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# Pepperdine University

## Graduate School of Education and Psychology

# FROM ISOLATION TO COLLABORATION: A NEW PERSPECTIVE ON SCHOOL LEADERSHIP

A dissertation submitted in partial satisfaction
of the requirements for the degree of
Doctor of Education in Educational Leadership, Administration and Policy

by

Paula Du Bois

April, 2011

Robert Barner, Ph.D. – Dissertation Chairperson

This dissertation, written by

## Paula Du Bois

under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

## DOCTOR OF EDUCATION

**Doctoral Committee:** 

Robert Barner, Ph.D., Chairperson

June Schmieder-Ramirez, Ph.D.

Eric Todd, Ed.D.

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#### Paula Du Bois

Cell (213) 819-0177 E-mail: pd5217@aol.com

#### **EDUCATION**

Pepperdine University, Graduate School of Education and Psychology

Doctor of Education in Administration, Leadership and Policy

May 2011

Dissertation Title: From Isolation to Collaboration: A New Perspective on School Leadership

Pepperdine University, Graduate School of Education and Psychology

**Master of Science in Administration with Administrative Credential** 

July 1992

University of La Verne, La Verne, CA

**Bachelor of Science in Health Care Management** 

January 1992

University of Cincinnati

**Associate in Science** 

June 1972

#### **CREDENTIALS**

California Clear Administrative Services Credential	October 2015
Clear Designated Subjects Vocational Teaching Credential	December 2015

#### ADMINISTRATIVE AND TEACHING EXPERIENCE

Los Angeles Unified School District, Los Angeles

## **Assistant Principal, Operations**

August 1997 – Present

Manual Arts-Crenshaw Community Adult School Huntington Park-Bell Community Adult School

**Harbor Occupational Center** 

Venice Community Adult School

Regional Occupational Center (ROP)

- Collaborate with high school administration to obtain a stand-alone building to house LVN, CNA and Computer classrooms
- Expand course offerings, concurrent student enrollment and retention by building partnerships with state, county and local agencies to secure community classrooms in business and industry sites
- Chair Leadership Team for WASC Accreditation
- Supervise classroom instruction, provide assistance and guidance for teachers to support student learning
- Spearhead campus-wide integration of academic and career technical skills in lesson plan development
- Create contract for establishment of five new ROP Cosmetology programs
- Create and maintain budget analysis for teacher hour usage, Instructional Materials Account (IMA), Community Based English Tutoring (CBET), Perkins, payroll and Student Information Systems (SIS)

## **Program Manager**

July 1989 - July 1997

- Supervised federally-funded program (School to Work) with budget of \$700,000
- Developed and implemented Policy and Procedure Manual, program syllabus, instructional schedule, and skills/competency evaluations for 24 ROP Nurse Assistant programs
- Reorganized Health programs in compliance with state licensing standards of the California Department of Education and the Department of Health Services

## Instructor, Radiologic Technology

September 1982 – June 1989

- Developed program curriculum for Skull Radiography for state approval
- Maintained 100% pass rate on state licensing examinations for seven consecutive years

National University, Los Angeles, CA

## **Adjunct Professor**

Spring 1998 - Spring 2008

Courses Taught: Educational Psychology; Classroom Management for Teachers of Grades 7-12; Foundations of Education; and the Diverse Classroom

- Prepare plans and provide direction for 25-40 teachers of diverse backgrounds
- Utilize multiple research-based teaching modalities to increase comprehension of curriculum

University of San Diego, Los Angeles, CA

## **Adjunct Faculty**

Winter 1999 – Summer 2008

Courses Taught: Principles of Vocational Education – Level I

- Instructed adult and vocational education teachers in class management, lesson planning and teaching modalities
- Integrated technology components in lesson plan delivery

**Greater Bethany Community Church** 

## **Director, Christian Education**

September 2002-June 2004

- Created, implemented and facilitated New Teachers' Academy
- Supervised operations for Children's and Adults Sunday Schools, New Members' and Truth Shall Triumph classes
- Increased overall enrollment from 150 to 1000 participants
- Supported Pastor's vision and expanded scope within six months
- Supervised educational components of all auxiliaries

#### **COMMITTEE WORK**

Los Angeles Unified School District, Los Angeles, CA

District Crisis Intervention Team August 1997 – August 2005

**Division of Adult and Career Education** 

Chair, Leadership Team September 2010 - Present Professional Growth Adviser September 2003 - Present

