

AN EXPLORATION OF THE DIFFERENCES BETWEEN PRINCIPALS'
PERCEPTIONS REGARDING THE INSTRUCTIONAL AND ORGANIZATIONAL
EFFECTIVENESS OF THEIR HIGH SCHOOLS AND THE ACADEMIC
ACHIEVEMENT OF THEIR STUDENTS

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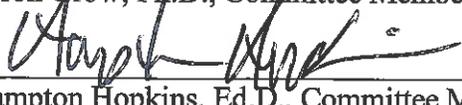
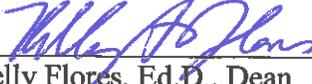
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ABSTRACT

Organizational effectiveness has been a frequent topic of study among researchers, but some issues remain unresolved, such as the criteria that lead one organization to be more effective than another. Educational leaders recognize the need to be effective, but the set of criteria for what effectiveness means in educational settings was still under discussion. Student academic achievement appears to be a good indicator of effectiveness in schools. The purpose of this study was to determine if a statistically significant between-group difference exists between principals' perceptions about the instructional and organizational effectiveness of their high schools and the academic achievement of their students. To that end, this study consisted of a quantitative causal-comparative design. The principal basis of the theoretical framework was two theories: organizational effectiveness theory and instructional effectiveness theory. The population consisted of the nine high schools in the UPAEP University High School System. Principals completed a self-administered survey titled the Survey of Instructional and Organizational Effectiveness to identify both the instructional and the organizational effectiveness levels of their school. Measuring student academic achievement involved using the scores of 483 students in language arts and mathematics on a national standardized test called the National Plan for the Evaluation of Learning. Data analysis included two steps: using the results of the survey, three groups of students' scores were created using a 5-point scale of effectiveness attained by their school, and an analysis of variance was performed to compare these groups. Evidence indicated that there was a statistically significant between-group difference in the means of language arts scores and

mathematics scores in high schools grouped according to the principals' perceptions of the effectiveness of their schools. Evidence suggests that principals' perceptions of the effectiveness of their high school can influence the academic achievement of their students. The results derived from this study contributed to the understanding of the influence of educational leaders on the performance of their students. The findings presented in this study may serve as reliable data so that more educational leaders in Mexico act to evaluate the effectiveness of their schools as well as the levels of academic achievement of their students.

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CHAPTER 1: INTRODUCTION TO THE STUDY

The study of effectiveness in organizations stands out as one of the most studied topics in organizational and leadership theories. In an effort to review in depth several models of organizational effectiveness in higher education, Ashraf and Kadir (2012) emphasized that organizational effectiveness has been a major concern for leaders. In this sense, through an in-depth study of the structural determinants for organizational effectiveness, Basol and Dogerlioglu (2014) described it as the number one priority for organizations. Thus, researchers have conducted numerous studies to develop an understanding of the constitutive elements that allow organizational leaders to fulfill their organizations' strategies and goals. In an attempt to understand the basis of attaining effectiveness in academic institutions and also to reflect on the ways in which effectiveness can be enhanced, Jacob and Shari (2013) stated that a lack of clarity remains concerning organizational effectiveness and its most important components.

The history of organizational effectiveness for educational institutions does not differ from effectiveness in other types of organizations. Jacob and Shari (2013) suggested that school leaders must conduct their research to identify the variables and factors associated with effectiveness. From an international review of 109 school effectiveness research studies, Scheerens (2013) found that researchers had criticized the field of research on school effectiveness as having an empirical basis that lacked a strong theoretical foundation. In a study of the effectiveness of educational leaders, Ham, Duyar, and Gumus (2015) used data from the Organisation for Economic Co-operation and Development's (OECD) Teaching and Learning International Survey. The data from 672

principals and 11,323 teachers in four OECD countries showed that school authorities and teachers might contribute to the effectiveness of the school, and therefore, to the academic achievement of their students. The leadership profiles of educational authorities and the quality and effectiveness of teachers can be the most critical factors of an effective school (Moir, Hattie, & Jansen, 2014).

In a research study about the relationship between principals' perceptions of instructional and organizational effectiveness and student achievement, poverty, and participation in a rigorous curriculum, Gilreath (2006) emphasized that organizational effectiveness in schools has a strong relationship with instructional effectiveness. In 1998, Kathleen Fitzpatrick, together with the National Study of School Evaluation (NSSE), developed a document titled *Indicators of schools of quality: Schoolwide indicators of quality* in which she emphasized that instructional and organizational effectiveness were two of the most studied topics in education (Fitzpatrick, 1998). Although the research on this subject is extensive, results were inconclusive, especially regarding the factors related to students' academic achievement.

Student achievement indicators on national and international standardized tests suggested a need for more attention focused on the effectiveness of schools, especially in Mexico. According to the OECD (2016), approximately 20% of the students in the organization's member countries do not reach a basic level of competence in language arts; these skills include those that enable them to participate effectively and productively in life. In Mexico, 42% of students' communication skills were below Level 2 (out of six levels); moreover, the proportion of students who were low-performing in this discipline

has remained unchanged since 2009 (OECD, 2016). Although typically 10% of students in OECD countries were top performers in mathematics, only 0.3% of students in Mexico reach higher performance levels in this discipline.

The purpose of this study was to examine if a statistically significant difference exists between principals' perceptions regarding the instructional and organizational effectiveness of their high schools and the academic achievement of their students. The focus of the study was on the principals of the nine private, nonprofit high schools that comprise the Universidad Popular Autónoma del Estado de Puebla (UPAEP) High School System. The nine principals completed a self-administered survey titled the Survey of Instructional and Organizational Effectiveness (Fitzpatrick, 1998). The goal was to measure the instructional and the organizational effectiveness levels of the schools. Academic achievement was operationally defined using scores in language arts and mathematics of 483 students who completed the National Plan for the Evaluation of Learning (PLANEA). PLANEA was the national standardized test applied in the year 2016. The results from the survey were used to create three groups of students' scores according to the 5-point scale of effectiveness attained by their school. Using an analysis of variance (ANOVA), the groups were compared to determine if any statistically significant differences existed between the mean scores, and therefore, whether students achieved higher levels of academic performance in schools with a higher level of effectiveness.

Study Background and Foundation

Effectiveness was an important issue for organizational leaders. After studying employees' perceptions of organizational effectiveness and ethical leadership, Nolan (2017) concluded that organizational effectiveness had become a prominent concept in business literature and one of the most essential topics studied in organizational dynamics. Leaders of educational institutions were similarly subject to the goals of organizational effectiveness. Fitzpatrick (1998) emphasized that in the search for quality, school leaders should answer three questions: (a) what should all well-educated students know and be able to do; (b) what were the most important instructional indicators of quality that support the academic achievement of students; (c) what were the most important organizational indicators of quality that provide the necessary conditions for the excellence of teaching and learning?

Using a qualitative study, Büyükgöze (2016) investigated and interpreted the observations, perceptions, and experiences of principals who worked in an effective school. Büyükgöze concluded that the most critical issues of effectiveness in schools were summarized through the answers to two key questions: What traits or elements constitute an efficient school? and How to develop efficient schools? Although many researchers describe effectiveness as an end-goal or an outcome to attain, Jacob and Shari (2013) stressed that the situation was different in schools. Organizational effectiveness in educational settings depended on the ability of leaders to change, develop, and adapt over time as well as the effectiveness of curricula, instructional design, and assessment of learning (Jacob & Shari, 2013). Thus, as with any other type of organization, school

leaders face the challenge of accurately evaluating the effectiveness of the execution of their organizational and instructional strategies.

In Mexico, the most important problems affecting education were low educational coverage across the nation's territory, low rates of terminal efficiency, high rates of failure and dropout, and low levels of achievement on national and international tests (Instituto Nacional para la Evaluación de la Educación, 2018a). Regarding educational coverage, only 58% of young people receive a high-school education, and only 60% completed their studies (Instituto Nacional para la Evaluación de la Educación, 2018a). Moreover, according to the Secretaría de Educación Pública (2017), the terminal efficiency rate for the high school level in 2016 was 63.4% (Secretaría de Educación Pública, 2017). In a 2016 statistical report presented by the federal education ministry of Mexico, the dropout rate was 14.2%, and the failure rate was 8.2% (Secretaría de Educación Pública, 2017). These data indicated a need to review the effectiveness of educational institutions and find reliable ways to identify solutions to these problems.

Current State of the Field in Which the Problem Exists

Employees typically expect guidance from their leaders to address the priorities of their organization. According to Nolan (2017), the effectiveness of an organization depended on the effectiveness of its leaders. In a study about the relationship between high-performance work systems and organizational performance, Muduli (2015) described that employees' perceptions about the leadership of their managers have an impact on the effectiveness of their work, and therefore, the effectiveness of the entire

organization. Educational institutions have been no different, and their leaders cannot avoid making effectiveness a priority.

In a study about the effects of instructional leadership on schools and student achievement, Mitchell, Kensler, and Tschannen-Moran (2015) emphasized that student academic achievement was related to the effectiveness of culture, leadership, and strategic decisions made in schools. Powell (2017), in an article on the impact of leadership practices in educational settings, stated that improving student achievement on assessment tests and international comparisons has become the focus of researchers, educators, and policymakers. In this regard, in an article on perceptions about the importance of teacher reflection and identification of students' stances on academic achievement, Egbert and Roe (2014) defined student achievement as a complex construct that can adequately reflect whether a school was fulfilling its purpose or mission.

Mexico has made important progress in the Programme for International Student Assessment (PISA) evaluations. Evidence of this progress was supported in the 2016 OECD report *Low Performing Students: Why They Fall Behind and How to Help Them Succeed* (OECD, 2016). Mexico has been a country in which there has been considerable progress in reducing the number of low-performing students. Specifically, the percentage of low-performing students in math and language arts decreased by approximately 11% between 2003 and 2012 (OECD, 2016). However, these efforts have not been enough. As of 2012, 55% of students in Mexico scored low in mathematics (OECD average: 23%), 41% scored low in language arts (OECD average: 18%), and 47% scored low in science (OECD average: 18%; OECD, 2015). Less than 1% of students in Mexico were among

the top performers in the three domains (OECD, 2015). Low student achievement was not the result of a single risk factor; it results from the combination and accumulation of numerous barriers and disadvantages that can affect students throughout their lives (Egbert & Roe, 2014). Muñoz Izquierdo (2013) emphasized that there were three leading causes of low student achievement in Mexico: (a) the inability of school leaders to perform school functions adequately; (b) the inequitable distribution of opportunities to access the education system; and (c) the inefficient and opaque use of financial resources by stakeholders of schools. Therefore, school authorities could use reliable tools to evaluate the organizational and instructional effectiveness of their institutions.

Historical Background

Numerous researchers have expanded the area of study regarding organizational effectiveness. In a seminal book about organizational effectiveness Cameron (1980) examined the critical questions in assessing organizational effectiveness, a work subsequently revised and expanded by Ashraf and Kadir (2012). Also, Jacob and Shari (2013) analyzed organizational effectiveness by proposing it be considered in educational institutions, and Lee (2013) discussed the influences of school supervisors' leadership styles upon organizational effectiveness.

Since the early 1930s and in a significant expansion in the 1970s, organizational effectiveness has evolved from a simple definition to a more complex construct composed of numerous variables interacting permanently and continuously. Nolan (2017) suggested that due to its complexity, leaders might consider organizational effectiveness as the number one strategic priority in organizations. Consequently, models have

emerged to approximate operational analyses of effectiveness in organizations. Thorndike conducted the first study to measure effectiveness for achieving specific criteria (e.g., productivity, net profit, achievement of a mission, and growth and stability of an organization) (Saari, 2016). Ashraf and Kadir (2012) noted that organizational effectiveness supports the overall strategy of an organization. However, there were still issues to resolve because the most critical factors that influence the effectiveness of organizations remain unclear. Thus, constructing instruments to measure effectiveness and to compare the effectiveness between organizations can be considered a challenging effort.

Organizations differ according to their social purpose; they vary in size, shape, structure, and the ways they achieve or obtain results. Thus, leaders of educational institutions seek ways for their organizations to be efficient. Teaching, research, and outreach were the most essential functions on which school leaders should focus efforts for efficiency (Jacob & Shari, 2013). Jacob and Shari (2013) noted school leaders' concerns regarding the effectiveness of their schools. Researchers and school leaders have proposed numerous approaches to increasing effectiveness in schools, but as Basol and Dogerlioglu (2014) suggested, researchers have reached few conclusions regarding how to achieve it.

Problem Statement

Since the early 1930s, researchers have studied effectiveness as the means for organizational leaders to achieve strategic results. However, Ashraf and Kadir (2012) emphasized that there was no single model of organizational effectiveness that fits all

organizations. Nevertheless, in an article on reviewing institutional effectiveness in education, Ayuk and Jacobs (2018) noted that several contributors to effectiveness in organizations have over the years evolved via numerous different models to assess effectiveness in educational settings. Similar to Ayuk and Jacobs, Jacob and Shari (2013) asserted that organizational effectiveness was not a single concept, but rather a complex construct. One organization can vary from effective to ineffective using different, and in many cases independent, criteria.

The interest in effectiveness was not a new or exclusive phenomenon of educational institutions. Mitchell et al. (2015) pointed out that the discussion of effectiveness has shown no signs of diminishing over time because politicians, educators, and educational leaders remain concerned about understanding the constituent elements of an effective school. Similar to the analysis of other types of organizations, researchers have summarized the effectiveness of schools not through the analysis of only one criterion, but by using the analysis of multiple and complex interactions of multiple indicators (Ramberg, Brolin Låftman, Almquist, & Modin, 2018). Thus, university researchers have carried out numerous studies on organizational effectiveness, but few have sought to understand effectiveness in purely educational environments (Jacob & Shari, 2013).

Evidence from empirical research indicated that leaders of educational institutions recognize a need for effectiveness. However, there was not yet an established set of criteria for the definition of effectiveness in educational settings (Gilreath, 2006; Jacob & Shari, 2013; Lee, 2013). The lack of consensus on a unified system for measuring

effectiveness makes it difficult for oversight authorities, institutional leaders, faculty, and students to compare an institution's quality and effectiveness to another (Jacob & Shari, 2013). Moreover, there was no clarity regarding the alignment between an effective school and the fulfillment of the primary purpose of an educational institution, which was the improvement of the academic achievement of its students.

Mexico has been a country with contrasts and challenges in its educational system. The following were four main challenges of education in Mexico: (a) high levels of school dropout, (b) the low academic achievement of students; (c) current educational demands for innovative, specific skills, and competencies; (d) the diversity among the numerous subsystems at the high school level (Instituto Nacional para la Evaluación de la Educación, 2018a). These challenges made it clear that there was the need for an instrument to help school authorities evaluate and compare school effectiveness. Development of an instrument to measure effectiveness could help educational leaders to detect areas for improvement and opportunities for instructional and organizational effectiveness. The goal was to help students improve their academic performance.

Students, parents, teachers, and school leaders have been the audience affected by the lack of measurement of effectiveness in schools; therefore, they constitute the audience for this research. Students need teachers who were engaged and ready for innovation in education. Teachers demand better-equipped schools with reliable regulations and quality curricula which they can deploy using an appropriate instructional design. Parents demand quality schools that engage their students in a lifelong learning process. Finally, the primary concern of school authorities was creating effective

organizations to meet demanding standards of academic quality. Solving the problem under study would benefit these stakeholders by helping them meet their demands and needs.

This study involved discussing and challenging conventional ways of what it means to be an effective school and proposing a reliable path for evaluating both instructional and organizational effectiveness in educational settings. The findings and conclusions contribute to advancing the understanding of the evaluation of the effectiveness of a school. The specific leadership problem addressed in this research was whether there was sufficient evidence to confirm that a particular leadership profile of a high school principal influenced the effectiveness of a school, and therefore, the academic achievement of its students. As Nolan (2017) noted, effectiveness in organizations depended on the effectiveness of their leaders, and leadership was the cornerstone of organizational effectiveness.

Purpose of the Study

The purpose of this quantitative causal-comparative study was to examine if a statistically significant difference exists between principals' perceptions regarding the instructional and organizational effectiveness of their high schools and the academic achievement of their students. The focus of this study was the principals of the nine private, nonprofit high schools that comprise the UPAEP University High School System as well as the academic achievement of their 483 students who completed the PLANEA test in 2016.

The study involved examining the principals' perceptions of instructional and organizational effectiveness using the seven indicators of instructional and organizational effectiveness of schools of quality proposed in the NSSE (Fitzpatrick, 1998):

- a. curriculum,
- b. instructional design,
- c. assessment,
- d. educational agenda,
- e. leadership of school improvement,
- f. community building, and
- g. culture of continuous improvement and learning.

These indicators comprise the notions of instructional and organizational effectiveness, which were the focus of this study.

Students' academic achievement was operationally defined as the achievement level (I, II, III, or IV) attained by the students on the PLANEA test in 2016 in two academic disciplines: language arts and mathematics. This study represented an effort to study the most significant factors that influence organizational and instructional effectiveness in schools and contribute to the understanding of the potential relationship between the leader of a high school and the academic achievement of the students.

Methodology Overview

The problem under study was whether a statistically significant between-group difference exists between principals' perceptions about the instructional and organizational effectiveness of their high schools and the academic achievement of their

students. This research included a quantitative comparative method. Another term used for causal-comparative research was *ex post facto*, which means after the fact. The definition includes an assumption that specific causes and effects have already occurred and that researchers examine these after the fact. Causal-comparative has been a typical design in educational research studies. In this type of study, researchers try to determine the cause or consequence of differences that already exist between groups of individuals.

Nine principals completed a self-administered survey, Survey of Instructional and Organizational Effectiveness (Fitzpatrick, 1998), to identify instructional and organizational effectiveness levels in the schools. The measures of students' academic achievement were the language arts and mathematics scores of 483 students on the PLANEA test. Data analysis included two steps: (a) using the results of the survey, three groups of students' scores were created using to a 5-point scale of effectiveness attained by their school, and (b) comparing the ANOVA analyses among the groups to determine if any differences exist in the means. Therefore, the analysis determined whether students achieved higher levels of academic performance in schools with a higher level of effectiveness.

