②	③	④	⑤
Provides data on school's progress to school community	①	②	③	④	⑤
Provides private feedback to teacher effort	①	②	③	④	⑤
Ensures instructional time is not interrupted	①	②	③	④	⑤
Provides public praise of outstanding student performance	①	②	③	④	⑤
Provides public praise for outstanding teacher performance	①	②	③	④	⑤
Stays in the office all day * * Reversed score	①	②	③	④	⑤
Evaluates teachers to improve instructional practice	①	②	③	④	⑤
Works with teachers to interpret assessment data for instructional implications	①	②	③	④	⑤
Monitors classroom practice for alignment to curriculum	①	②	③	④	⑤

Promoting School-Wide Professional Development	Not at all	Once in a while	Sometimes	Fairly often	Frequently if not always
Encourages teachers to use data analysis of student academic progress	①	②	③	④	⑤
Provides for in-house professional development opportunities around instructional best practices	①	②	③	④	⑤
Encourages teachers to attend professional development activities that are aligned with school goals	①	②	③	④	⑤
Furnishes useful professional materials and resources to teachers	①	②	③	④	⑤
Schedules time on in service days for collaboration among teachers	①	②	③	④	⑤
Schedules the school day for common planning time	①	②	③	④	⑤
Observes teachers for professional development instead of evaluation	①	②	③	④	⑤
Plans professional development around teacher needs and wants	①	②	③	④	⑤
Supports individualized professional development plans	①	②	③	④	⑤
Plans professional development in-services for teachers	①	②	③	④	⑤

LETTER OF PERMISSION

#37 – 2nd New Site

Dangriga, Belize

Dear Manager/Principal:

As a part of the requirement for my doctoral degree, I am conducting a research study titled: Instructional Leadership and Student Achievement. Through this study, I will attempt to ascertain whether principals who exemplify instructional leadership behaviors in Belizean secondary schools produce students who perform better than students in schools led by principals who do not exemplify instructional leadership behaviors.

This research will be conducted through Oklahoma State University, USA. All teachers' responses will be anonymous. Data gathered about your institution will be completely confidential. Information compiled will be used for a statistical analysis of the differences between the variables.

If you choose to participate, the teachers will be asked to complete a survey on the Instructional leadership of your institution. Scores in the Mathematics and English Language CXC Examinations will be used to determine achievement. The participation of your school and your teachers is voluntary. You may decline to participate and the teachers may decline to complete the survey or skip any item that they are uncomfortable answering. Your refusal to participate will have no negative effects on your institution or your teachers.

Information gathered will be stored in a locked file cabinet in my office at Stann Creek Ecumenical High School. My advisor, Dr. Bernita Krumm and I will be the only persons having access to the raw data. Schools will be coded to eliminate any chance of identification. I may be contacted through the above address. My telephone numbers are 501 – 502 0315 or 501 – 625 4712. My email address is jeremycty@yahoo.com. My advisor, Dr. Bernita Krumm, may be contacted at OSU, 310 Willard Hall Still Water OK 740075, 405 744 9445 or bernita.krumm@okstate.edu.

Respectfully yours:
Jeremy Cayetano

_____
Doctoral Candidate
Oklahoma State University

APPENDIX C

PARTICIPANT INFORMATION FORM

Project Title:	Instructional Leadership and Student Achievement
Investigator:	Jeremy Cayetano, M.Ed.; Doctoral Candidate, Oklahoma State University
Purpose:	The purpose of this study is to ascertain whether principals who exemplify instructional leadership behaviors in Belizean secondary schools, produce students who perform better than students in schools led by principals who do not exemplify instructional leadership behaviors.
Procedures:	Participants will be asked to fill out a questionnaire that will be an indication of whether or not their leaders display instructional leadership behaviors. The questionnaire was created by Dr. Jana Alig Mielcarek, for her dissertation titled: A Model for School Success, Instructional Leadership, the Academic Press and Student Achievement.
Risks of Participation:	There are no known risks associated with this project which are greater than those ordinarily encountered in daily life.
Benefits:	Participants will contribute to the literature on education theory and practice.
Confidentiality:	The records of this study will be kept private. Any written results will discuss group findings and will not include information that will identify you. Research records will be stored securely in a locked file cabinet in researcher's office and only the researcher and advisor will have access to the records.
Compensation:	No form of compensation will be forthcoming.
Contacts:	I may be contacted at # 37 – 2nd New Site Dangriga, Belize, 501 – 502 0315 or jeremycty@yahoo.com. You may contact, my advisor, Dr. Bernita Krumm, at College of Education, OSU, 301 Willard Hall Still Water OK 740075, 405 744 9445 or bernita.krumm@okstate.edu. If you have questions about your rights as a research volunteer, you may contact Dr. Shelia Kennison, IRB Chair, 219 Cordell North, Stillwater, OK 74078, 405-744-3377 or irb@okstate.edu.
Participant Rights:	
	Your participation in this project is appreciated and completely voluntary. You may choose not to participate at any time without any penalty or problem. Returning your completed survey indicates your willingness to participate in the study.