Fall Conference	April 2004 – December 2005
New Teacher Orientation	April 2004 – December 2009
Student Discipline	August 2003 – June 2005
President, Assistant Principals Operation Association	September 2008 – May 2009
Curriculum Council	May 1993 – June 1995

# PROFESSIONAL MEMBERSHIPS

Association of California School Administrators (ACSA)	September 1998 – Present
Council of Black Administrators (COBA)	September 2006 – Present
California Council of Adult Education (CCAE)	September 2005 – Present
California Association of Regional Occupational Centers	September 2004 – Present
Women Educators (WE)	September 2002 – Present

#### **ABSTRACT**

Challenging times demand a greater urgency than usual. Quite unexpectedly, No Child Left Behind has unleashed a powerful catalyst for change in the 21<sup>st</sup> century. It is within this era of increasing accountability and disparity that greater demands are being placed on school leaders to produce significant and positive student outcomes. The constantly changing educational landscape of today's schools along with the local, state and national legislation that mandates guidelines from which schools must conform necessitates a change in how school leaders are prepared. Therefore, the purpose of this study is to focus on a new perspective of school leadership that will transform the next generation of schools to ensure all students learn. Specifically, the research questions that guide this study are: (a) What skills and knowledge are needed for effective school leader [principal] training, in the 21<sup>st</sup> century both before and after school leaders are hired, to prepare and ensure they meet the demands of the job; (b) What is the perception of the school leader on the extent to which their training prepared them to support student learning; and (c) What components of the curriculum in graduate schools of education, if any, do effective leaders find most valuable for successful school leadership? Which components do they find most valuable? The main evidentiary material was elicited through a Survey Questionnaire which was distributed among 92 Principals currently assigned at Pre-K through Adult Schools. A recurring theme throughout the findings was the value of Practice. Findings show that approximately 50% of participants strongly agree that the content of leadership preparation programs emphasized Theory and Practice although the most valuable component was Practice (61%), while Theory alone was rated only somewhat valuable by 57% of Participants. The school leader's perception

of how well the training program supported student learning was rated highest in collaborative environment (74%) and the use of data (66%). Twenty-first century schools call for revolutionary school leaders who unselfishly share the baton in empowering and transforming others to action. The development of meaningful relationships must take precedence over the traditional role of school leaders as the Lone Ranger.

## **Chapter One: Effective Leadership**

"A leader is one who, out of madness or goodness, volunteers to take on the woe of the people. There are few so foolish; hence the erratic quality of leadership in the world." (Updike as cited in Stacks, 1980, p. 1)

#### Introduction

Educational leadership can be either sheer lunacy or it can positively affect

America's educational landscape to increase our competitive edge, locally and globally.

It can be a frenetic effort to fix everything or be relegated to a few priorities. It can be an ineffectual exertion of power or it can empower individuals to don leadership roles to help others. In the wake of dynamic social and economic change, increasing governmental reform efforts without complementary funding resources and the excessive demands being placed on schools to do more with less: It can be debated that one who thirsts for educational leadership must be either a lunatic or supreme egotist (Thomas & Bainbridge, 2001).

## **Background of the Problem**

One of the problems with today's schools are ill-prepared leaders who are not only out-of-sync with the daily realities of school administration/management but who also lack the knowledge and skills necessary to meet the instructional and learning needs of children, their families and the school community (Blankstein, Houston, & Cole, 2008). A vast number of principals have found it virtually impossible to single-handedly initiate and implement reforms in their schools that guarantee deeper learning (Donaldson, 2006; Fullan, 2005). Without question, No Child Left Behind (NCLB) has wrought unprecedented changes in public schools and in society. Its demands have

transformed teacher preparation programs; curriculum design; textbooks; parent-school relationships; and parent/student expectations about learning (Wheatley & Frieze, 2007). Ironically, its ranking of schools has even affected real estate values where foreclosures are depriving school districts of their anticipated funding (Bonsting, 2009; Wheatley & Frieze, 2007). Quite unexpectedly, NCLB has unleashed a powerful catalyst for change in the 21<sup>st</sup> century (Wheatley & Frieze, 2007). These major changes coupled with societal issues, a lack of support and the polarization of cultures have combined to create a *perfect storm* for educational leadership that necessitates the need for parallel changes in university and school leadership preparation programs (Miller, Devin, & Shoop, 2007).