A pretest involved calculating a Pearson correlation coefficient between the students' scores in language arts and mathematics to measure the linear correlation between these two variables. The Pearson correlation coefficient has a value between +1 and -1, where 1 was a total positive linear correlation, 0 was no linear correlation, and -1 was a total negative linear correlation (Salkind, 2016).

Table 1.1
Interpreting a Correlation Coefficient

Size of the correlation	Coefficient general interpretation
.8 to 1.0	Very strong relationship
.6 to .8	Strong relationship
.4 to .6	Moderate relationship
.2 to .4	Weak relationship
.0 to .2	Weak or no relationship

Note. Adapted from *Statistics for people who (think they) hate statistics* by N. J. Salkind (p. 83), 2016, Thousand Oaks, CA: Sage. Copyright 2016 by SAGE Publications, Inc.

The decision of whether to calculate two ANOVAs or just one multivariate analysis of variance (MANOVA) depended on the interpretation of the Pearson correlation coefficient value as shown in Table 1.1. After performing the ANOVAs with these data sets, the findings were suitable for examining whether sufficient evidence exists regarding the between-group difference of principals' perceptions between the instructional and organizational effectiveness of their high schools and the academic achievement of their students.

The population of this study was the principals of nine private, nonprofit high schools that comprise the UPAEP University High School System as well as 483 students who completed the PLANEA test in 2016. Principals completed the Survey of Instructional and Organizational Effectiveness to give their perceptions of instructional and organizational effectiveness. The data set related to student achievement included students' scores in language arts and mathematics. A more detailed discussion of the methodology of this study appears in Chapter 3.

Research Questions and Hypotheses

This study involved answering the following questions:

Q1: Is there a statistically significant between-group difference in the averages of language arts scores in high schools grouped according to the principals' perceptions about the instructional and organizational effectiveness of their schools?

Q2: Is there a statistically significant between-group difference in the averages of mathematics scores in high schools grouped according to the principals' perceptions about the instructional and organizational effectiveness of their schools?

The hypotheses were as follows:

H1₀: There is no statistically significant between-group difference in the averages of language arts scores in high schools grouped according to the principals' perceptions of the instructional and organizational effectiveness of their schools.

H1_A: There is a statistically significant between-group difference in the averages of language arts scores in high schools grouped according to the principals' perceptions of the instructional and organizational effectiveness of their schools.

H2₀: There is no statistically significant between-group difference in the averages of mathematics scores in high schools grouped according to the principals' perceptions of the instructional and organizational effectiveness of their schools.

H2_A: There is a statistically significant between-group difference in the averages of mathematics scores in high schools grouped according to the principals' perceptions of the instructional and organizational effectiveness of their schools.

Study Limitations

Findings obtained from the study had a local scope. This study was about high school leaders in Puebla City, México. The participants were located in a specific region and educational institution, the UPAEP University High School System; therefore, there could be doubt about generalizing the findings to other populations. Similarly, findings will not be generalizable to other types of organizations. The data were limited to the 2015–2016 school year.

The study involved examining whether a statistically significant between-group difference exists between principals' perceptions regarding the instructional and organizational effectiveness of their high schools and the academic achievement of their students. Other factors (e.g., social, ethnic, political), skills (e.g., emotional and intellectual), or disabilities might also influence academic achievement. No assumptions were viable regarding comparisons of the results of this study and those from students with different educational levels (basic education or higher education) and in any other geographical context. Chapter 3 includes further discussion of the limitations of this research.

Significance of the Study

As the pressure increases for school leaders to improve student academic achievement in their schools and, therefore, meet the progress standards, educational leadership continues to be the focus of attention for educators, researchers, policymakers, and professionals (Mitchell, Kensler, & Tschannen-Moran, 2015). Concerning principals' leadership behaviors to influence teacher efficacy and external accountability, Barile

(2017) stated that raising student academic performance has become the number one priority for principals, especially in the age of accountability. This study was significant because it involved analyzing the differences between principals' perceptions regarding the instructional and organizational effectiveness of their high schools and the academic achievement of their students. This research included essential inputs for the decision-making of the educational leaders concerning which educational policies to adopt and budget initiatives to promote. Additionally, findings and conclusions may contribute to advancing the understanding of the evaluation of the effectiveness of a school.

Definitions of Key Terms

This study included some terms that readers might not understand, or that might not be familiar to the average reader. The following definitions of terms provide clarity for readers as to the meaning of these terms used in this study:

Academic achievement. Students' academic achievement could be considered a reliable indicator of the effectiveness of schools. According to the Secretaría de Educación Pública (2016), academic achievement refers to the best approximation of several assessment instruments with the aim to evaluate students' skills, values, behaviors, and knowledge as a response to the educational process. In this study, students' operational definition of academic achievement was defined by the achievement level (I, II, III, or IV) attained by students on the PLANEA test in two areas of competence: language arts and mathematics.

Assessment. In an article on recommendations for curriculum design and teaching evaluation, Chandler (2015) defined assessment as the method of evaluating and

measuring students' understanding of content. Evaluations used in the classroom include both formative and summative methods. For this study, assessment was operationally defined using the five indicators of a quality school proposed by the NSSE: (a) defines the expectations for student learning, (b) establishes the purpose of the assessment, (c) selects the appropriate method of assessment, (d) collects a comprehensive and representative sample of student achievement, and (e) develops fair assessments and avoids bias and distortion (Fitzpatrick, 1998).

Community Building. Leading a quality school with the highest expectations of students' academic achievement requires strong connections with the external community and the related stakeholders (Goldring, Cravens, Porter, Murphy, & Elliott, 2015). Building the community in which a school operates was about building the bonds and relationships that help students achieve optimal levels of academic achievement (Goldring et al., 2015). For this study, the operational definition of community building was the two indicators of a quality school proposed by the NSSE: (a) fosters community building, and (b) extends the school community (Fitzpatrick, 1998).

Culture of Continuous Improvement and Learning. In an article on creating a collaborative learning culture in schools, Stafford (2017) stated that several indicators could characterize a culture based on improvement and continuous learning: shared goals and values, a focus on student learning, shared work, active learning, and reflective dialogue. In this type of culture, school leaders play the central role. For this study, the operational definition of a culture of continuous improvement and learning included the two indicators of a quality school proposed by the NSSE: (a) commitment to professional

development, and (b) support for productive change and improvement (Fitzpatrick, 1998).

Curriculum. The curriculum was the ambitious academic content deployed in instruction through teaching, learning, and evaluation strategies provided to every student (Goldring et al., 2015). For this study, the operational definition of curriculum included the three indicators of a quality school proposed by the NSSE: (a) develops a quality curriculum, (b) ensures effective implementation and articulation of the curriculum, and (c) evaluates and renews curriculum (Fitzpatrick, 1998).

Educational Agenda. Educational agenda refers to the instrument that educational leaders use to preserve and communicate their strategy with the purpose of sharing their highest priorities, set of shared values, and beliefs about the instructional and organizational effectiveness with the entire school community (Gilreath, 2006). For this study, the operational definition of educational agenda included the three indicators of a quality school proposed by the NSSE: (a) facilitating a collaborative process; (b) having a shared vision, beliefs, and mission; and (c) developing measurable goals (Fitzpatrick, 1998).

Instructional design. A rigorous curriculum may be insufficient if a school's leaders do not visualize mechanisms to ensure a demanding instructional design based on teaching, learning, and evaluation strategies. Some of the most essential features of quality instructional design were goal-setting tactics, grouping mechanisms, interest-based learning approaches, self-assessment, summative assessment, and formative assessment (Chandler, 2015). In sum, instructional design refers to the central blueprint

that guides the deployment of the curriculum. For this study, the operational definition of instructional design was the extent to which a school expands instructional support for student learning (Fitzpatrick, 1998).

Instructional effectiveness. In an article about curricular design, Chandler (2015) presented numerous recommendations that can serve as a guide for key stakeholders to optimize talent and instruction quality. Chandler (2015) defined instruction as the various methods used by teachers to deliver the curriculum. Teaching strategies were examples of instruction. Instructional practices of quality, relevance, and consistency relate to instructional effectiveness.

Leadership of School Improvement. The most appropriate definition of leadership in educational institutions was the one proposed by Mitchell et al. (2015) as a strong educational authority focused on the curriculum and instruction. Thus, instructional leadership defines the focus of the attention of a school leader by addressing three main areas: (a) defining the mission of the school, (b) managing the curriculum, and (c) promoting a positive school learning climate (Mitchell et al., 2015). For this study, the operational definition of leadership of school improvement included the two indicators of a quality school proposed by the NSSE: (a) monitors progress, and (b) provides skillful stewardship (Fitzpatrick, 1998).

Perception. Due to the nature of the present study, it was convenient to define the notion of perception. According to Schacter and Daniel (as cited in Mohammadi & Banirostam, 2015), perception refers to the organization, identification, and interpretation of information that people receive through their senses to represent and understand the

environment that surrounds them. In a theoretical review about the interface theory of perception, Hoffman, Singh, and Prakash (2015) affirmed that “natural selection has shaped our perceptions to be, in a typical case, an accurate representation of reality” (p. 1480). Thus, Geisler and Diehl (as cited in Hoffman et al., 2015) agreed that, in general, many human perceptions were true in natural conditions. For this study, perception notion served as the best approximation of the reality interpreted by schools’ principals regarding the effectiveness of their school.

Summary

In this study, the goal was to examine whether differences exist in the academic achievement of high school students concerning the perceptions of their principals regarding the organizational and instructional effectiveness of their schools. This study took place within the nine high schools that comprise the UPAEP University High School System. Findings may provide information to clarify and explain the notions of organizational effectiveness in educational settings as well as to understand the constituent elements of effectiveness and their impact on the achievement of organizational goals and strategies.

Students, parents, teachers, and school leaders comprise the audience for this research. The understanding and study of leadership and its relationship with the organizational effectiveness of schools may increase from these findings. Nationwide studies in Mexico showed the need for more research on the components that influence the academic achievement of students and the differences between effective and ineffective schools. Major theories and referential frameworks on organizational

effectiveness as well as instructional effectiveness in educational settings were discussed and analyzed in detail in Chapter 2.

CHAPTER 2: LITERATURE REVIEW

Introduction

Effectiveness in organizations was a concept related to how organizations reach their most important goals with the minimum use of resources and the highest possible quality. Researchers in the field of organizational leadership have acknowledged that the fundamental elements of organizational effectiveness are not yet clear or easily identifiable (Gilreath, 2006; Jacob & Shari, 2013; Lee, 2013). Educational scholars Ashraf and Kadir (2012) emphasized that effectiveness was the main concern in educational institutions. Understanding and clarifying what effectiveness means in schools was closely related to instructional effectiveness (Gilreath, 2006). However, in an article about the relationship between instructional effectiveness and learning, Kalender (2014) emphasized that studies on instructional effectiveness were still inconclusive, particularly those related to identifying the factors that most influence students' academic achievement.

The purpose of this study was to examine if a statistically significant between-group difference exists between principals' perceptions about the instructional and organizational effectiveness of their high schools and the academic achievement of their students. The study involved analyzing five major areas of knowledge to achieve this purpose: (a) what organizational effectiveness means; (b) how school authorities visualize organizational effectiveness in a school; (c) what instructional effectiveness means; (d) what the indicators of instructional and organizational effectiveness in schools

were; and (e) what the current literature says about students' academic achievement, the main factors that affect it, and its relationship to the effectiveness of the schools.

The first section addresses the different approaches and definitions that researchers have provided over time regarding organizational effectiveness. This section includes the analysis of five approaches found in the literature on organizational effectiveness. The second section includes a discussion of the notion of organizational effectiveness in educational institutions and the differences that exist in this type of organization. The third section describes the notion of instructional effectiveness and its relevance in schools. The fourth section includes a description of a set of indicators of organizational and instructional effectiveness constructed in the NSSE that will apply to the quantitative part of the study. Finally, the fifth section describes the notion of students' academic achievement, the factors that most influence it and its relationship with the effectiveness of the schools.

Organizational Effectiveness

In a seminal book on the theory of social and economic organization, Weber (1947) stated that one of the most significant areas of interest in the organizational development research had been the differences between social groups; that was, what makes one group better and more effective than another. Many researchers have agreed that the concept of organizational effectiveness has received attention in the last decades. In the early 20th century, seminal researchers like Weber (1947) and Georgopoulos and Tannenbaum (1957) approached this concept through the study of organizational dynamics. Moreover, organizational effectiveness received more attention in the early

21st century with the research about employee involvement and organizational effectiveness conducted by Amah and Ahiauzu (2013) and with the review of the models of organizational effectiveness proposed by Ashraf and Kadir (2012). These researchers agreed that effectiveness in organizations must be the number one priority, regardless of the sector to which organizations belong. In a seminal work on effectiveness theory and organizational effectiveness, Hall (1980) described organizational effectiveness as the last question in any form of organizational analysis.

Defining effectiveness has not been a simple task as it can be considered a broad and challenging concept to measure. Organizational researchers assert that the measurement challenge comes from the multiple factors about what makes one group or organization stand out from another (Amah & Ahiauzu, 2013; Deem, DeLotell, & Kelly, 2015; Nolan, 2017). The main problem in a study of organizational effectiveness occurs when a researcher compromises a set of criteria to assess the effectiveness of an organization, as the set of criteria may not apply to another organization or even the same organization at another point in time (Georgopoulos & Tannenbaum, 1957). Thus, Nolan (2017) contended that organizational effectiveness, rather than having a single definition, was a complex and multifactorial notion.

In a review of the literature on organizational effectiveness, Cameron and Whetten (1996) discussed three critical issues that arise when trying to define effectiveness in organizations: conceptual boundaries of effectiveness were still unknown, organizational indicators of effectiveness were not clear, and the criteria that could predict effectiveness were also not clear. There were three reasons for these issues:

(a) the individuals cannot clearly identify their expectations and preferences to be effective, (b) the expectations and preferences change over time, and (c) each individual in each organization has a set of expectations and preferences that make a consensus about effectiveness difficult. Thus, for organizations, there was no stable set of criteria, expectations, and preferences for the meaning of effectiveness (Cameron & Whetten, 1996).

Throughout the history of the study of organizations, researchers have analyzed organizational effectiveness from distinct and multiple approaches (Ashraf & Kadir, 2012; Jacob & Shari, 2012; Pennings & Goodman, 1976). Among the most important models of organizational effectiveness were Pennings and Goodman's (1976) framework for organizational effectiveness, Kaplan and Norton's balanced scorecard model (Llach, Bagur, Perramon, & Marimon, 2017), and Hall's (1980) goal model. Given the number of formal models for effectiveness, it was not possible to conclude that a single model or theory was better than another. Multiple models of organizational effectiveness were the product of multiple types of organizations, which was why no single approach may have higher value for researchers than another (Cameron & Whetten, 1996).

Given the understanding provided by Cameron and Whetten (1996), Ashraf and Kadir (2012) discussed a more comprehensive way of classifying the most essential approaches to effectiveness in organizations. Ashraf and Kadir classified these approaches into five groups that remain consistent across peer-reviewed literature: (a) goal-focused approach, (b) system resource approach, (c) processes approach, (d) stakeholders approach, and (e) organizational strategy approach. The following

subsections include a review of the most frequently cited approaches of organizational effectiveness.

Goal-focused Approach

The first commonly used approach in organizational effectiveness was the goal-focused approach. The basis of this model was the definition of organizational effectiveness proposed by Etzioni in his seminal work on approaches to organizational analysis, as the degree to which an organization reaches specific previously defined goals (Buble, Juras, & Matic, 2014). According to Hall (1980), the basis of the goal-based organizational effectiveness approach was Weber's 1947 seminal work. The goal-based organizational effectiveness approach refers to the degree to which one organization adheres to a final ideal state (Nolan, 2017). Moreover, Ashraf and Kadir (2012) contended that the focus of the goal-based organizational effectiveness approach lies in the final output resulting from the essential operational objectives of an organization (e.g., utilities or the quality of the final product or service). The approach involved three major assumptions: (a) the organization as a whole should agree on the results or goals to be met; (b) the members of the organization must demonstrate commitment and motivation to reach those goals; and (c) the number of goals the organization must meet was limited to the resources available, so leaders must decide which goals to meet and which to set aside (Ashraf & Kadir, 2012).

Yuchtman and Seashore's System Resource Approach

The second approach was the system resource approach proposed by Yuchtman and Seashore (1967). In their study, the authors stated that when organizational

effectiveness refers to the achievement of objectives, there were methodological and conceptual problems. Leaders tend to construct the organizational objectives about the members of the organization and not the organization itself; thus, there was no possibility for a consensus on the nature and clarity of the objectives to achieve. In contrast, when these leaders define objectives concerning the social function of the organization, the values, and standards of the evaluation of effectiveness were external to the organization (Yuchtman & Seashore, 1967). Thus, Yuchtman and Seashore proposed a new model to evaluate the effectiveness of organizations based on the interactions and interdependence of organizations with the internal and external environments. Ashraf and Kadir (2012) emphasized that this approach was about the focus on inputs rather than outputs; thus, organizational effectiveness refers to the ability of organizational leaders to obtain and retain the necessary resources located in diverse and external contexts. Jacob and Shari (2013) noted that most organizational leaders were not entirely free to set their own goals and may face limits by their external context to obtain the expected effectiveness. According to this approach, leaders can evaluate an organization's effectiveness by its ability to take advantage of the forces and dynamics of the external context.

Pennings and Goodman's Processes Approach

The third approach was the processes approach. Using a model concerning the nature of complex organizations and the role of internal and external elements that impact effectiveness, Pennings and Goodman (1976) described the processes approach. This approach concerns the degree to which the members of an organization can preserve some integration between the processes involved in the production of the outcomes over

time. Thus, effectiveness depended on the presence or absence of internal tensions between the members and the systems of an organization (Cameron, 1980). This model included the conjunction of two points of view: organizations as open systems within which different interactions take place, and organizations as large sets of interest groups in which each group seeks satisfaction according to specific interests (Pennings & Goodman, 1976). Thus, this model included the concepts of goal, constraint, and referent; that was, organizations were effective if organizational leaders can satisfy constraints and reach or exceed goals according to previously established referents (Pennings & Goodman, 1976). Nolan (2017) noted that a processes approach involved the inside dynamics of organizations in which leaders were seeking effectiveness. With this approach, organizations displayed effectiveness through internal efficiency, coordination, motivation, and employee satisfaction (Ashraf & Kadir, 2012). The purpose of implementing processes approaches was to develop a stable organizational environment that was maintained over time.