VITA

Jeremy Jacqueline Cayetano

Candidate for the Degree of

Doctor of Education

Thesis: INSTRUCTIONAL LEADERSHIP AND STUDENT ACHIEVEMENT IN BELIZEAN
             SECONDARY SCHOOLS

Major Field: Higher Education

Biographical:

Education:

Completed the requirements for the Doctor of Education in Higher Education at
Oklahoma State University, Stillwater, Oklahoma in December, 2011.

Completed the requirements for the Master of Education in Educational Leadership at
University of North Florida, 2003.

Completed the requirements for the Bachelor of Science in Biology Education
University College of Belize, Belize, City, Belize 1994.

Experience:
Assistant Principal at Ecumenical High School, 2006 – Present
Teacher/ Department Chair at Ecumenical High School, 2002 – 2006
Teacher at Christ The King Primary School, 1994 – 2002
Teacher at Anglican Cathedral College, 1992 – 1994
Teacher at Queen Square Primary School 1991 - 1992

Awards and Honors
- Teacher of the Year, Christ The King Anglican School, 2000 - 2001 and
  2001 - 2002
- Teacher of the Year Stann Creek Ecumenical High School, 2005
- National Secondary Teacher of the year, 2006

Research Skills
- Evaluation of the Induction Program offered by the Ministry of Education
  in the country of Belize

References   Available upon request

Name: Jeremy Cayetano   Date of Degree: December, 2011

Institution: Oklahoma State University   Location: Stillwater, Oklahoma

Title of Study: INSTRUCTIONAL LEADERSHIP AND STUDENT ACHIEVEMENT IN
                BELIZEAN SECONDARY SCHOOLS

Pages in Study: 102   Candidate for the Degree of Doctor of Education

Major Field: Higher Education

Scope and Method of Study:
        The hypotheses were tested through quantitative non-experimental methodology. The
study is considered to be causal comparison research. The purpose was to determine if
differences existed in CXC scores of students in Mathematics and English Language at
secondary schools with and without leaders who exemplify instructional leadership behavior.
Differences among the scores of students based on the instructional leadership behavior of the
principals were determined through the computation of the Analysis of Variance (ANOVA). The
statistical analyses were done using IBM SPSS Statistic version 19.

Findings and Conclusions:
        The results indicate differences in the scores of students based on the instructional
leadership behaviors of the principals. Students attending schools led by instructional leaders
performed better in general than students attending schools not led by instructional leaders. The
results also indicated that students attending secondary schools with entrance requirements
perform better academically than students who attend schools with no entrance requirements.

Recommendations:
        The Ministry of Education can improve the status-quo by helping the leaders of all
learning institutions in the country become qualified in leadership. The ministry should also
adopt a policy that insists all principals lead according to the instructional leadership model.
Principals in Belize need to adopt instructional leadership principles of defining and
communicating shared goals, monitoring and providing feedback on the teaching and learning
process, and promoting school-wide professional development.
        Teachers need to see themselves as co-leaders in the institutions where they teach and be
open to the ideas of professional development, supervision, and curriculum development. All of
these lead to quality instruction which is an indication of improved learning.
        Parents have two issues to bear in mind as they choose educational institutions for their
children to attend. First, students who attend secondary schools led by instructional leaders
perform better than students who do not attend such institutions. Second, students who attend
schools that have entrance requirements perform better than students who attend schools that
have no entrance requirements.

ADVISOR'S APPROVAL: Dr. Bernita L. Krumm