"There are many people who can talk about leadership, theorize about leadership and debate over leadership, but very few people are doing and living leadership." (Evans as cited in Wofford, 1999, p. 9)

The flux in our educational landscape, initiated by NCLB and subsequently, its leadership, demands that roles be re-defined to focus on collaboration and building relationships (Miller et al., 2007). Just as the one-room school was an evolutionary step in the American system of education, so should the preparation and ongoing development of the 21<sup>st</sup> century educational leader.

Within this era of increasing accountability and disparity, greater demands are placed on school leaders to produce significant and positive, student results. While principals don many hats, among which are educational visionaries, instructional leaders, assessment experts, budget analysts, community advocates and facility managers, they are also expected to mediate competing interests of parents, students, teachers, bargaining unions and district personnel (De Léon, 2006). Although the principal is ultimately

accountable for the school's success, the operational responsibilities of the job are staggering and often inhibit the principal from stepping across the threshold of the office door. As state and federal accountability requirements increase so does the responsibility of school administrators in developing new strategies to improve student achievement, otherwise sanctions result. School leaders are working with great diligence in making difficult adjustments to a flawed hierarchal system of schooling that was designed when it was acceptable to ensure the success of most students, rather than ensuring that every underperforming student and group achieves the required proficiency scores in reading and math as mandated by NCLB (Miller et al., 2007).

#### **Crisis in Education**

Schools are complex social institutions that are intensely vulnerable to a plethora of powerful forces both within and outside. They exist in a whirlpool of government mandates, social and economic tensions and competing interests which affect the entire school community. In many schools, public and private interest groups have increased competition for control. As schools have had to adjust to new accountability measures, they have become like pawns thrust within the folds of internal and external micropolitical forces.

Micro-politics is about power and how people use it to influence others while protecting themselves (Blasé, 1991). Conflict abounds as individuals negotiate to get what they want. Collaboration and support are used as a means to achieve an end. The micro-political perspective provides practicing educational leaders a radical departure from tradition, offering fresh and provocative ways to think about human behavior in schools.

Unveiled in the 1980s, instructional leadership, which promoted growth in student learning, (DeBevoise, 1984) placed the principal at the forefront in the development and control of instruction. By the 1990s, the principal's role had shifted from the instructional leader model to a concept of whole school leadership consistent with change management, self-management, shared and competing interests (Caldwell & Spinks, 1992; Hallinger, 1992).

Due to the great demands placed on principals to increase student achievement, school administration is now viewed as dangerous work by both practicing and potential principals (Ackerman & Maslin-Ostrowski, 2002; Heifitz & Linsky, 2004). Although the number of certified principals continues to grow, many are choosing not to serve (Donaldson, 2006). The comparatively-low salaries, in light of the increased responsibilities and long hours, has steered many qualified administrators toward the selection of more lucrative, less politically-stressful careers (Miller et al., 2007). The aftermath, principal burn-out, has revealed the professional liabilities of stress and overload resulting from the singular role of leaders in our schools (Donaldson, 2006).

The need for educational leaders is an urgent world-wide condition that has reached a state of crisis (Thomas & Bainbridge, 2001). In California alone, principal retirements are estimated at approximately 40% of school leaders over the next decade coupled with the large numbers who are expected to depart the profession well before retirement age. This fact makes the recruitment of replacement talent and the retention of existing talent more crucial (Maxwell, 2009). Moreover, the state's policies are falling short when it comes to recruiting, training, compensating and empowering principals to manage their schools effectively (Maxwell, 2009). The process by which individuals

aspire to become principals and the preparation they receive to do the job is deeply flawed (De Léon, 2006).

Over the years, California policymakers have paid relatively little attention to the development of school leaders (Maxwell, 2009) choosing instead to respond to the demands for school reform by focusing on direct connections to student learning among which are teacher training, curriculum content standards, class size reduction, testing and accountability. Implementation and monitoring of these legislative efforts have placed even greater demands on principals without increasing the knowledge and capacity necessary to manage these reforms (Fullan, 2007).

## **Preparation and Development**

Historically, preparation programs for principals in the United States encompassed courses such as general management principles and school law, with minor emphasis on effective teaching and student learning; human relations; and curriculum and organizational change (Levine, 2005; Miller et al., 2007; Peterson, 2002;). Levine (2005) charges that the quality of preparation of the nation's school leaders range from "inadequate to appalling" (p. 24) and that programs are marked by "low standards, weak faculty and irrelevant curriculum" (p. 24).