Nolan's Stakeholders Approach

The fourth approach to organizational effectiveness was the stakeholders approach. Ashraf and Kadir (2012) emphasized that to the extent that the needs and interests of all groups were met, the organization will be effective. Within this approach, there were inputs (resources) and outputs (goals), but access to these resources and the processes to obtain these goals depended on the stakeholders. Therefore, organizational effectiveness depended on the ability of leaders to deal with the mechanisms to obtain the

necessary inputs and the ability to achieve the most important organizational goals (Nolan, 2017).

Organizational Strategy Approach

Finally, the fifth approach to organizational effectiveness concerns the extent to which an organization complies with the organizational strategy. Strategy refers to the principles, processes, and decisions made to achieve several goals: high levels of commitment, leadership, communication, and training; good relationships with stakeholders; genuine focus on organizational effectiveness through the value chain (Nolan, 2017). This approach involved evaluating organizational effectiveness by the identified objectives and strategies that all employees should share (Basol & Dogerlioglu, 2014). Effective leadership facilitates the acquisition of resources and energizes these processes by locating the necessary inputs for each part of the value chain. Management should configure their organization to address the interests and needs of all stakeholders adequately (Basol & Dogerlioglu, 2014).

This section contains an introduction to organizational effectiveness, the early definitions, and the related theories. The presentation also included the five most important approaches to a comprehensive definition of effectiveness. Not all organizations or social groups were the same, nor were the ways in which they seek to be effective; therefore, according to Nolan (2017), the search for effectiveness in an organization depended on its social purpose. The next section indicates the ways educational leaders seek for their organizations to be effective.

Organizational Effectiveness in Educational Institutions

Universities have played an important role in contributing to society through studies about effectiveness in organizations and businesses. However, as Jacob and Shari (2013) noted, few researchers have studied organizational effectiveness inside educational institutions, concluding that there was little research on organizational effectiveness in educational contexts. Cameron (1980) contended that leaders of educational institutions have traditionally resisted systematic evaluations of their organizations' effectiveness. The basis of this argument was that schools were different from other types of organizations, and therefore, traditional assessment and measurement approaches were not applicable (Mansour, Heath, & Brannan, 2015). Judgments regarding a school's effectiveness have always been present (e.g., by students, parents, teachers, and donors). However, there were indications that this resistance was beginning to diminish (Mansour et al., 2015). This situation constitutes an opportunity to advance the research on organizational dynamics in educational contexts and its relation to organizational effectiveness. Researchers should consider two fundamental aspects of organizational effectiveness: the identification of indicators of effectiveness in educational settings and the construction of relevant evaluation models of effectiveness.

Effective leaders can be considered the most important factor in achieving organizational effectiveness. Lee (2013) noted that through commitment, leaders of educational institutions could exert a specific and significant effect on the effectiveness of organizations. Wu (as cited in Lee, 2013) aimed to define effectiveness as the ability of school leaders to achieve predetermined goals with certain levels of performance.

Effectiveness in educational settings was a transversal concept traceable from the perspective of the students and teachers to the perspective of school authorities. To complement this idea, Lee highlighted that organizational effectiveness in schools could refer to the extent to which a school achieves its goals, and this effort includes four factors: (a) administrative processes, (b) teachers, (c) student performance, and (d) support from parents and the community. Similarly, Lee (2013) suggested that leaders should strengthen effectiveness in educational institutions, and subsequently measure it from four perspectives: (a) effectiveness of management, (b) effectiveness of teachers across the learning process, (c) performance and achievements of students, and (d) effectiveness of support from parents and the community. These definitions have helped researchers develop an understanding of effectiveness in educational settings.

Effectiveness in schools can also be traced through the notion of learning outcomes. In this sense, Walker (2015) identified the acquisition of key skills by the students through clearly developed learning outcomes as one of the main features of an effective academic organization. In an exploratory study on conjectures about what really matters with respect to school effectiveness, R. H. Hofman, Hofman, and Gray (2015) proposed that the most critical effectiveness indicators in academic organizations were satisfied teachers, academic achievement, satisfied parents, and students who were trained as responsible citizens prepared for the social and economic context that awaits them. Thus, researchers and academics have argued that there was no single definition of organizational effectiveness in schools.

Students' academic achievement could be a clear indicator of educational effectiveness. However, Gilreath (2006) affirmed that in addition to academic achievement, there were several other outcomes that indicate an effective school. In this sense, Alanoglu and Demirtas (2016) suggested that leaders and educators of effective schools consider the levels of preparation of their students and provide them a higher than anticipated academic performance. Therefore, an effective school provides added value to the academic performance of its students as compared to similar schools that accept students with similar levels of preparation (Alanoglu & Demirtas, 2016). The reviewed literature showed that effectiveness in educational institutions was related to the ability of school leaders and teachers to help the student achieve specific learning outcomes and satisfy the interests of all stakeholders of the educational community.

In organizations, what was not measured cannot be evaluated, and what was not evaluated cannot be improved. Thus, the best way to visualize the effectiveness in educational environments was through a consistent and robust assessment performed by educational leaders (Jacob & Shari, 2013). In a qualitative study concerning the effectiveness of educational institutions, Jacob and Shari (2013) found that it was equally important to identify indicators of effectiveness as it was to build instruments to evaluate it adequately. Fitzpatrick (1998) asserted that analyzing the effectiveness of schools should include evaluating the daily practices of the school in comparison to validated, research-based principles, and the practices of high-performing systems of teaching and learning. Fitzpatrick constructed the Survey of Instructional and Organizational Effectiveness as consistent with these goals. In general, school leaders use this instrument

to identify strengths, weaknesses, and limitations of the effectiveness of instructional practices and organizational conditions (Fitzpatrick, 1998).

Leadership and effectiveness were complementary concepts; they were mutually required for organizations to achieve their goals. Regardless of the sector, leaders often seek organizational effectiveness by investing in minimal resources to achieve superior outcomes (Jacob & Shari, 2013). The leaders of educational institutions cannot avoid this premise. DeMatthews and Edwards (2014) found consensus among leaders that educational institutions have an essential role in the development and implementation of high standards of quality and effectiveness. Thus, educational leaders can connect the concepts of leadership and organizational effectiveness to successfully implement change in educational contexts.

Instructional Effectiveness

In general terms, a school was effective to the extent that its organization and its instruction processes serve to help students accomplish better levels of academic achievement. Thus, organizational effectiveness in schools was closely related to instructional effectiveness (Gilreath, 2006). Instructional practices and organizational conditions were the most important issues in the study of effective schools. Although research on this subject was increasing, the results were inconclusive, especially regarding students' academic achievement. Also, educators and researchers have agreed that the path to instructional effectiveness was not easy or unidirectional (Gilreath, 2006). They have also affirmed that teachers were the starting point for instructional effectiveness. Teaching was the most influential factor in the academic performance of

students. However, because there was no consensus concerning the characteristics, attributes, and practices that make a good teacher, it can be a challenge (Le Donné, Fraser, & Bousquet, 2016).

School leaders should pay attention to both the way they organize their schools and how teaching was deployed. Thus, according to Melesse (2014), the most important goals for a school were the effectiveness of teaching (instructional effectiveness) and the organization of the school (organizational effectiveness). The aim was to shape these factors such that the school can meet the highest priorities, objectives, and goals. If an educational organization defines its priorities, objectives, and goals in terms of its desired future position, then leaders can define instructional and organizational effectiveness as the degree to which these priorities were achieved. Although the theoretical basis of what school effectiveness means was empirical, researchers have attempted to translate the effectiveness perceptions of school leaders into pragmatic data (Gilreath, 2006). Many researchers have agreed that schools must be effective in three fundamental areas: (a) curriculum, (b) instructional design, and (c) assessment (Fitzpatrick, 1998; Jackson-Dennison, 2001; Le Donné et al., 2016).

As stated before, school leaders can influence the effectiveness of their schools. However, even when these leaders recognize a need for effectiveness, there was still much to learn and investigate this matter (Jacob & Shari, 2013). The literature includes some approaches and indicators of what it means to be an effective educational institution. Lee (2013) emphasized that the effectiveness of a school depended on the support provided by the organizational process. However, Fitzpatrick (1998) emphasized

that organizational effectiveness in schools has a close relationship with instructional effectiveness. Thus, this section of the review contained a discussion of effectiveness in educational settings and the relationship between organizational effectiveness and instructional effectiveness. The next section includes the most important indicators to evaluate the organizational and instructional effectiveness in schools and an in-depth discussion of a model for evaluating the organizational and instructional effectiveness of schools as proposed by Fitzpatrick (1998).

Indicators of Organizational and Instructional Effectiveness

The literature reviewed includes some indicators proposed to evaluate the effectiveness of instruction in schools. Hall (2017) noted that a reliable quality indicator must meet five requirements: (a) the indicator should provide a significant differentiation with respect to school performance, (b) the indicator should be reliable and valid, (c) the indicator should be applicable to groups of students and teachers of the same grade, (d) the indicator should be comparable and applicable in different geographical contexts, and (e) the indicator should be measured and reported annually to the educational community. Thus, these criteria define the boundaries and characteristics of reliable indicators to accurately evaluate the effectiveness of educational institutions.

To better understand the main characteristics of reliable effectiveness indicators, Ashraf and Kadir (2012) tracked the study of organizational and instructional effectiveness through the analysis of four approaches for evaluating effectiveness. Using a quantitative study, Antia and Cuthbert (1976) developed an approach with nine critical factors for the success of an effective educational institution: (a) connection with the

external social context, (b) cost effectiveness, (c) course development, (d) corporate reputation, (e) investment in human capital, (f) physical facilities development, (g) student relationships, (h) quality of employee relations, and (i) public responsibility. Antia and Cuthbert (1976) emphasized that measuring effectiveness in educational organizations was a multidimensional construct.

The second approach was the model proposed by Kleemann and Richardson (1985). In a study of 3308 students from three different universities, the researchers inquired about their perceptions of effectiveness. Kleemann and Richardson contended that maximum organizational and instructional effectiveness was classified into ten categories: (a) programs and services for students, (b) attention to women and minorities, (c) quality of teaching and research, (d) publication of knowledge and research, (e) access to workshops and counseling, (f) sports, (g) focus on cultural activities, (h) programs for graduates, (i) leasing facilities, and (j) permanent improvement of quality standards.

The third approach was the model proposed by Pounder (1999) for assessing instructional and organizational effectiveness in schools based on nine dimensions: (a) efficiency in productivity, (b) quality, (c) cohesion, (d) adaptability readiness, (e) communication systems, (f) growth, (g) planning, (h) human resource development, and (i) stability and control. Ashraf and Kadir showed that planning and communication systems, cohesion, and efficiency in productivity were the most important and influential dimensions in the organizational effectiveness of educational institutions.

The fourth approach was the model suggested by An, Yom, and Ruggiero (2011) for evaluating organizational effectiveness using two dimensions: job satisfaction and

organizational commitment. Despite the simplicity of this model, this archetype groups two of the most critical organizational factors to achieve results: the motivation to bring satisfaction and the commitment of all the individuals to common goals and outcomes (Ashraf & Kadir, 2012). An et al. (2011) omitted the component of instructional effectiveness that was crucial for quality schools.

Fitzpatrick's Instructional and Organizational Effectiveness Model

The final model was Fitzpatrick's (1998) *Indicators of schools of quality: Schoolwide indicators of quality*. In a study about instructional and organizational effectiveness in selected elementary schools in Mississippi, Henderson (2011) discussed Fitzpatrick's proposed seven indicators of effectiveness; these indicators included three for assessing instructional effectiveness (curriculum, instructional design, and assessment) and four for evaluating organizational effectiveness (educational agenda, leadership for school improvement, community building, and culture of continuous improvement). The NSSE implemented this model with the aim of comprehensively assessing the instructional and the organizational effectiveness of educational institutions. The seven components of Fitzpatrick's model served as the effectiveness indicators of the participating schools in this study. A description of each indicator follows.

Curriculum. The curriculum was the ambitious academic content deployed in instruction through teaching, learning, and evaluation strategies (Goldring et al., 2015). According to Gilreath (2006), a well-designed curriculum and proper pedagogical instruction are the characteristics of effective education. Therefore, the goal of all schools was to provide curriculum and instruction programs that help students meet challenging

academic standards. Moreover, the purpose of a good curriculum was to help students develop a personal and social synthesis of knowledge, guide them to access higher levels of education, give them a deep understanding of society, and train them for entry into a productive job (Secretaría de Educación Media Superior, 2016).

The curriculum can be considered the most appropriate tool to begin the process of instructional effectiveness. According to Henderson (2011), leaders of effective schools identify the essential knowledge and skills students need and prioritize the skills within the curriculum. The role of the curriculum was to support students in reaching academic goals. Thus, the basis of curriculum, as the key variable related to educational effectiveness, includes clearly defined standards for student learning and a focus on supporting and challenging all students to excel in learning (Jackson-Dennison, 2001). The NSSE evaluates the effectiveness of curriculum according to three criteria: (a) development of a quality curriculum, (b) effective implementation and articulation of curriculum, and (c) evaluation and renewal of curriculum (Fitzpatrick, 1998).

Instructional design. Quality in teaching, learning, and evaluation processes was supported by two main pillars: a good curriculum with challenging and adequate content, and a quality instructional design that incorporates the strategies for deploying the curriculum. In a study about an examination of principals' curriculum and instructional design practices, Reece (2017) asserted that instructional design constitutes a complex construct that includes how to guide teachers in the process of implementing the curriculum through strategies of teaching, learning, and evaluation. Instructional design helps teachers connect schools' priorities and objectives, the characteristics of the

students, and the most appropriate assessment instruments, with specific learning purposes (Reece, 2017). This process consists of designing an instructional plan by taking into consideration students' learning needs. In a study about stakeholder perceptions of effectiveness, Jackson-Dennison (2001) emphasized the importance of instructional design that aligns with student learning standards, outcomes, and performance expectations. Thus, effective instructional design maximizes learning through the management of the learning environment (Henderson, 2011). A positive learning environment in the classroom, derived from a proper instructional design, enhances academic achievement and meaningful learning for the students. Thus, learning outcomes, meaningful learning, and academic achievement are the constituents of an effective school.

The purpose of instructional design was to facilitate the learning process. The learning process was significant when it enables students to relate previous knowledge with new information (Secretaría de Educación Pública, 2016). Learning was significant when a teacher promotes meaningful activities to cultivate a student's self-reflection. The instructional design was important because the resources that students will use depend on the plan and organization of learning and teaching activities as described in the design (Secretaría de Educación Pública, 2016). The NSSE includes a description of the instructional design indicator through the following criteria: (a) alignment of instruction with goals and expectations for student learning, (b) employment of data-driven instructional decision-making, (c) active engagement of students in their learning, and (d) expansion of instructional support for student learning (Fitzpatrick, 1998).

Assessment. As stated before, the assessment of effectiveness was one of the key processes of an effective school. Fitzpatrick (1998) defined assessment in an educational setting as the collection of the representative evidence of students' academic achievement. In Mexico, the Instituto Nacional para la Evaluación de la Educación (2018b) emphasized that assessment as an adequate descriptor of educational quality was one of the most important concerns in the educational field. Assessment should include a focus on three priorities: (a) an evaluation of students' level of learning, (b) the relevance of curricula about current societal needs, and (c) the quality of educational service provided in schools (Instituto Nacional para la Evaluación de la Educación, 2018b). The NSSE includes an operational definition of assessment using the following criteria: (a) a clear definition of the assessment and expectations for student learning, (b) the purpose of assessment, (c) the appropriate method of assessment, (d) a comprehensive and representative sample of student achievement, and (e) fair assessments with no bias or distortion (Fitzpatrick, 1998).

Educational agenda. To overcome the temptation of improvisation and the execution of incorrect strategies, school leaders define and execute an educational agenda which guides them in the process of effectiveness. Gilreath (2006) emphasized the importance of schools having a clear and concise educational agenda that defines the direction and operation of instructional and organizational effectiveness. The most essential elements of an educational agenda are the mission, vision, beliefs, and goals that serve as a guide to the behaviors and actions of all the members of the school (Fitzpatrick, 1998). A clear and shared organizational focus must include a vision that

captures the imagination and enthusiasm of the entire organization (Gilreath, 2006). One of the most important purposes of an educational agenda was to focus the attention, efforts, and resources of the organization, and concentrate these on the highest priorities and strategies. Part B of the NSSE Survey of Instructional and Organizational Effectiveness, which refers to quality indicators in organizational systems, includes three key indicators of schools with organizational systems that support teaching and learning: (a) a collaborative process; (b) shared vision, beliefs, and mission; (c) measurable goals (Fitzpatrick, 1998).

Leading school improvement. Principal's leadership was an essential element of successful schools and can serve as the cornerstone of effectiveness in schools. The leadership of school improvement was distinguished in the establishment of a powerful and active academic mission; providing, in this way, feedback on teaching and learning to the entire educational community, and more importantly, promoting the professional development of teachers (Moir et al., 2014). Thus, leadership can be considered the cornerstone of effectiveness in schools.

In a seminal book on instructional leadership for school improvement, Zepeda (2013) emphasized that there was a strong relationship between leadership and the ability to influence a person or a group of people with a sense of direction and purpose to achieve a task. True leadership was fundamental to provide well-being for students and achieve structural changes in the learning environment. Leadership aims to promote a high degree of community commitment to institutional goals (Zepeda, 2013). Thus, effective leadership depended on shared values and quality relationships between leaders

and followers (Gilreath, 2006). In addition, Fitzpatrick (1998) associated effective leadership for schools with five criteria: (a) promoting of quality instruction, (b) developing of school-wide plans for improvement, (c) employing of effective decision-making, (d) monitoring progress, and (e) providing skillful stewardship.

Community building. School leaders recognize the need to align efforts with different actors, inside and outside their school, to reach high levels of effectiveness. Henderson (2011) described the educational community as the group of students, teachers, educational authorities, parents, and administrative staff; in short, a group consisting of all the actors interested in the education of students. Leaders of quality schools create, develop, and strengthen the educational community. Educational leadership inspires higher levels of commitment to the organization and was identified by the continuous inspiring motivation, positive influence, and intellectual stimulation (Moir et al., 2014), what ultimately creates learning communities that detonate effectiveness in schools. It has been shown that this type of leadership increases the commitment of all members of the educational community to organizational effectiveness (Moir et al., 2014). Gilreath (2006) emphasized that schools need connections with families and communities to support student learning development.

Culture of continuous improvement and learning. A school culture based on quality and continuous improvement was the foundation that supports organizational effectiveness. Gilreath (2006) suggested that effective schools empower teachers and administrative staff to develop skills and deeper knowledge to support productive change and ongoing improvement. Jackson-Dennison (2001) established that leaders develop

effective schools by using comprehensive and continuous professional development programs to develop the skills of the employees. Staff may then contribute to improving and achieving important goals. When leaders view professional development as competency-based rather than deficiency-based, it can become a significant instrument for changing and improving teaching practices. Thereby, professional development for staff could increase the academic achievement of students (Vleuten, 2015). A school that was effective and committed to a culture of continuous improvement participates in an ongoing process of: (a) revision of its vision and purpose, (b) maintains a rich and relevant description of the students' academic achievement and the effectiveness of the system and the community, (c) adopts goals and interventions to improve student achievement, and (d) documents and uses the results of effectiveness evaluations to inform future improvement efforts (Moir et al., 2014). The NSSE defined an effective culture of continuous improvement and learning as an indicator of organizational effectiveness by two criteria: (a) commitment to professional development, and (b) support of productive change and improvement (Fitzpatrick, 1998).

This section included a description of the model for evaluating the organizational and instructional effectiveness of schools proposed by Fitzpatrick (1998). The seven key components of this model described in detail fit into two categories: indicators of quality instructional systems and indicators of quality organizational systems. Fitzpatrick designed this set of school effectiveness indicators to provide schools with a reliable and trustworthy model. The model was based on validated and research-based instructional and organizational practices.

Table 2.1 shows the relationship between the indicators of instructional and organizational effectiveness according to Fitzpatrick's model (1998) about the five models analyzed by Ashraf and Kadir (2012). The analysis was important to the study because the goal was to use Fitzpatrick's model to group the participating high schools according to the perceptions of school authorities concerning effectiveness. Table 2.1 shows the distinguishing strengths and weaknesses of each model. Fitzpatrick proposed a complete and comprehensive model to unite important elements for the evaluation of instructional effectiveness without neglecting the evaluation of the organizational systems.

Table 2.1

The relationship between Fitzpatrick's Model and Models Analyzed by Ashraf & Kadir

Fitzpatrick's (1998) model	Antia & Cuthbert (1976)	Kleemann & Richardson (1985)	Pounder (1999)	An et al. (2011)
Indicators of quality instructional systems				
Curriculum	X	X		
Instructional design		X		
Assessment				
Indicators of quality organizational systems				
Educational agenda	X	X		
Leadership for school improvement	X	X	X	X
Community building	X			
Culture of continuous improvement and learning	X	X	X	X

Note. The relationship of each of the seven effectiveness indicators proposed by Fitzpatrick's (1998) it was described using the sign 'X' which means that this indicator was included in the corresponding model studied by Ashraf and Kadir (2012). As shown, none of the models studied by Ashraf and Kadir (2012) covers all the constituent elements of organizational and instructional effectiveness.

Survey of Instructional and Organizational Effectiveness

Previous indicators of instructional and organizational effectiveness served as tools to guide both reflection and action (Fitzpatrick, 1998). The main objective of this model was to support the academic achievement of students. To provide a reliable instrument to assess the levels of instructional and organizational effectiveness, Fitzpatrick (1998) developed the Survey of Instructional and Organizational Effectiveness based on the seven indicators. The data obtained from the instrument can be used for three purposes: (a) identifying the weaknesses, strengths, and limitations of a school's instructional and organizational effectiveness; (b) evaluating the effectiveness of an educational center; and (c) identifying priorities and areas for improvement of a school's instructional and organizational effectiveness (Fitzpatrick, 1998). Researchers have used the survey to evaluate the seven indicators of effectiveness for a school. The survey was based on a five effectiveness levels scale (from 0 = the indicators of effectiveness are absent to 4 = exemplary level). A detailed description of this instrument appears in the Methodology chapter and includes a discussion of the suitability of the instrument for this study.

Student Academic Achievement

As previously suggested, student academic achievement can be a good indicator of the schools' effectiveness. In an article on the factors associated with academic achievement, Yu (2017) stated that student academic achievement depended on many factors that were internal and external to the school, the student, and the educational community. The external factors that influenced the academic achievement of students

were classified as follows: (a) demographic factors, (b) socioeconomic factors, and (c) cultural factors. Similarly, the internal factors that influenced the student's academic performance were (a) school infrastructure, (b) school environment, (c) extracurricular practices, (d) curriculum and learning processes, and (e) school management (Yu, 2017). Some evidence indicated that external and internal factors affect school success and failure; however, controversy persists regarding the magnitude of a school's impact on the performance of students. As noted above, student achievement was a complex construct and can adequately reflect whether a school was fulfilling its purpose and mission (Egbert & Roe, 2014).

Students' academic achievement was one of the most important performance indicators of student success (Patton, 2017). Researchers have performed many studies regarding the impact of school leadership on the academic performance of their students (Alia, 2015). Effective principals use higher-order thinking skills to lead and influence many complex factors and behaviors that influence the educational context. The sole purpose of effective educational leadership was to positively affect the academic achievement of students (Alia, 2015). Thus, leadership and effectiveness were related concepts that influence students' academic achievement.

This study involved using the seven indicators of instructional and organizational effectiveness as proposed by Fitzpatrick (1998) to determine if there were any statistically significant factors that influence students' academic achievement. In this study, and for purposes of statistical analysis, students' academic achievement was operationally defined by the achievement level (I, II, III, or IV) attained by students on

the PLANEA test in two areas of competence: language arts and mathematics. The next section includes an in-depth explanation of this national test.

The PLANEA test was the official national academic test for Mexico that educators have used for several years to measure the academic achievement of students at the high school level in public and private schools. Researchers have widely used the PLANEA as a reliable test aligned with the Common Curricular Framework in two areas of competence: language arts and mathematics. The fundamental purpose of the test was to determine the extent to which students achieve a set of key learning skills as established in the curriculum for different educational levels. This information on the academic achievement of students was provided to federal education authorities and local, decentralized agencies with the purpose of contributing to educational policy decisions (Instituto Nacional para la Evaluación de la Educación, 2018c).

The PLANEA test includes evaluation of two academic disciplines: language arts and mathematics. Educators consider both subjects as relevant for learning across other fields of knowledge as well as fundamental to the mastery of the curriculum (Instituto Nacional para la Evaluación de la Educación, 2018c). In the PLANEA test, there were four levels of academic achievement. The levels of achievement were a critical reference for the detailed analysis of the results because the results are cumulative; that was, students who have acquired learning at a certain level also possess the knowledge required in the lower levels (Instituto Nacional para la Evaluación de la Educación, 2018c). For this study, academic achievement was operationally defined using the scores in language arts and mathematics for 483 students who completed the PLANEA in 2016.

Further explanation regarding the treatment of student academic achievement data will be explained in depth in Chapter 3.

Summary

The literature review included five sections. The first section presented an analysis of the concept of organizational effectiveness. The second section included an analysis of what organizational effectiveness means for educational institutions. The third section included a description of the relationship between organizational effectiveness and instructional effectiveness. In the fourth section, an analysis of models and indicators used to evaluate instructional and organizational effectiveness in schools was conducted. The fifth section included a description of the evolving concepts of student academic achievement, the factors that most influence it, and the relationship of achievement and the school effectiveness.

Organizational effectiveness has been a critical concern as to how organizations and social groups obtain results related to mission and social purposes. A key conclusion regarding the effectiveness of organizations was that it was one of the most important goals for any organization, regardless of industry or sector (Basol & Dogerlioglu, 2014). Researchers have studied organizational effectiveness as a construct rather than a single definition and have proposed numerous models for the study of effectiveness.

Leaders of educational institutions cannot dismiss the need to understand organizational effectiveness. Demonstrating organizational effectiveness constitutes a serious challenge for leadership, especially when identifying the nature of the outcome. However, researchers have agreed that student academic achievement appears to be a

good indicator of effectiveness in schools, although not the only one. The way teachers help students improve their academic achievement could also be an indicator of effectiveness. Effectiveness refers to the ways that leaders and school authorities organize a school and how they help students improve academic achievement.

From the literature review, it was concluded that instructional effectiveness could be the cornerstone for effectiveness in schools. If the purpose of an effective school was to teach students to become better people and citizens, then it was important to analyze the patterns and processes of how the school was organized, as well as the systems that school leaders use to deploy an effective and successful educational agenda. However, similar to the concept of organizational effectiveness, instructional effectiveness was also a complex construct whose components were not yet clear or precise. Many models and approaches have emerged that provide new ways to assess, measure, and improve instructional effectiveness.

Fitzpatrick's (1998) model of instructional and organizational effectiveness was based on seven indicators which school leaders could use when seeking efficiencies in organizational structure and instructional design. The indicators for instructional effectiveness were a quality curriculum, good instructional design, and systems and methods to assess learning. The indicators for organizational effectiveness were an educational agenda, good leadership for continuous improvement, community learning, and a culture for continuous improvement and learning. Based on an analysis of five different proposals for assessing instructional and organizational effectiveness in schools, Fitzpatrick's proposal appeared as the most comprehensive. This conclusion was based

on Fitzpatrick's inclusion of the elements of the other models and new perspectives that previous researchers did not contemplate. Fitzpatrick's (1998) model was the guiding model used in the quantitative part of the study.

An essential part of this literature review was to review the concept of students' academic achievement. As Egbert and Roe (2014) emphasized, students' academic achievement was a relevant descriptor of the instructional and organizational effectiveness of a school. The fundamental purpose of this study was analyzing the possible differences between groups classified according to their level of instructional and organizational effectiveness about the academic performance of their students. For this study, academic achievement was operationally defined as the achievement level of 483 students who participated in the PLANEA test in 2016.

The main objective of this literature review was to analyze six topics in depth: (a) organizational effectiveness; (b) the different models of organizational effectiveness; (c) the way school leaders visualize effectiveness in educational organizations; (d) the relationship between organizational effectiveness and instructional effectiveness; (e) the model proposed by Fitzpatrick (1998) from which the Survey of Organizational and Instructional Effectiveness originated; (f) the definitions of students' academic achievement. This review served as support for quantitative analysis of the relationships among the principals' perceptions of organizational and instructional effectiveness and the academic achievement of students. Chapter 3 includes a discussion of the research method used in this study.

CHAPTER 3: METHODOLOGY

Introduction

The study was a quantitative causal-comparative design with the purpose of determining whether statistically significant between-group differences existed among principals' perceptions about the instructional and organizational effectiveness of high schools and the academic achievement of the students. The participants were principals of nine private and nonprofit high schools that comprise the UPAEP University High School System. Data also consisted of the academic achievement results from 483 students who completed the PLANEA national standardized test in these schools in 2016.

The following research questions were addressed in the study:

Q1: Is there a statistically significant between-group difference in the averages of language arts scores in high schools grouped according to the principals' perceptions about the instructional and organizational effectiveness of their schools?

Q2: Is there a statistically significant between-group difference in the averages of mathematics scores in high schools grouped according to the principals' perceptions about the instructional and organizational effectiveness of their schools?

The research took place through a quantitative causal-comparative study. Another term for causal-comparative research was *ex post facto*. This type of research includes an assumption that certain causes and effects have already occurred and were examined after the fact. The design was common in educational research studies. In this type of study, researchers try to determine the cause or consequence of differences that already exist between groups of individuals. Causal-comparative research always involves a

comparison of two or more groups. The findings obtained were suitable to discuss whether evidence was sufficient regarding the between-group difference of schools categorized according to the perceived instructional and organizational effectiveness of their principals and the academic achievement of their students.

This chapter includes a discussion of the research methodology used in this study. The chapter includes six subsections. The first section contains a description of the research method and its use in a quantitative study. The second section contains a description of the research design. In the third section, there was a presentation of the instrument used to collect the data regarding the perceptions of school authorities concerning the organizational and instructional effectiveness of the schools. In this section, an explanation of the strategies used to gather students' grades was presented. The fourth section contains a description of the strategies selected to identify the participants. The fifth section includes a description of the methods used for data analysis. The limitations of the study were given in the sixth section.

Research Method

In his seminal book on research design, Creswell (2014) highlighted three approaches for conducting research: qualitative, quantitative, and mixed methods. In qualitative studies, researchers describe problems by exploring a concept or phenomenon (Creswell, 2014). In a quantitative study, researchers address a problem by determining which variables and factors influence specific outcomes (Creswell, 2014). This research was a quantitative study based on the data collected from a self-administered survey of high school principals and the analysis of data sets of high school students' scores. The

method was considered as deconstructive because it involved selecting a social episode or event, breaking it down into data, and selectively focusing on particular aspects of the phenomenon to make precise assumptions or inferences (Boesch, Schwaninger, Weber, & Scholz, 2013). Surveys can be used to collect data and provide quantitative or numerical descriptions of trends, attitudes, and opinions (Creswell, 2014). Researchers use these methods to quantify a problem and generate numerical data to transform into usable statistics (Salkind, 2016), which was a suitable method for this study.

Research Design

A quantitative causal-comparative study was suitable for examining if a statistically significant between-group difference exists between principals' perceptions about the instructional and organizational effectiveness of the high schools and the academic achievement of the students. Cai (2015) affirmed that researchers use quantitative methods to test social science theory by explaining the influence of culture on processes and outcomes. Cai (2015) noted that researchers should consider the following issues when designing a quantitative study: data measurement and analysis, research design, and population and sampling. When researchers plan to test a hypothesis or address a research question, they could use surveys or experiments (Creswell, 2014).

This research consisted of two parts: (a) an analysis of principals' perceptions of the instructional and organizational effectiveness of the schools so that schools could be grouped according to five levels of effectiveness, and (b) an analysis of the scores of the schools' students in language arts and mathematics using a comparison of the average scores among the groups of schools. The Survey of Instructional and Organizational

Effectiveness was used to obtain the principals' perceptions of the instructional and organizational effectiveness of schools (Fitzpatrick, 1998). This instrument has two parts: one part to collect perceptions of instructional effectiveness, and a second part to collect perceptions of organizational effectiveness in schools. First, principals received a request to respond to the survey concerning the perceptions of instructional effectiveness. Based on the outcomes from the surveys, groups of schools were formed according to item values for five levels of perception of effectiveness: 0 = no evidence of development or implementation, 1 = low level of development and implementation, 2 = limited development and/or partial implementation, 3 = fully functioning and operational level of implementation, and 4 = an exemplary level of development and implementation.

The second part of the study involved analyzing the scores of the students from the high schools. To determine the linear correlation between the students' scores in language arts and mathematics, Pearson correlation coefficients were calculated. A Pearson correlation coefficient has a value between +1 and -1, where 1 was a total positive linear correlation, 0 was no linear correlation, and -1 was a total negative linear correlation. According to Salkind (2016), a value of the Pearson correlation coefficient lower than .4 indicates a weak relationship between the variables, assuming independence of the two variables. Table 3.1 includes the results for calculations of the Pearson correlation coefficients for the students' scores in language arts and mathematics. According to these results, two ANOVAs were calculated.

Table 3.1

Correlation between the Students' Scores in Language Arts and Mathematics

	Language arts scores	Mathematics scores
Language arts scores	1.00	
Mathematics scores	-.01	1.00

An ANOVA was used to determine if statistically significant differences exist between students' averages. If an ANOVA returns a statistically significant result, a researcher can reject the null hypothesis (H_0) in favor of the alternative hypothesis.

Accepting the alternative means that at least two group means were statistically significantly different from each other. The hypotheses for this research were as follows:

H_{10} : There is no statistically significant between-group difference in the averages of language arts scores in high schools grouped according to the principals' perceptions of the instructional and organizational effectiveness of their schools.

H_{1A} : There is a statistically significant between-group difference in the averages of language arts scores in high schools grouped according to the principals' perceptions of the instructional and organizational effectiveness of their schools.

H_{20} : There is no statistically significant between-group difference in the averages of mathematics scores in high schools grouped according to the principals' perceptions of the instructional and organizational effectiveness of their schools.

H_{2A} : There is a statistically significant between-group difference in the averages of mathematics scores in high schools grouped according to the principals' perceptions of the instructional and organizational effectiveness of their schools.

As mentioned above, the quantitative statistical technique selected to answer the research questions was the ANOVA. Researchers use ANOVA when examining the mean differences among two or more levels of independent variables or when they want to test the significance of these mean differences (Goos & Meintrup, 2016). The ANOVA computations produce values for F statistics and associated p values. The level of significance (Type I error) selected with the null hypothesis was .05. In both cases—the ANOVA for language arts and the ANOVA for mathematics—the associated p values resulted in less than the significance level (.05), which indicated that the mean differences among the school groups were statistically significant; therefore, the null hypotheses were rejected. Because the ANOVA results indicated some statistically significant differences among mean scores for the school groups, a post hoc follow-up test was performed.

Instrument

This study involved analyzing data collected from two sources. First, students' academic achievement was operationally defined as the achievement level (I, II, III, or IV) in two areas of competence in the PLANEA test: language arts and mathematics. These scores were freely available from the PLANEA website (Secretaría de Educación Pública, 2013). Data related to the seven quality indicators of instructional and organizational effectiveness consisted of principals' responses to the Survey of Instructional and Organizational Effectiveness (see Appendix A). This survey, developed by Fitzpatrick (1998) at the NSSE, served as a tool to help school leaders identify the strengths and opportunities of the effectiveness of organizational conditions. The basis of

this survey was the seven research-based principles of school quality: curriculum, instructional design, assessment, educational agenda, the leadership of school improvement, community building, and culture of continuous improvement and learning (Fitzpatrick, 1998). The survey was divided into two sections. Part A represents the indicators of quality instructional systems and includes the following items:

- Curriculum development items (Items 1–3).
- Instructional strategies items (Items 4–7).
- Assessment of students' learning items (Items 8–12).

Part B represents the indicators of quality organizational systems and includes the following:

- Educational agenda items (Items 1–3).
- Leadership and school improvement items (Items 4–8).
- Community-building items (Items 9–10).
- Culture of continuous improvement and learning items (Items 11–12).

Principals received instructions to respond to statements about their high schools by making a choice using a 5-point Likert-type scale. The item values ranged from 0 to 4, with 0 = no evidence of development or implementation, 1 = low level of development and implementation, 2 = limited development and/or partial implementation, 3 = fully functioning and operational level of implementation, and 4 = an exemplary level of development and implementation. NSSE authorized the use the Survey of Instructional and Organizational Effectiveness for this study (see Appendix B).

In accordance with Gilreath (2006), the use of Cronbach's alpha reliability analysis was used to determine the extent to which individual items in each part of the survey related to one another. The alpha reliability coefficient for each part of the survey was as follows:

- Part A, 12 items as indicators of quality instructional systems ($\alpha = .91$).
- Part B, 12 items as indicators of quality organizational systems ($\alpha = .93$).

Furthermore, Gilreath (2006) scaled the exploratory factor analysis conducted by Fitzpatrick (1998) to determine the extent of clustering of the items in each part of the survey (Part A and Part B) and the entire survey together. The results of these analyses were as follows:

- Part A, the indicators of quality instructional systems, in which one component solution accounted for 52% of the variance.
- Part B, indicators of quality organizational systems, in which one component solution accounted for 58% of the variance.
- Part A and part B together, using a varimax rotation statistical technique the two-component solution accounted for 55% of the variance (Fitzpatrick, 1998).

For the PLANEA test section of the study, qualities of good measurement were assured. The PLANEA test was the national official academic test that educators have used for several years in México. The PLANEA test was a widely used, objective, and a standardized instrument for measuring student achievement; it aligns to the Common Curricular Framework in two areas of competence: language arts and mathematics. The

test has a unique version consisting of 50 questions on language arts and 50 questions on mathematics. The Secretaría de Educación Pública first administered the test in 2015. In 2016, test administration took place in conjunction with the National Institute for the Evaluation of Education. The results of the PLANEA test were categorized as four levels of achievement: Level I represents a low (or insufficient) learning domain, Level II represents a basic learning domain, Level III represents a medium learning domain, and Level IV represents a high learning domain. The National Institute for the Evaluation of Education has not statistically assessed the reliability of PLANEA.

Participants

The sample for this study included principals and students' test scores from the nine high schools within the UPAEP University High Schools System. Nine principals completed the Survey of Instructional and Organizational Effectiveness to determine their perceptions of instructional and organizational effectiveness. The data set for student achievement contained the PLANEA test scores from 483 high school seniors who attended the nine UPAEP University High Schools in 2016. In both cases, the samples were the populations; the principals of all nine high schools completed the survey. The population included scores of all their high school students who completed the PLANEA test in 2016, although, the final analysis included only the scores of the students who successfully completed sections for both disciplines (language arts and mathematics) on the PLANEA test. This sample size was 373 students. A power analysis, using the G*Power software, for an ANOVA with three groups determined a sufficient sample size at the .05 level, power of .80, and a medium effect size, $f = 0.25$ (Stokes & Allor, 2016).

Based on the aforementioned values, the estimated sample size was 200; therefore, the scores of 373 students were acceptable for the study.

When attempting to involve people as participants in research, the solicitation method must be carefully considered (Goos & Meintrup, 2016). During this research, ethics were properly addressed, and ethical considerations were maintained. Before conducting the survey, the participants signed consent letters to indicate their agreement to participate. Appendix C includes a sample of the consent letter used to authorize participation and the use of data from the school. The identity of the participants remained protected, and the analysis and findings do not contain any names. Personal data were kept confidential. Data referring to the students' scores in the PLANEA test were public information, and access to the data was free.

Data Analysis Methods

The study included quantitative comparative methods to examine the between-groups differences of schools categorized according to the perceived instructional and organizational effectiveness of their principals and the academic achievement of their students. The independent variables were the instructional and organizational effectiveness perceptions variables: curriculum, instructional design, assessment, educational agenda, the leadership of school improvement, community building, and culture of continuous improvement. The dependent variables consisted of students' achievement, as measured by the language arts and the mathematics levels of achievement on the PLANEA test.

As previously noted, the study included an ANOVA to examine if a statistically significant between-group difference exists between principals' perceptions regarding the instructional and organizational effectiveness of their high schools and the academic achievement of their students. The study involved analyzing students' academic achievement using their scores in language arts and mathematics on the PLANEA test. According to the analysis of the Pearson correlation coefficient presented above, the scenario involved performing two ANOVAs, one for language arts and another for mathematics. The data for this analysis consisted of the students' scores in the language arts level of achievement from the nine high schools arranged into five groups according to the principals' level of perception of instructional and organizational effectiveness. A second ANOVA, performed as a part of the second research question, contained five groups of students' scores from the mathematics level of achievement. The scores were from all nine high schools and grouped according to the principals' levels of perceptions of instructional and organizational effectiveness.

After both ANOVAs were performed, the F statistic and its associated p value were examined. If the p value was less than .05, then, the mean differences among the school groups were statistically significant, and the null hypothesis could be rejected. The use of an ANOVA test reveals if there were unequal variances between the groups, but the differences between specific groups were not indicated. If the ANOVA results indicated that the mean differences among the school groups were statistically significant, a post hoc follow-up test was performed.

If a significant F test was obtained then, researchers use post hoc tests to determine which group(s) differ from others (Goos & Meintrup, 2016). Because the groups were of unequal sizes, the appropriate post hoc test was the Tukey-Kramer method (Goos & Meintrup, 2016). The Tukey-Kramer method was probably the most commonly used post hoc test after a one-way ANOVA (McDonald, 2014). The Tukey-Kramer method was a computation of the minimum significant difference between each pair of means. The minimum significant difference depended on the size of the sample in each group, the average variation within the groups, and the total number of the groups. In the Tukey-Kramer method, if the difference observed between a pair of means was greater than the minimum significant difference, means were significantly different (McDonald, 2014). Thus, the procedures led to the determination of the significant difference of the means of the groups and also which specific groups differed. Appendix D details the flowchart of the quantitative research.

Limitations

Quantitative data were countable pieces of information that often collected through tests, census, and from government statistics (Creswell, 2014). Moreover, quantitative methods concern what, when, and who, and were not suitable for questions of how and why (Creswell, 2014). According to Sudeshna (2016), a quantitative study might entail eight limitations: (a) improper representation of the target population, (b) lack of resources for data collection, (c) inability to control the environment, (d) limited outcomes, (e) expensive and time consuming, (f) difficulty in data analysis, (g) extra

resources to analyze the results, and (h) limited for interpreting the full complexity of human experience or perceptions. The following were the limitations of this study:

- a. Private high schools were the sources for data collection, and the results were not generalizable to public institutions.
- b. The data were from high school level, and no assumptions should be made about generalizing results of this study to other educational levels.
- c. The results generated from educational institutions and were not generalizable to other types of organizations.
- d. The study involved evaluating the differences between principals' perceptions regarding the instructional and organizational effectiveness of their high schools and the academic achievement of their students; other factors (e.g., social, ethnic, political), skills (e.g., emotional and intellectual), or disabilities might also influence student academic achievement.
- e. Availability of students' scores was limited to the official PLANEA test website and included only students with scores in both language arts and mathematics.
- f. The last limitation related to perceptions. The measurement of effectiveness was based on the perceptions of the principals regarding the effectiveness of their school, and therefore, may not represent the full complexity of their reality.

Summary

In this chapter, the methodological elements of the study were detailed. Given the nature of the research questions, it was relevant to analyze the data using an ANOVA. In the research method section, the study design was described as were the challenges encountered during the process of data analysis. This chapter also included an in-depth description of the research method, its design, the instrument, the participants, the method used to analyze the data, and the limitations of the study. Chapter 4 will include the findings of the study.

CHAPTER 4: FINDINGS

Introduction

The purpose of this quantitative causal-comparative study was to examine if a statistically significant difference exists between principals' perceptions regarding the instructional and organizational effectiveness of their high schools and the academic achievement of their students. The participants for the study were the principals of nine private, nonprofit high schools that comprise the UPAEP University High School System. Data concerning the academic achievement were and publicly available; scores from 483 students who completed the PLANEA test in 2016 were used.

In this study, the principals' perceptions were examined concerning the instructional and organizational effectiveness using the seven indicators of instructional and organizational effectiveness of schools of quality as proposed by the NSSE (Fitzpatrick, 1998):

- a. curriculum,
- b. instructional design,
- c. assessment,
- d. educational agenda,
- e. leadership of school improvement,
- f. community building, and
- g. culture of continuous improvement and learning.

These indicators comprise the concepts of instructional and organizational effectiveness. Students' academic achievement was operationally defined by the achievement level (I,

II, III, or IV) attained on the PLANEA test in 2016 in two disciplines: language arts and mathematics.

Presentation of Findings

Evidence from empirical research indicated that leaders of educational institutions recognize a need to be effective; however, there was not yet an established set of criteria for what effectiveness means (Gilreath, 2006; Jacob & Shari, 2013; Lee, 2013). This was a problem because the lack of consensus regarding a unified system for measuring effectiveness makes it difficult for oversight authorities, institutional leaders, faculty, and students to compare one institution's quality and effectiveness to another's (Jacob & Shari, 2013). Moreover, there was no clarity regarding the alignment between an effective school and the fulfillment of the purpose of an educational institution, which was the improvement of the academic performance of students.

The following research questions address the problem:

Q1: Is there a statistically significant between-group difference in the averages of language arts scores in high schools grouped according to the principals' perceptions about the instructional and organizational effectiveness of their schools?

Q2: Is there a statistically significant between-group difference in the averages of mathematics scores in high schools grouped according to the principals' perceptions about the instructional and organizational effectiveness of their schools?

The hypotheses were as follows:

H1₀: There is no statistically significant between-group difference in the averages of language arts scores in high schools grouped according to the principals' perceptions of the instructional and organizational effectiveness of their schools.

H1_A: There is a statistically significant between-group difference in the averages of language arts scores in high schools grouped according to the principals' perceptions of the instructional and organizational effectiveness of their schools.

H2₀: There is no statistically significant between-group difference in the averages of mathematics scores in high schools grouped according to the principals' perceptions of the instructional and organizational effectiveness of their schools.

H2_A: There is a statistically significant between-group difference in the averages of mathematics scores in high schools grouped according to the principals' perceptions of the instructional and organizational effectiveness of their schools.

The tables that follow present the findings from the analyses. Table 4.1 presents the academic achievement data set used for this study. As shown below, the study included only 373 scores of students who successfully completed both academic disciplines (language arts and mathematics) of the PLANEA test.

Table 4.1

Data Set Comprised of the Number of Students who Successfully Completed the Language Arts and Mathematics Sections of the PLANEA Test

High School	Last Grade Enrolled	PLANEA Test	Completed both Disciplines on PLANEA test
#1	50	36	34
#2	30	30	30
#3	80	35	34
#4	22	19	19
#5	54	38	33
#6	46	38	37
#7	63	37	35
#8	90	70	58
#9	206	180	93
Total	641	483	373

Note. From a total of 641 students enrolled in the 9 UPAEP high schools, only 483 responded to the PLANEA test, of these, only 373 successfully completed both disciplines of the test. Therefore, for this study, it was contemplated this last group of 373 students who successfully completed both the language arts part and the mathematics part of the test.

The two groups of students' scores from the high schools examined in this study were language arts and mathematics as classified into the four levels of academic achievement (I, II, III, IV). Tables 4.2 and 4.3 contain the frequencies of the students' scores according to the four levels of achievement and separated by the two disciplines of the test (language arts and mathematics).

Table 4.2

Students' Language Arts Scores According to the Four Levels of Achievement

High school	Language arts scores by level			
	I	II	III	IV
#1	2	4	16	12
#2	2	7	14	7
#3	3	8	18	5
#4	2	7	8	2
#5	2	7	16	8
#6	2	10	18	7
#7	2	6	18	9
#8	11	25	15	7
#9	10	21	53	9
Total	36	95	176	66

Note. The information was presented in frequencies of students according to the level of academic achievement (I, II, III, IV) in the PLANEA test, in language arts, and grouped according to their high school. Levels of academic achievement in the PLANEA test: (I) Insufficient achievement, (II) essential achievement, (III) satisfactory achievement, and (IV) outstanding achievement.

Table 4.3

Students' Mathematics Scores According to the Four Levels of Achievement

High school	Mathematics scores by level			
	I	II	III	IV
#1	3	9	15	7
#2	4	8	14	4
#3	10	15	8	1
#4	3	6	1	1
#5	9	21	0	3
#6	10	20	5	2
#7	8	12	13	2
#8	11	28	13	6
#9	10	41	29	13
Total	68	160	98	39

Note. The information was presented in frequencies of students according to the level of academic achievement (I, II, III, IV) in the PLANEA test, in mathematics, and grouped according to their high school. Levels of academic achievement in the PLANEA test: (I) Insufficient achievement, (II) essential achievement, (III) satisfactory achievement, and (IV) outstanding achievement.

Table 4.4 shows the experience level of the principals. Of those who responded to the instructional and organizational effectiveness survey, 66.6% had between four and 10 years of experience, 11.1% had between 10 and 20 years of experience, and 22.2% had more than 20 years of experience.

Table 4.4

Years of Experience of Principals

Years of experience	<i>n</i>	%
4–10	6	66.60
10–20	1	11.10
More than 20	2	22.20
Total	9	100.00

Table 4.5 contains a description of the instructional and organizational effectiveness of the principals in this study. Principals' perceptions of effectiveness were measured from their responses to the Survey of Instructional and Organizational Effectiveness, ranging from 0 to 4, with 0 = no evidence of development or implementation, 1 = low level of development and implementation, 2 = limited development and/or partial implementation, 3 = fully functioning and operational level of implementation, and 4 = an exemplary level of development and implementation. As shown in Table 4.5, none of the nine principals perceived themselves as having no evidence of development or a low level of development. About 22.2% perceived themselves as performing a limited development or partial level of implementation, 44.4% perceived themselves as performing a fully functioning and operational level of

implementation, and 33.3% described themselves as having an exemplary level of development and implementation. Table 4.5 presents the three groups of high schools' scores that were used in the ANOVA.

Table 4.5

Principals' Perceptions of the Instructional and Organizational Effectiveness

Level of Effectiveness	<i>n</i>	%
No evidence of development or implementation	0	0
Low level of development and implementation	0	0
Limited development and/or partial implementation	2	22.20
Fully functioning and operational level of implementation	4	44.40
Exemplary level of development and implementation	3	33.30
Total	9	100.00

Note. At first, five levels of perceived effectiveness was considered; however, after applying the survey of instructional and organizational effectiveness the high schools were distributed only in three groups according to the perceptions of the effectiveness of their principals.

According to Fitzpatrick (1998), the instructional and organizational effectiveness level was composed of the level of instructional effectiveness and organizational effectiveness. Both levels of effectiveness consist of the seven factors of effectiveness described in the Fitzpatrick model. Table 4.6 presents the levels of effectiveness achieved by each high school and organized according to the effectiveness factors of the Fitzpatrick model.

Table 4.6

Effectiveness Level Achieved by High Schools According to the Fitzpatrick Model

Fitzpatrick's model	High schools								
<u>Effectiveness Indicators</u>	<u>#1</u>	<u>#2</u>	<u>#3</u>	<u>#4</u>	<u>#5</u>	<u>#6</u>	<u>#7</u>	<u>#8</u>	<u>#9</u>
Instructional effectiveness									
Curriculum	4	3	3	3	3	3	4	3	4
Instructional design	3	2	3	2	3	2	3	2	3
Assessment	3	3	2	2	2	3	3	2	3
Instructional effectiveness level	4	3	3	3	3	3	4	3	4
Organizational effectiveness									
Educational agenda	4	4	3	2	4	4	4	3	4
Leadership for school improvement	4	3	4	3	3	3	3	2	4
Community building	4	3	4	3	4	4	4	3	3
Culture of continuous improvement and learning	3	4	3	2	3	3	4	2	4
Organizational effectiveness level	4	4	4	2	4	4	4	2	4
Instructional and organizational effectiveness level	4	3	3	2	3	3	4	2	4

Note. The level of effectiveness perceived by the principals was presented. The information was disaggregated for each of the seven indicators of effectiveness proposed by Fitzpatrick (1998). It also presented the cumulative of perceived effectiveness both for the instructional effectiveness as for the organizational effectiveness, and in the end, the cumulative total result of both.

Descriptive Statistics

Tables 4.7 and 4.8 contain descriptive statistics, including the means, standard derivations, and sample sizes for both dependent variables (language arts and mathematics) for each group of independent variables (instructional and organizational effectiveness level).

Table 4.7

Descriptive Statistics for Language Arts Scores

Instructional and organizational effectiveness level	Mean	SD	n
Limited development and/or partial implementation	2.39	.93	69
Fully functioning and operational level of implementation	2.83	.83	134
Exemplary level of development and implementation	2.82	.83	162
Total	2.74	.86	365

Table 4.8

Descriptive Statistics for Mathematics Scores

Instructional and organizational effectiveness level	Mean	SD	n
Limited development and/or partial implementation	2.20	.88	69
Fully functioning and operational level of implementation	2.10	.86	134
Exemplary level of development and implementation	2.49	.89	162
Total	2.30	.89	365

ANOVA Assumptions

Prior to the use of the ANOVA, it was important to ensure that the data sets complied with the six assumptions that underpin the one-way ANOVA. The first four assumptions were as follows: the dependent variable (academic achievement) was measured at a continuous level; the independent variables (instructional and organizational effectiveness levels) consist of two or more categorical, independent (unrelated) groups; there was no relationship between the observations in each group or between the groups themselves; and univariate outliers were examined for language arts and mathematics scores. An outlier was any value that fell outside the range of ± 3.29 standard deviations from the mean (Tabachnick & Fidell, 2013). According to the

outliers' analysis, no outliers were detected for both language arts and mathematics scores variables.

The fifth assumption was as follows: Shapiro-Wilk tests were conducted to determine whether the distributions of language arts and mathematics scores were approximately normally distributed. The following variables were normally distributed: language arts scores ($W = 0.99, p < .248$) and mathematics scores ($W = 0.99, p < .477$).

Table 4.9 presents the Shapiro-Wilk test results for both data sets.

Table 4.9

Shapiro-Wilk Test Results

Variable	W	p
Language arts scores	0.994	< 0.248
Mathematics scores	0.995	< 0.477

The final assumption was the following: Levene's test was used to determine the homogeneity of variances for both score's datasets. Levene's test for equality of variance was used to assess whether the homogeneity of variance assumption was met (Goos & Meintrup, 2016). The homogeneity of variance assumption requires the variance of the dependent variable was approximately equal in each group. First, a Levene's test was conducted for language arts scores grouped by the level of instructional and organizational effectiveness. The result was not statistically significant, $F(2,362) = 2.20$, $p = .112$, which indicated that there was homogeneity of variance. Similarly, Levene's test was conducted for mathematics scores grouped by the level of instructional and organizational effectiveness. The result of Levene's test was not statistically significant,

$F(2,362) = 2.41, p = .091$, which indicated that the assumption of homogeneity of variance was also met.

Research Question 1 Findings

Research question 1 was as follows: Is there a statistically significant between-group difference in the averages of language arts scores in high schools grouped according to the principals' perceptions about the instructional and organizational effectiveness of their schools? The use of a one-way ANOVA determined if students' language arts scores were different for groups with different perceptions of instructional and organizational effectiveness levels. Language arts scores composed three groups according to the perceptions of instructional and organizational effectiveness levels: limited development and/or partial implementation ($n = 69$), fully functioning and operational level of implementation ($n = 134$), and exemplary level of development and implementation ($n = 162$). There was a statistically significant difference between groups as determined by one-way ANOVA, $F(2,362) = 7.27, p = .001$. A Tukey post-hoc test revealed that students' academic achievement in language arts was statistically significantly different in the fully functioning and operational level of implementation group compared to the limited development and/or partial implementation group ($.43 \pm .125, p = .002$). Also, the Tukey post-hoc test revealed that students' academic achievement in language arts was statistically significantly different in the exemplary level of development and implementation group compared to the limited development and/or partial implementation group ($.42 \pm .12, p = .001$). However, there were no statistically significant differences between the fully functioning and operational level of

implementation and exemplary level of development and implementation groups ($-.0073 \pm .099$, $p = .997$).

Research Question 2 Findings

Research question 2 was as follows: Is there a statistically significant between-group difference in the averages of mathematics scores in high schools grouped according to the principals' perceptions about the instructional and organizational effectiveness of their schools? The use of a one-way ANOVA determined if students' mathematics scores were different for groups with different perceptions of instructional and organizational effectiveness levels. Mathematics scores were classified into three groups according to the perceptions of instructional and organizational effectiveness levels: limited development and/or partial implementation ($n = 69$), fully functioning and operational level of implementation ($n = 134$), and exemplary level of development and implementation ($n = 162$). There was a statistically significant difference between groups as determined by one-way ANOVA, $F(2,362) = 7.71$, $p = .0005$. A Tukey post-hoc test revealed that students' academic achievement in mathematics was statistically significantly different in the exemplary level of development and implementation group compared to the fully functioning and operational level of implementation group ($.38 \pm .10$, $p = .0003$). Also, the Tukey post-hoc test revealed that students' academic achievement in mathematics was statistically significantly different in the exemplary level of development and implementation group compared to the limited development and/or partial implementation group ($.29 \pm .13$, $p = .056$). However, there were no statistically significant differences between the fully functioning and operational level of

implementation and the limited development and/or partial implementation groups (-.098 \pm .13, $p = .729$).

Correlations between Effectiveness Indicators and Dependent Variables

The use of a Pearson correlation analysis provided results concerning the factors that were influential on the students' academic achievement. Table 4.10 shows the Pearson correlation coefficient for each variable described in the instructional and organizational effectiveness model proposed by Fitzpatrick (1998).

Table 4.10

Correlations between Effectiveness Indicators and Dependent Variables

Effectiveness indicators	Language arts scores	Mathematics scores
<u>Instructional effectiveness</u>	0.08	0.19
Curriculum	0.08	0.19
Instructional design	0.11	0.05
Assessment	0.12	0.18
<u>Organizational effectiveness</u>	0.19	0.05
Educational agenda	0.14	0.11
The leadership of school improvement	0.13	0.11
Community building	0.18	-0.12
Culture of continuous improvement	0.11	0.12

Summary

This chapter presented the findings of the data that was collected and analyzed for the given study. Principals' responses on the survey provided their perceptions about the instructional and organizational effectiveness of their school and served to explore the between-group differences in the averages of language arts and mathematics scores grouped according to these perceptions. A one-way ANOVA and Tukey's post hoc test

were used to test the hypotheses of the study. Evidence suggested rejecting hypotheses $H1_0$ and $H2_0$ and accepting the hypotheses that there were statistically significant between - group differences in the averages of language arts scores ($H1_A$) and mathematics scores ($H2_A$) in high schools grouped according to the principals' perceptions of the instructional and organizational effectiveness of their schools. An in-depth discussion of these results will be presented in Chapter 5.

CHAPTER 5: CONCLUSIONS AND DISCUSSION

Introduction

The effectiveness of a school should be considered a serious concern that educational leaders and government authorities must address to help students achieve better levels of academic achievement. In this regard, in 1998, Fitzpatrick together with the board of directors of the NSSE defined the most critical questions of any educational agenda: what were the characteristics of a good school, which practical means and methods may be employed to evaluate the effectiveness of a school, and which means and processes were used by a school to improve (Fitzpatrick, 1998)? Since then, developing meaningful answers to these questions has continued to drive the work of researchers, educators, and policymakers to improve student achievement on assessment tests and allow international comparisons (Powell, 2017). Even though in Mexico there have been significant advances in education, there was still much to understand about the essential components of an effective school.

The purpose of this study was to examine if a statistically significant difference exists between principals' perceptions regarding the instructional and organizational effectiveness of their high schools and the academic achievement of their students. The focus of this study was on the principals of nine private, nonprofit high schools that comprise the UPAEP University High School System and the academic achievement of 483 students in these schools who completed the PLANEA national standardized test in 2016. The study consisted of two parts. The first part built upon the analysis of principals' perceptions of the instructional and organizational effectiveness of their

schools to group their high schools according to five levels of effectiveness. The second part consisted of an analysis of the scores of language arts and mathematics using a comparison of the means between the groups of schools. After performing both analyses, the results showed that there were statistically significant differences between principals' perceptions of the instructional and organizational effectiveness of their high schools and the academic achievement of their students. These results were discussed in depth in this chapter.

This chapter included a discussion of the implications of the results presented in Chapter 4. First, the analyses were discussed as possible explanations for the findings and their convergence with or divergence from the literature. An in-depth discussion about the applicability of the findings and conclusions to the problem statement followed. A detailed discussion of how leaders can apply the study findings was also presented. This chapter concluded with recommendations for further research and a discussion about how practitioners and researchers may use the findings and conclusions to implement change and address the problem.

Discussion of Findings and Conclusions

The main findings of this study included the statistically significant between-group differences in the averages of language arts and mathematics scores in high schools grouped according to the principals' perceptions about the instructional and organizational effectiveness of their schools. The following research questions were developed to examine the possible differences between groups of scores categorized according to the level of effectiveness perceived by high school:

Q1: Is there a statistically significant between-group difference in the averages of language arts scores in high schools grouped according to the principals' perceptions about the instructional and organizational effectiveness of their schools?

Q2: Is there a statistically significant between-group difference in the averages of mathematics scores in high schools grouped according to the principals' perceptions about the instructional and organizational effectiveness of their schools?

Subsequently, the hypotheses were as follows:

H1₀: There is no statistically significant between-group difference in the averages of language arts scores in high schools grouped according to the principals' perceptions of the instructional and organizational effectiveness of their schools.

H1_A: There is a statistically significant between-group difference in the averages of language arts scores in high schools grouped according to the principals' perceptions of the instructional and organizational effectiveness of their schools.

H2₀: There is no statistically significant between-group difference in the averages of mathematics scores in high schools grouped according to the principals' perceptions of the instructional and organizational effectiveness of their schools.

H2_A: There is a statistically significant between-group difference in the averages of mathematics scores in high schools grouped according to the principals' perceptions of the instructional and organizational effectiveness of their schools.

Regarding the analysis of the language arts scores groups, the descriptive statistics showed that there was a difference in the means between the three groups of scores. The highest average was found for the exemplary level of development and implementation

group versus the other two groups, which were the limited development and partial implementation, and fully functioning and operational level of implementation. The results from an ANOVA verified the statistical significance of this difference. Results showed that a statistically significant between-group difference existed between the scores of the groups organized by the effectiveness level perceived by their principal. A Tukey post-hoc test revealed that students' academic achievement in language arts was statistically significantly different in the fully functioning and operational level of implementation group compared to the limited development and/or partial implementation group. Also, the Tukey post-hoc test revealed that students' academic achievement in language arts was statistically significantly different in the exemplary level of development and implementation group compared to the limited development and/or partial implementation group. The post-hoc test confirmed a statistical difference between the groups with a lower level of perceived effectiveness.

Regarding the analysis of the mathematics scores groups, the descriptive statistics similarly showed that a difference existed in the means between the three groups of scores. The group, exemplary level of development and implementation, also showed the highest average with respect to the other two groups: limited development and partial implementation, and fully functioning and operational level of implementation, but a lower average than the group with the highest average on language arts. Unlike the analysis of the language arts score, the averages of the math scores of the three groups did not result in an ascending scale per level of perceived effectiveness. The group with the lowest level of effectiveness had a higher average than the second group which had a

relatively higher level of perceived effectiveness. To verify the statistical significance of this apparent difference, an ANOVA was also performed. Results showed that there was a statistically significant between-group difference between the scores' groups organized by the effectiveness level perceived by their principal. A Tukey post-hoc test revealed that students' academic achievement in mathematics was statistically significantly different for the exemplary level of development and implementation group compared to the fully functioning and operational level of implementation group. Also, the Tukey post-hoc test revealed that there was a statistically significant difference in the students' academic achievement in mathematics in the exemplary level of development and implementation group compared to the limited development and/or partial implementation group. The post-hoc test confirmed that there was a difference between the groups of scores, but that the difference was statistically significant for the groups with a higher level of perceived effectiveness.

To examine the relationships among the variables, a Pearson correlation analysis was conducted using Fitzpatrick's (1998) seven components of school effectiveness and the scores in PLANEA test for both language arts and mathematics disciplines. As shown in Table 4.10, the value of the variable related to organizational effectiveness in language arts scores was higher than the value of the variable related to instructional effectiveness. In contrast to this, the value of the variable related to instructional effectiveness in mathematics scores was higher than the value of the variable related to organizational effectiveness. In general, evidence suggests that instructional effectiveness has a stronger relationship with the academic achievement of students.

The findings of this study suggested eleven conclusions: four main conclusions related to the entire study, three specific conclusions for research question 1, and four specific conclusions for research question 2. The first four conclusions that relate to the study as a whole were presented first. Afterward, specific conclusions for each research question were analyzed in depth in the following sections. Results of the main analysis suggested the following four conclusions:

1. The results indicated that a difference exists in the way that students perform in both mathematics and language arts. The finding that the average scores of the language arts groups were greater than those in mathematics supports this conclusion.
2. A relationship exists between the level of effectiveness perceived by a principal and the level of academic achievement of that principal's students. Findings from the ANOVA analysis supported this most important conclusion of this study.
3. Instructional effectiveness has a stronger correlation with the academic achievement of students than organizational effectiveness. Evidence suggests that by paying more attention to curriculum deployment, instructional design, and assessment techniques, students can achieve at higher levels of academic achievement.
4. Assessment was the variable with the strongest correlation with the academic achievement; the variable with the lowest correlation was community building. Evidence suggests that by giving priority to strategies for student

evaluation, schools would perform better; and although the relationship of the school with its stakeholders was important, it was not as important as the instructional priorities of the educational process.

Research Question 1 Conclusions

Evidence indicated that high schools in which their principal perceived that they were inefficient had lower levels of student academic achievement in language arts. A hypothesis was that there was a between-group difference in the averages of language arts scores in high schools grouped according to the principals' perceptions of the instructional and organizational effectiveness of their schools. The findings support this hypothesis and suggest three important conclusions regarding research question 1:

1. The between-group difference in the averages of language arts scores was higher in groups with lower levels of perceived effectiveness. Groups of students in schools with low levels of perceived effectiveness attained lower levels of academic achievement in language arts.
2. Organizational effectiveness variables have a stronger correlation with the academic achievement of students in language arts. According to Rao (2016), the learning of language has a lot to do with external factors external to the student (e.g., motivation, support at home, community networks, and prior knowledge). These variables could be associated with the organizational effectiveness variables described by Fitzpatrick (1998). Evidence suggests that by paying more attention to the educational agenda, the leadership of school improvement, community building, and fostering a culture of

continuous improvement, students can attain higher levels of achievement in language arts.

3. The variable with the highest correlation with the academic achievement of students in language arts was community building; on the contrary, the variable with the lowest correlation with academic achievement of students in language arts was the curriculum. Evidence suggests that external and organizational factors of the school were more influential than internal and instructional factors were on the academic achievement of language arts students.

Research Question 2 Conclusions

Evidence indicated that high schools in which their principal perceived that they were efficient reached higher levels of student academic achievement in mathematics. A hypothesis was that there was a between-group difference in the average mathematics scores in high schools grouped according to the principals' perceptions of the instructional and organizational effectiveness of their schools. The findings support this hypothesis and suggest four important conclusions regarding research question 2:

1. The between-group difference in the averages of mathematics was higher in groups with higher levels of perceived effectiveness. Groups of students in schools with high levels of perceived effectiveness obtain higher levels of academic achievement in mathematics.
2. In the case of the analysis of the mathematics scores and only in effectiveness perception levels 2 and 3 (fully functioning and operational level of

implementation and limited development and/or partial implementation), evidence suggests that the perceptions of principals regarding the effectiveness of their school were not necessarily directly proportional to the level of their students' academic achievement.

3. Instructional effectiveness variables have a stronger correlation with the academic achievement of students in mathematics. Evidence suggests that by paying more attention to curriculum deployment, instructional design, and assessment techniques, students can demonstrate higher performance in mathematics.
4. The variable with the highest correlation with the academic achievement of students in mathematics was curriculum; on the contrary, the variable with the lowest correlation with academic achievement of students in mathematics was community building. Evidence suggests that the academic achievement of students in mathematics has much more to do with the instructional strategies rather than with the school's organization per se.

Application of Findings and Conclusions to the Problem Statement

The problem addressed by this research study was the absence of an established set of criteria for what effectiveness means in educational institutions (Gilreath, 2006; Jacob & Shari, 2013; Lee, 2013). The lack of consensus regarding a unified system for measuring the effectiveness makes it difficult for oversight authorities, institutional leaders, faculty, and students to compare one institution's quality and effectiveness to another's (Jacob & Shari, 2013). Moreover, there was no clarity regarding the alignment

between an effective school and improvements in the academic achievement of its students.

As stated before, one of the theoretical aims of this study was to explore the relevance of instructional and organizational effectiveness variables about the academic achievement of students. The following were four of the main challenges of education in Mexico: (a) high levels of school dropout, (b) the low academic achievement of students, (c) current educational demands for innovative and specific skills and competencies, and (d) the diversity between the numerous subsystems at the high school level (Instituto Nacional para la Evaluación de la Educación, 2018a). These challenges make clear the need for an instrument to help school authorities evaluate and compare the effectiveness of their schools. All contributions in this regard will help educational leaders to detect areas for improvement and opportunities for instructional and organizational effectiveness to help their students to improve their levels of school performance.

An important contribution of this study, that extends the previous literature and theoretical understanding of expertise, was the exploration of the potential relationship between principals' perceptions of effectiveness and the academic achievement of their students as well as the proposal of a robust and concise analysis for educational authorities to assess the academic achievement of students in relation to the effectiveness of their school. Researchers and school leaders have proposed numerous approaches to increase effectiveness in schools, but little research has been conclusive regarding how to achieve such effectiveness (Ashraf & Kadir, 2012; Jacob & Shari, 2013). This study extends the affirmation of Mitchell et al. (2015) that student academic achievement might

have some relationship to the effectiveness of culture, leadership, and strategic decisions made in schools.

School effectiveness concerns the series of decisions that educational authorities make based on the curriculum, the characteristics of the students, the characteristics and commitment of their teachers, and the educational agenda pursued. One important recommendation was to create a reliable instrument to evaluate the components of effectiveness, and Fitzpatrick's Survey of Instructional and Organizational Effectiveness (1998) could be a valid instrument to evaluate effectiveness in schools.

Some researchers have expanded the area of study regarding organizational effectiveness (Ashraf & Kadir, 2012; Gilreath, 2006; Jacob & Shari, 2013; Lee, 2013); however, there were still issues to resolve, as the most critical factors that influence the effectiveness of organizations remained unclear. In this regard, Jacob and Shari (2013) noted school leaders concerns regarding the effectiveness of their schools highlighting students' academic achievement as a good predictor of the effectiveness.

As an important complement to this study, a correlation analysis was conducted between the variables that define the level of instructional and organizational effectiveness of a school, according to the model of Fitzpatrick (1998). The purpose of this analysis was to investigate the relationships of variables to the academic achievement of students. Even though the Pearson coefficient was small in magnitude for most of the variables, as shown in Table 4.10, the variable with the strongest relationship to instructional effectiveness in language arts was assessment, and the variable with the strongest relationship to instructional effectiveness in mathematics was the curriculum.

Similarly, the variable that related to organizational effectiveness in language arts the most was community building, and the variable with the strongest relationship to organizational effectiveness in mathematics was a culture of continuous improvement. In this sense, language arts scores variable had a strong correlation with organizational effectiveness and mathematics scores variable had a higher correlation with instructional effectiveness.

The findings of this study indicated that a relationship exists between the principals' perceptions of effectiveness and the academic achievement of their students. The relationship means that it could be plausibly stated that school principals have influence on the academic achievement of their students. Future researchers could explore this possibility by examining new effectiveness assessment instruments within different contexts and across different educational levels.

Application to Leadership

Leadership has been a concept that many researchers have studied and defined throughout history. According to Malik, Aziz, and Hassan (2014), leadership refers to the process of influencing and motivating people to elicit certain behaviors and common goals. The main goal of a leader could be to meet this premise in the most effective and most efficient way. Thus, researchers and academics have tried to organize and systematize leadership by proposing many theories of leadership. Based on the guiding principles of path-goal leadership theory, in 1978, Burns discussed a new transformative theory based on the support and commitment of leaders toward their followers (Vito, Higgins, & Denney, 2014; Sun, 2017). This commitment should extend to the point of

full development, both professionally and personally, of leaders and followers. Bass further developed the theory and described it as the transformational leadership theory (Ronald, 2014). The most critical assumption in this theory was the transcendence of followers' interests, which motivates them to accomplish collective force-based results (Ronald, 2014). In sum, leadership refers to the promotion of behaviors to achieve organizational goals through the construction of quality interpersonal relationships, motivation, and the personal and professional development of employees (Drugus & Landoy, 2014).

The very essence of school leadership has been changing. Bouchard (2014) noted that new pressures around accountability, globalization, and competition have led to a need for strong leadership in educational organizations. Thus, the leadership profile of educational authorities can be the most important factor of an effective school (Moir et al., 2014). The way employees perceive the leadership of their authorities has a great impact on the effectiveness of their work, and therefore, on the effectiveness of the entire organization (Muduli, 2015). This study involved discussing and challenging the conventional definitions for an effective school. A reliable approach was proposed for evaluating both instructional and organizational effectiveness in educational settings. The specific leadership problem addressed in this research was whether there was sufficient evidence to confirm that a particular leadership profile of a high school principal influences the effectiveness of a school, and therefore, the academic achievement of the students. Results of the study confirmed this statement; and a conclusion was made that was consistent with Nolan (2017), effectiveness in organizations depended on the

effectiveness of their leaders, and leadership was the cornerstone of organizational effectiveness.

Recommendations for Action

In Mexico, a close relationship exists between the quality of the education, the organization of schools, and student learning. An analysis of the results of the latest standardized tests on students' academic achievement levels indicated that the students who obtain the lowest results were those who attend schools with fewer possibilities and resources to deploy adequate strategies for school instruction and organization (Instituto Nacional para la Evaluación de la Educación, 2018d). Thus, school leaders fail both in the organization and in the instruction processes of their schools, and therefore their schools were ineffective in the achievement levels of their students' academic performance.

The findings of this study have implications for future actions and future research into the process for assessing effectiveness in schools. Mexico has been experiencing an educational emergency that requires immediate action to understand the new era and educate better citizens through relevant and innovative models (Instituto Nacional para la Evaluación de la Educación, 2018d). A better understanding of the factors that most influence the effectiveness of schools would help overcome the challenges facing education in Mexico. Because of the importance and urgency to overcome these challenges, there were at least four recommendations to take action using the findings of this study.

First, evidence suggests the degree of effectiveness perceived by a high school principal related to the academic achievement of the students. This relationship appeared to be true for high schools whose principals perceived them as exemplarily efficient with respect to the successful performance of their students in mathematics. It also seemed to be true for high schools whose principals perceived them as ineffective with respect to the deficient performance of their students in language arts. However, as explained in Chapter 4, at least two paths were not significant: (a) high degree of effectiveness perceived by a principal can be related to students' higher academic achievement in language arts, and (b) lower degree of effectiveness perceived by a principal can be related to a lower student's academic achievement in mathematics. Therefore, leaders could explore alternative models to investigate whether a modified approach better explains the influence or relationship between instructional and organizational effectiveness principals' perceptions and the academic achievement of their students.

Second, the methodology used in this study was based on a comparison of the overall results of the Survey of Instructional and Organizational Effectiveness proposed by Fitzpatrick (1998); this means that the comparisons of the variances of the groups were made only with the sum of the results of the seven variables of the survey. In the future, researchers could inquire about the between-group difference in the means of language arts scores and mathematics scores in high schools grouped according to the principals' perceptions of each one of the seven variables of the survey. This exercise will help to understand which variable there is a greater difference, and therefore, to confirm a greater influence of this variable on the academic achievement of the students.

The findings presented in this study can serve as a starting point to identify and compare the strengths and weaknesses of a school in relation to the academic achievement of its students. Principals and teachers could use this study as a guide for the elaboration of strategic plans for the improvement of school effectiveness.

Third, evidence suggests that a difference exists in the way students learn mathematics and language arts. The greater magnitude of the average scores of language arts group over the mathematics group supports this conclusion. The variable with the greatest influence on the academic achievement of students in language arts was community building. The variables grouped under Fitzpatrick's (1998) notion of organizational effectiveness stand out because they were highly correlated with greater academic achievement of students in language arts. Therefore, school leaders could explore the main components of support communities and stakeholders in the school, to identify those with greater influence on the academic performance of students, e.g., those with the greater influence on school performance and those who support student learning of communication skills. Principals could take advantage of this proposal by integrating into their strategic school plans the building support networks with the community.

Fourth, the variables grouped under Fitzpatrick's (1998) notion of instructional effectiveness stood out because they were highly correlated with the academic achievement of students in mathematics. The variable with the strongest influence on the academic achievement of students in mathematics was curriculum. This finding was intuitive because the fundamental basis of mathematics learning was based on demonstrable theoretical principles through logic and in a multidisciplinary way.

However, the curriculum can be a complex construct of criteria, study plans, programs, methodologies, and processes that contribute to a comprehensive education. Therefore, future practices could include the exploration of the specific elements of the curriculum that most influence academic achievement in mathematics. At the same time, policymakers could use the findings of this study to complement the so-called Common Curriculum Frame, an important component of the educational reform in Mexico (Secretaría de Educación Pública, 2016).

The third and fourth points stated above were supported by the findings from correlation analysis of the seven variables from the Survey of Instructional and Organizational Effectiveness (Fitzpatrick, 1998) and the academic achievement of students. Evidence suggested that a well-designed curriculum and the building of support networks with the community were the key elements of an effective educational institution. However, the variables of instructional effectiveness were more influential than variables of organizational effectiveness on the academic achievement of students. Thus, schools that were not performing well could have provided better curricula and instructional strategies to enable students to reach higher levels of academic achievement.

Recommendations for Further Research

There were still some issues that were not explored in this research. Some have to do with in-depth research of issues related to organizational effectiveness and the academic achievement of the students, and others with methodological aspects of the investigation. Because the findings of the study suggested that: (a) a relationship existed between the level of effectiveness perceived by a principal and the level of academic

achievement of their students, (b) groups of students in schools with low levels of perceived effectiveness attained lower levels of academic achievement in language arts, and (c) groups of students in schools with high levels of perceived effectiveness obtain higher levels of academic achievement in mathematics, there were at least three issues that could be explored further.

The first issue could be to expand the study results using a qualitative research design. The purpose of the qualitative study would be to investigate elements and factors that affect the school effectiveness but do not necessarily appear in the survey used in this study. Using this approach, other factors that differentiate students' academic achievement in language arts versus mathematics could be explored. A mixed method research study could confirm and extend the findings from this quantitative study by including qualitative methods. The premise of mixed methods research is that qualitative and quantitative methods used in combination, can provide a better understanding of a research problem than either research approach alone (Creswell, 2014). It might be interesting to use interviews, observations, and documents collected as a part of the qualitative methods for comparison to the findings presented in this study.

The second issue that could be explored further would be to compare the differences between the perceptions of effectiveness and the level of academic achievement of students in private schools versus public schools. One of the crucial issues on the agenda of the 21st century in Latin America has been the expansion of the private sector as a provider of educational services helping to solve the educational coverage needs that the public sector cannot address (Miller & De Garay, 2015).

Challenged with the problem of meeting the demand and thus offering better education, governments have faced a structural limitation: The lack of sufficient public resources to take responsibility for expanding the capacity of public institutions (Miller & De Garay, 2015). The result has been the creation of public policies with the aim of encouraging the growth of the private sector in the country. However, there were still questions to be answered, such as the following: a) Has the growth of the private sector has also brought an improvement in the academic achievement of their students?, b) Does the provision of greater resources to the private sector guarantee that the academic achievement of their students will improve accordingly?, c) Is there a difference between the academic achievement of students from public versus private schools?

Finally, the third issue that researchers could analyze further is the relationship between perceptions of school effectiveness and students' academic achievement through different educational levels. A gap in knowledge exists about these relationships for different educational levels, such as primary, secondary, higher education, or different modalities as adult learning or online learning. Researchers could explore the differences among students' maturity levels from childhood to adulthood, and educational levels from primary education to higher education to understand school authorities' perceptions of effectiveness and student achievement. For example, children in primary education could be influenced by these perceptions distinctly as compared to adults in higher education, and consequently, their academic performance could be affected differently. Similarly, there could be a greater probability of influencing the academic achievements of students in a face-to-face modality versus online modality.

Concluding Statement

Based on the discussion of the results, several conclusions arise from this study. First, although research on the effectiveness of many kinds of organizations has been exhaustive, there were many questions remaining for researchers to study regarding the implementation of organizational effectiveness in educational settings. Second, educational leaders and authorities can influence the level of effectiveness of their schools, particularly in how teachers deploy instruction as well as how the school could be organized. In this study, the evaluation of the effectiveness of educational institutions was based on the Survey of Instructional and Organizational Effectiveness (Fitzpatrick, 1998). This instrument continues to be a relevant tool to assess the perceptions of educational authorities regarding the instructional and organizational effectiveness of schools. Third, educational authorities recognized the academic achievement of their students as resulting from the effectiveness of their decisions.

Results of this study supported the prediction stated in Chapter 1; that was, the level of a principal's perceived effectiveness influences the academic achievement of students. The findings from this study contributed to a better understanding of school effectiveness and the influence of educational leaders on the performance of their students. School authorities and educational leaders could use the results to build effective strategic plans for school improvement. Similarly, policymakers could use the results of this study to complement the normative principles that structure the country's educational system. Students and parents could use the results to focus their efforts on the elements that most influence their school performance, and therefore, help students to

improve their scores on national and international standardized tests. Finally, the findings presented in this study may serve as reliable data so that educational leaders in Mexico take more action to evaluate the effectiveness of their schools, and therefore, the levels of academic achievement of their students.

REFERENCES

- Alanoglu, M., & Demirtas, Z. (2016). The relationships between organizational learning level, school effectiveness and organizational citizenship behavior. *Journal of Education and Training Studies*, 4(4), 35–44. doi:10.11114/jets.v4i4.1262
- Alia, C. O. (2015). *The impact of principals' leadership behavior on academic achievement of students* (Doctoral dissertation). Retrieved from ProQuest UMI No. Dissertations & Theses Global. (UMI No. 1722282361)
- Amah, E., & Ahiauzu, A. (2013). Employee involvement and organizational effectiveness. *Journal of Management Development*, 32, 661–674. doi:10.1108/JMD-09-2010-0064
- An, J. Y., Yom, Y. H., & Ruggiero, J. S. (2011). Organizational culture, quality of work life, and organizational effectiveness in Korean university hospitals. *Journal of Transcultural Nursing*, 22, 22–30. doi:10.1177/1043659609360849
- Antia, J. M., & Cuthbert, R. E. (1976). Critical success factors in polytechnic performance. *Educational Administration*, 5, 14–36. doi:10.1177/174114327600500103
- Ashraf, G., & Kadir, S. (2012). A review of the models of organizational effectiveness: A look at Cameron's model in higher education. *International Education Studies*, 5(2), 80–87. doi:10.5539/ies.v5n2p80
- Ayuk, P. T., & Jacobs, G. J. (2018). Developing a measure for student perspectives on institutional effectiveness in higher education. *SA Journal of Industrial Psychology*, 44. doi:10.4102/sajip.v44i0.1485

- Barile, J. W. (2017). *Principal leadership behaviors' influence on teacher efficacy in a context of external accountability* (Doctoral Dissertation). Retrieved from ProQuest Dissertations & Theses Global. (UMI No.2003155743)
- Basol, E., & Dogerlioglu, O. (2014). Structural determinants of organizational effectiveness. *Journal of Organizational Management Studies*, 2014, 1–13. doi:10.5171/2014.273364
- Boesch, I., Schwaninger, M., Weber, M., & Scholz, R. (2013). Enhancing validity and reliability through feedback-driven exploration: A study in the context of conjoint analysis. *Systemic Practice & Action Research*, 26, 217–238. doi:10.1007/s11213-012-9248-6
- Bouchard, R. T. (2014). *An exploration of leadership: The dean of students through the eyes of student leaders* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (UMI No. 3623537)
- Buble, M., Juras, A., & Matic, I. (2014). The relationship between managers' leadership styles and motivation. *Management : Journal of Contemporary Management Issues*, 19(1), 161-193. Retrieved from <http://www.efst.unist.hr/management>
- Büyükgoze, H. (2016). Understanding effectiveness in school administration: A discourse analysis. *Acta Didactica Napocensia*, 9(3), 67–76. Retrieved from <http://adn.teaching.ro/>
- Cai, D. (2015). Quantitative research methods. In J. Bennett (Ed.), *The SAGE encyclopedia of intercultural competence* (Vol. 2, pp. 703–706). Thousand Oaks, CA: Sage. doi:10.4135/9781483346267.n232

- Cameron, K. S. (1980). Critical questions in assessing organizational effectiveness. *Organizational Dynamics*, 4(2), 66–80. doi:10.1016/0090-2616(80)90041-8
- Cameron, K. S., & Whetten, D. (1996). Organizational effectiveness and quality: The second generation. In M. B. Paulsen (Ed.), *Higher education: Handbook of theory and research* (Vol. 11, pp. 265–306). Retrieved from <http://webuser.bus.umich.edu/cameronk/PDFs/Organizational%20Effectiveness/Org%20Effectiveness%20Quality.pdf>
- Chandler, K. L. (2015). Recommendations for practice: Designing curriculum for gifted students. *Turkish Journal of Giftedness & Education*, 5, 157–166. Retrieved from <http://www.tuzed.org/>
- Creswell, J. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage.
- Deem, J. W., DeLotell, P. J., & Kelly, K. (2015). The relationship of employee status to organizational culture and organizational effectiveness. *International Journal of Educational Management*, 29, 563–581. doi:10.1108/IJEM-02-2014-0018
- DeMatthews, D. E., & Edwards, D. B., Jr. (2014). Preparing school leaders for special education: Old criticisms and new directions. *School Leadership Review*, 9, 41–50. Retrieved from <https://www.tasanet.org/domain/191>
- Druguş, D., & Landoy, A. (2014). Leadership in higher education. *Bulletin of the Transylvania University of Brasov. Series V: Economic Sciences*, 7(2). Retrieved from <http://webbut.unitbv.ro/bulletin/index.html>

- Egbert, J., & Roe, M. F. (2014). The power of why. *Childhood Education, 90*(4), 251–258. doi:10.1080/00094056.2014.933665
- Fitzpatrick, K. A. (1998). *Indicators of schools of quality: Schoolwide indicators of quality*. Schaumburg, IL: National Study of School Evaluation.
- Georgopoulos, B., & Tannenbaum, A. (1957). A study of organizational effectiveness. *American Sociological Review, 22*, 534–540. doi:10.2307/2089477
- Gilreath, G. R., Sr. (2006). *A study of the relationship between principals' perception of instructional and organizational effectiveness and student achievement, poverty, and participation in a rigorous curriculum* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (UMI No. 3211237)
- Goldring, E., Cravens, X., Porter, A., Murphy, J., & Elliott, S. (2015). The convergent and divergent validity of the vanderbilt assessment of leadership in education (VAL-ED). *Journal of Educational Administration, 53*(2), 177-196. doi:10.1108/JEA-06-2013-0067
- Goos, P., & Meintrup, D. (2016). *Statistics with JMP: Hypothesis tests, ANOVA, and regression*. Chichester, West Sussex: Wiley.
- Hall, E. (2017). *Identifying a school quality/student success indicator for ESSA: Requirements and considerations*. Washington, DC: National Center for the Improvement of Educational Assessment.
- Hall, R. (1980). Effectiveness theory and organizational effectiveness. *Journal of Applied Behavioral Science, 16*, 536–545. doi:10.1177/002188638001600408

- Ham, S., Duyar, I., & Gumus, S. (2015). Agreement of self-other perceptions matters: Analyzing the effectiveness of principal leadership through multi-source assessment. *Australian Journal of Education*, 59, 225–246.
doi:10.1177/0004944115603373
- Henderson, J. D. (2011). *Instructional and organizational effectiveness in selected PREPS-identified value added and PREPS-identified value subtracted elementary schools in Mississippi* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (UMI No. 3450377)
- Hofman, R. H., Hofman, W. H. A., & Gray, J. M. (2015). Three conjectures about school effectiveness: An exploratory study. *Cogent Education*, 2(1)
doi:10.1080/2331186X.2015.1006977
- Hoffman, D. D., Singh, M., & Prakash, C. (2015). The interface theory of perception. *Psychonomic Bulletin & Review*, 22, 1480–1506. doi:10.3758/s13423-015-0890-8
- Instituto Nacional para la Evaluación de la Educación. (2018a). *Marco de referencia para la evaluación de condiciones básicas para la enseñanza y el aprendizaje (ECEA) en educación media superior* [Framework for the evaluation of basic conditions for teaching and learning (ECEA) in high schools]. Retrieved from <https://publicaciones.inee.edu.mx/buscadorPub/P1/E/206/P1E206.pdf>
- Instituto Nacional para la Evaluación de la Educación. (2018b). *Evaluación de los aprendizajes en el aula* [Evaluation of the learning in the classroom]. Retrieved from <http://www.inee.edu.mx/images/COEPRI/coeprifinal.pdf>

- Instituto Nacional para la Evaluación de la Educación (2018c). *PLANEA: Resultados nacionales 2017* [PLANEA: National results 2017] Retrieved from <http://publicaciones.inee.edu.mx/buscadorPub/P2/A/328/P2A328.pdf>
- Instituto Nacional para la Evaluación de la Educación. (2018d). *Evaluación de la oferta educativa en Educación Media Superior: Condiciones escolares e implementación curricular* [Evaluation of the educational offer in High Schools: School conditions and curriculum implementation]. Retrieved from http://www.inee.edu.mx/images/stories/2017/mesas_publicas/P2A333.pdf
- Jackson-Dennison, D. (2001). *Stakeholder perceptions of effectiveness in Navajo Nation public high schools and student achievement* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (UMI No. 3002829)
- Jacob, N. E., & Shari, B. (2013). Organizational effectiveness in educational institutions. *International Journal of Management Research and Reviews*, 6(1), 17–26. Retrieved from <http://www.mindamas-journals.com/index.php/educare>
- Kalender, I. (2014). Profiling instructional effectiveness to reveal its relationship to learning. *Asia-Pacific Education Researcher*, 23, 717–726. doi:10.1007/s40299-013-0145-2
- Kaplan, R. S., & Norton, D. P. (1992). The balanced scorecard—Measures that drive performance. *Harvard Business Review*, 70, 71–79. Retrieved from <https://hbr.org/>

- Kleemann, G. L., & Richardson, R. C., Jr. (1985). Student characteristics and perceptions of university effectiveness. *The Review of Higher Education*, 9, 5–20.
doi:10.1353/rhe.1985.0001
- Le Donné, N., Fraser, P., & Bousquet, G. (2016). *Teaching strategies for instructional quality: Insights from the TALISPIISA link data* (OECD Education Working Papers, 148). doi:10.1787/5jln1hlsr0lr-en
- Lee, I. (2013). The influences of school supervisors' leadership styles upon organizational effectiveness: Using organizational commitment and organizational change as mediators. *Journal of Human Resource and Adult Learning*, 9, 105–123. Retrieved from <http://www.hraljournal.com/>
- Llach, J., Bagur, L., Perramon, J., & Marimon, F. (2017). Creating value through the balanced scorecard: how does it work? *Management Decision*, 55(10), 2181–2199. doi:10.1108/md-11-2016-0812
- Malik, S. H., Aziz, S., & Hassan, H. (2014). Leadership behavior and acceptance of leaders by subordinates: Application of path goal theory in telecom sector. *International Journal of Trade, Economics and Finance*, 5, 170–175.
doi:10.7763/IJTEF.2014.V5.364
- Mansour, H. F., Heath, G., & Brannan, M. J. (2015). Exploring the role of HR practitioners in pursuit of organizational effectiveness in higher education institutions. *Journal of Change Management*, 15, 210–230.
doi:10.1080/14697017.2015.1045539

- McDonald, J. H. (2014). *Handbook of biological statistics* (3rd ed.). Baltimore, MD: Sparky House.
- Melesse, T. (2014). Assessment on leadership effectiveness of school principals in the amhara region. *Australian Educational Leader*, 36(2), 44-49. Retrieved from <http://www.acer.org.au/ACEL/ACELWEB/Publications/AEL/About.aspx>
- Miller, D., & De Garay, A. (2015). Dos temas cruciales para la agenda mexicana de Educación Superior: Educación Privada y Equidad e Inclusión [Two crucial issues for the Mexican agenda of Higher Education: Private Education and Equity and Inclusion]. *Propuesta educativa*, 43, 75–87. Retrieved from <http://www.scielo.org.ar>
- Mitchell, R. M., Kensler, L. A. W., & Tschannen-Moran, M. (2015). Examining the effects of instructional leadership on school academic press and student achievement. *Journal of School Leadership*, 25(2), 22. Retrieved from <https://rowman.com/page/JSL>
- Mohammadi, S., & Banirostam, T. (2015). A perceptual meta-model based on the ontology of mental models. *International Journal of Humanities & Social Studies*, 3(11), 122–128. Retrieved from <http://theijhss.com/>
- Moir, S., Hattie, J., & Jansen, C. (2014). Teachers' perspectives of effective leadership in schools. *Australian Educational Leader*, 36(4), 36–40. Retrieved from <http://www.acer.org.au/ACEL/ACELWEB/Publications/AEL/About.aspx>

- Muduli, A. (2015). High performance work system, HRD climate and organizational performance: An empirical study. *European Journal of Training and Development*, 39(3), 239-257. doi:10.1108/EJTD-02-2014-0022
- Muñoz Izquierdo, C. (2013). Valoraciones recientes de los efectos educativos de los programas compensatorios que se han implementado en México. [Recent evaluations of the educational effects of the compensatory programs that have been implemented in Mexico.] *Revista Electrónica Iberoamericana sobre Calidad, Eficacia y Cambio en Educación*, 11(2), 149-163. Retrieved from <https://dialnet.unirioja.es/descarga/articulo/4453355.pdf>
- Nolan, F. S. (2017). *Employees' perceptions of organizational effectiveness and ethical leadership within the hospitality industry* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (UMI No. 10258524)
- Organisation for Economic Co-operation and Development. (2015). Universal basic skills: What countries stand to gain. doi:10.1787/9789264234833-en
- Organisation for Economic Co-operation and Development. (2016). Low performing students: Why they fall behind and how to help them succeed. doi:10.1787/9789264250246-en
- Patton, T. T. (2017). *School leader's perceptions of their facility conditions and the relationship to student achievement and student attendance* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (UMI No. 10637795)

- Pennings, J. M., & Goodman, P. S. (1976). *A framework of organizational effectiveness*. Pittsburgh, PA: Graduate School of Industrial Administration, Carnegie-Mellon University.
- Pounder, J. (1999). Organizational effectiveness in higher education. *Educational Management Administration & Leadership*, 27, 389–400.
doi:10.1177/0263211X990274006
- Powell, J. M. (2017). *The impact of leadership practices in transitioning to the common core state standards* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (UMI No. 1845308084)
- Ramberg, J., Brodin Låftman, S., Almquist, Y., & Modin, B. (2018). School effectiveness and students' perceptions of teacher caring. *Improving Schools*, 1(17). doi:10.1177/1365480218764693
- Rao, Z. (2016). Language learning strategies and English proficiency: Interpretations from information-processing theory. *Language Learning Journal*, 44(1), 90–106.
doi:10.1080/09571736.2012.733886
- Reece, M. R. (2017). *An examination of principals' curriculum and instructional design practices in relationship to cultural responsiveness and high performance schools: A quantitative correlational study* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (UMI No. 10254025)
- Ronald, B. (2014). Comprehensive leadership review: Literature, theories, and research. *Advances in Management*, 7(5), 52–66. Retrieved from <https://www.questia.com/library/p439376/advances-in-management>

- Saari, A. (2016). Knowledge without contexts? A foucauldian analysis of E.L. Thorndike's positivist educational research. *Studies in Philosophy and Education*, 35(6), 589-603. doi:10.1007/s11217-016-9527-2
- Salkind, N. J. (2016). *Statistics for people who (think they) hate statistics*. Thousand Oaks, CA: Sage.
- Scheerens, J. (2013). The use of theory in school effectiveness research revisited. *School Effectiveness and School Improvement*, 24, 1–38.
doi:10.1080/09243453.2012.691100
- Secretaría de Educación Pública. (2013). *¿Qué es PLANEA?* [What is PLANEA]. Retrieved from <http://www.inee.edu.mx/index.php/planea>
- Secretaría de Educación Pública. (2016). *Documento base del bachillerato general* [Base document of the General Baccalaureate]. Retrieved from http://www.dgb.sep.gob.mx/informacion-academica/programas-de-estudio/documentobase/DOC_BASE_16_05_2016.pdf
- Secretaría de Educación Pública. (2017). *Estadística del sistema educativo Mexicano*. [Statistics of the educational system in Mexico]. Retrieved from http://www.snie.sep.gob.mx/descargas/estadistica_e_indicadores/estadistica_e_indicadores_educativos_15MEX.pdf
- Stafford, F. (2017). Creating a collaborative learning culture. *Australian Educational Leader*, 39(2), 30–33. Retrieved from <http://www.acel.org.au>
- Stokes, L., & Allor, J. H. (2016). A power analysis for fidelity measurement sample size determination. *Psychological Methods*, 21(1), 35-46. doi:10.1037/met0000069

- Sudeshna. (2016, September 7). Limitations and weakness of quantitative research methods [Web log post]. Retrieved from <https://www.projectguru.in/publications/limitations-quantitative-research/>
- Sun, R. (2017). Transformational Leadership and Organizational Processes: Influencing Public Performance. *Public Administration Review*, 77(4).
doi:10.1111/puar.12654
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics*. Boston, MA: Pearson/Allyn & Bacon.
- Taylor, C. M., Cornelius, C. J., & Colvin, K. (2014). Visionary leadership and its relationship to organizational effectiveness. *Leadership & Organization Development Journal*, 35, 566–583. doi:10.1108/LODJ-10-2012-0130
- Vito, G. F., Higgins, G. E., & Denney, A. S. (2014). Transactional and transformational leadership. *Policing*, 37, 809–822. doi:10.1108/PIJPSM-01-2014-0008
- Vleuten, C. P. M. v. d. (2015). Competency-based education is beneficial for professional development. *Perspectives on Medical Education*, 4, 323–325. Retrieved from <https://www.springer.com/education+&+language/journal/40037>
- Walker, D. M. (2015). *A case study of school improvement, school effectiveness, and student achievement* (Doctoral Dissertation). Retrieved from ProQuest Central; ProQuest Dissertations & Theses Global. (UMI No. 1788360007)
- Weber, M. (1947). *The theory of social and economic organization*. Retrieved from <https://ia800305.us.archive.org/25/items/MaxWeberEconomyAndSociety/MaxWeberEconomyAndSociety.pdf>

- Yu, H. (2017). Factors associated with student academic achievement at community colleges. *Journal of College Student Retention: Research, Theory & Practice*, 19, 224–239. doi:10.1177/1521025115612484
- Yuchtman, E., & Seashore, S. (1967). A system resource approach to organizational effectiveness. *American Sociological Review*, 32, 891–903. doi:10.2307/2092843
- Zepeda, S. J. (2013). *Instructional leadership for school improvement*. New York, NY: Routledge.

APPENDIX A

Survey of Instructional and Organizational Effectiveness



SURVEY OF INSTRUCTIONAL AND ORGANIZATIONAL EFFECTIVENESS

Name of School: _____

INSTRUCTIONS: This survey provides a tool to help you identify the strengths and limitations of the effectiveness of the instructional practices and organizational conditions of your school. If you have been provided with a rubric, please use it in responding to the items.

Information About Me

Role Administrator Teacher Support Staff Other

Experience Less than 1 year 1 - 3 years 4 - 10 years 11 - 20 years More than 20 years

For School Use Only - Do not mark unless told to do so.

A ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ B ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

PART A: Indicators of Quality Instructional Systems

Curriculum

1. Develops a Quality Curriculum: The curriculum is based on clearly-defined standards for student learning and is focused on supporting and challenging all students to excel in their learning. ① ② ③ ④ ⑤

2. Ensures Effective Implementation and Articulation of the Curriculum: The curriculum implementation plan ensures the alignment of teaching strategies and learning activities, instructional support and resources, and assessments of student learning with the curriculum. The coordination and articulation of the curriculum leads to a shared vision for student learning held by teachers at each grade level, and parents and community members. ④ ③ ② ① ⑤

3. Evaluates and Renews Curriculum: There is a systematic process in place for monitoring, evaluating, and renewing the curriculum that reflects a commitment to continuous improvement. ④ ③ ② ① ⑤

Assessment

8. Clearly Defines the Expectations for Student Learning to be Assessed: Assessments of student learning are aligned with clearly specified and appropriate achievement expectations. ④ ③ ② ① ⑤

9. Establishes the Purpose of the Assessment: Assessments are specifically designed to serve instructional purposes specified by the users of the results of the assessments. ④ ③ ② ① ⑤

10. Selects the Appropriate Method of Assessment: Assessments are developed using a method which accurately measures the intended goals for student achievement and serves the intended purpose. ④ ③ ② ① ⑤

11. Collects a Comprehensive and Representative Sample of Student Achievement: The student learning assessment system provides for the collection of a comprehensive and representative sample of student performance that is sufficient in scope to permit confident conclusions about student achievement and yield generalizable results. ④ ③ ② ① ⑤

12. Develops Fair Assessments and Avoids Bias and Distortion: Assessments are designed, developed, and used in a fair and equitable manner that eliminates any source of bias or distortion which might interfere with the accuracy of results. ④ ③ ② ① ⑤

Information About Me

Role Administrator Teacher Support Staff Other

Experience Less than 1 year 1 - 3 years 4 - 10 years 11 - 20 years More than 20 years

For School Use Only - Do not mark unless told to do so.

A ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ B ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

PART B: Indicators of Quality Instructional Systems

Curriculum

1. Develops a Quality Curriculum: The curriculum is based on clearly-defined standards for student learning and is focused on supporting and challenging all students to excel in their learning. ① ② ③ ④ ⑤

2. Ensures Effective Implementation and Articulation of the Curriculum: The curriculum implementation plan ensures the alignment of teaching strategies and learning activities, instructional support and resources, and assessments of student learning with the curriculum. The coordination and articulation of the curriculum leads to a shared vision for student learning held by teachers at each grade level, and parents and community members. ④ ③ ② ① ⑤

3. Evaluates and Renews Curriculum: There is a systematic process in place for monitoring, evaluating, and renewing the curriculum that reflects a commitment to continuous improvement. ④ ③ ② ① ⑤

Assessment

8. Clearly Defines the Expectations for Student Learning to be Assessed: Assessments of student learning are aligned with clearly specified and appropriate achievement expectations. ④ ③ ② ① ⑤

9. Establishes the Purpose of the Assessment: Assessments are specifically designed to serve instructional purposes specified by the users of the results of the assessments. ④ ③ ② ① ⑤

10. Selects the Appropriate Method of Assessment: Assessments are developed using a method which accurately measures the intended goals for student achievement and serves the intended purpose. ④ ③ ② ① ⑤

11. Collects a Comprehensive and Representative Sample of Student Achievement: The student learning assessment system provides for the collection of a comprehensive and representative sample of student performance that is sufficient in scope to permit confident conclusions about student achievement and yield generalizable results. ④ ③ ② ① ⑤

12. Develops Fair Assessments and Avoids Bias and Distortion: Assessments are designed, developed, and used in a fair and equitable manner that eliminates any source of bias or distortion which might interfere with the accuracy of results. ④ ③ ② ① ⑤

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-OVER-

APPENDIX B

**Authorization from NSSE to Use the Survey of Instructional And Organizational
Effectiveness**


Carlos Aguila Cervera <carlosaguila21@gmail.com>

RE: Form submission from: Contact Form AdvancED

Matt Dawson <mdawson@advanc-ed.org>
Para: Carlos Aguila Cervera <carlosaguila21@gmail.com>

19 de mayo de 2017, 12:34

Carlos,

You would be free to use the instrument. You do not need to pay a membership fee – that is if your institution wants to become part of the AdvancED School Improvement Network, which would be independent of your research project.

Does that make sense?

Matt



Matt Dawson, Ph.D.
Senior Researcher

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Have you seen eleot?

From: Carlos Aguila Cervera [mailto:carlosaguila21@gmail.com]
Sent: Wednesday, May 17, 2017 10:47 AM
To: Matt Dawson
Subject: Re: Form submission from: Contact Form AdvancED

[El texto citado está oculto]

APPENDIX C**Research Participant Informed Consent****CITYU RESEARCH PARTICIPANT INFORMED CONSENT**

School/Division of: Applied Leadership

I, _____, agree to participate in the following research project to be conducted by Carlos Mauricio Aguila Cervera, student in the Doctor of Education in Leadership program. I understand this research study has been approved by the City University of Seattle Institutional Review Board. I acknowledge that I have received a copy of this consent form, signed by all persons involved. I further acknowledge that I have been provided an overview of the research protocol and a detailed explanation of the informed consent process.

Title of Project:

An exploration of the differences between principals' perceptions regarding the instructional and organizational effectiveness of their high schools and the academic achievement of their students.

Name and Title of Researcher:

Carlos Mauricio Aguila Cervera

Faculty Supervisor: Dr. Scott Burrus

Department: School of Applied Leadership

Telephone: XXX-XXX-XXXX

E-mail: scottburrus@cityu.edu

Program Coordinator: Dr. Kelly Flores

Purpose of the Study

The purpose of this quantitative comparative study is to determine if there is a statistically significant between-group difference of principals' perceptions about the instructional and organizational effectiveness of their high schools and the academic achievement of their students.

Research Participation:

I understand I am being asked to participate in this study in one or more of the following ways (the checked options below apply):

- _____ Answer written questionnaire(s) in-person and/or email;
- _____ Participate in other data gathering activities, specifically, _____;
- _____ Others, specifically, _____.

I further understand that my involvement is voluntary and I may refuse to participate or withdraw my participation at any time without negative consequences. I have been advised that I may request a copy of the final research study report. Should I request a copy, I understand I may be asked to pay the costs of photocopying and mailing.

Confidentiality

I understand that participation is confidential to the limits of applicable privacy laws. No one except the faculty researcher or student researcher, her supervisor and Program Coordinator (or Program Director) will be allowed to view any information or data collected whether by questionnaire, interview and/or other means. If the student's researcher cooperating classroom teacher will also have access to raw data, the following box will be checked. All data (questionnaires, audio/video tapes, typed records of the interview, interview notes, informed consent forms, computer discs, any backup of computer discs and any other storage devices) are kept locked and password protected by the researcher. The research data will be stored for five (5) years (or more of required by local regulations). At the end of that time all data of whatever nature will be permanently destroyed. The published results of the study will contain data from which no individual participant can be identified.

Signatures

I have carefully reviewed and understand this consent form. I understand the description of the research protocol and consent process provided to me by the researcher. My signature on this form indicates that I understand to my satisfaction the information provided to me about my participation in this research project. My signature also indicates that I have been apprised of the potential risks involved in my participation. Lastly, my signature indicates that I agree to participate as a research subject.

My consent to participate does not waive my legal rights nor release the researchers, sponsors, and/or City University of Seattle from their legal and professional responsibilities with respect to this research. I understand I am free to withdraw from this research project at any time. I further understand that I may ask for clarification or new information throughout my participation at any time during this research.

Participant's name: _____ (please print)

Participant's signature: _____ Date: _____

Researcher's name: Carlos Mauricio Aguila Cervera

Researcher's signature: _____ Date: _____

If I have any questions about the research, I have been advised to contact the researcher and/or her supervisor, as listed on page one of this consent form. Should I have any concerns about the way I have been treated as a research participant, I may contact the following individual(s):

Dr. Kelly Flores, Program Coordinator, City University of Seattle at

521 Wall Street, Suite 100. Seattle, WA 98121. USA

Phone: 206-239-4500

Email address: kflores@cityu.edu

APPENDIX D

Flowchart of the Present Quantitative Research Design