Public demands for more effective schools have cast the spotlight on the role of school leaders. Evidence suggests that school leadership strongly affects student learning; however, little is known about the educational preparation of principals (Gaston, 2009). There is no existing data that show whether California's two-tiered system for obtaining an administrative credential makes a difference in the quality and skills of a principal (Gaston, 2009). Under this system, prospective principals take a test

to earn their credential prior to participating in a formal preparation program. Principals who enter their position through this method tend to struggle like beginning teachers with little or no training.

The state's varied university-based preparation programs also present challenges in grooming the best school leaders. Current research shows that the skills needed to be an effective educational leader have not been traditionally taught in preparation programs (DeArmond, Gundlach, Portin, & Schneider, 2003; Levine, 2005). Hence, one of the problems in building effective leaders is the failure to move from the theoretical to the practical (Wofford, 1999). Practical and cultural experiences along with knowledge gained from observing successful schools are critical to principal preparation (Berry & Beach, 2006). Additionally, research-based teaching modalities such as problem-based learning, field-based internships that present real-world problems in authentic environments, cohort groups and mentors must be integrated into course content (Davis, Darling-Hammond, LaPointe, & Meyerson, 2005). Instruction should be provided in several key areas: data-analysis and interpretation; curriculum and assessment; instructional observation and feedback; and decision-making (Education Commission of the State, 2009).

Leadership is the pivotal force behind a successful school; without it a school wanders blindly and alone in the wilderness without direction or purpose. The principalship is very demanding in terms of the diversity of tasks that principals are expected to accomplish. The expectation is too great for principals to walk into a job as an instructional leader, organizational leader and budget manager without having the

experience or training. Yet, too few university-based preparation programs require participants to undergo field-based internships.

In a national survey of principals conducted by Darling-Hammond and Orphanos (2007), 63% of principals nationwide reported to have internships as part of their training compared to just 27% in California. Real growth comes from real application and diligence in integrating all of life's experiences into our hearts and then living it.

Twenty-first century schools require a new form of leadership that focuses on sharing the baton in empowering and transforming others to action to effect the necessary change in lieu of traditional hierarchal models (Fullan, 2007; Wallace Foundation, 2008). Leaders must be prepared for the challenges of severe budget cuts and teacher layoffs; an increasingly diverse society; the changing landscape of the profession; and the emergence of new, visionary concepts of schooling that embraces collaboration and reflection (Ketelle & Mesa, 2006). In the past, school leaders operated as Lone Rangers or Superwomen but those glory days have faded into the annals of history. The fantasy of leading alone must be replaced by the leader's role of today which is to stimulate and inspire creativity in others in pursuit of a common goal to convert followers into leaders and leaders into moral agents (Bennis & Nanus, 1985; Miller et al., 2007; Wofford, 1999). "Leadership is not about one person; it is about building a shared commitment and building a leadership team" (Haycock, 2007, p. 30).

Leaders of 21<sup>st</sup> century schools will be known as educational leaders rather than administrators operating on behalf of the learning needs of children and their families (Houston, Blankstein, & Cole, 2007). Primarily, these leaders will look beyond their traditional roles and boundaries to garner resources; redirect the energies of parents and

community-based organizations; and pique the consciences of outside agencies to assist in delivering positive learning outcomes. These leaders will be evaluated less by the effectiveness and efficiency of administrating their buildings and staff and more by their ability to mobilize and sustain the commitment and resources of their entire school community (Houston et al., 2007). Foremost, is the development of meaningful relationships to enhance students' educational achievements.

"Everything must change at one time or another or else a static society will evolve" (Anonymous as cited in Fullan, 2007, p. 3). Education is in a constant state of evolution, riding the turbulent waves of state and federal government's political whims masquerading as reforms or serving as an aspiring candidate's one-foot-in-the door election platform. While it is true that the core purposes of the public school system is both academic achievement as well as personal and social development, the 21<sup>st</sup> century itinerary for education demands change: a change in leadership; a change in how school leaders are prepared and supported during their school tenure; and the impact of this learning and preparation on student achievement.

## **Purpose of the Study**

Fullan (2003) concludes that leadership is the highest priority in the current decade, out-ranking standards, to achieve large-scale reform. Faced with the grim realities of severe budget cuts and teacher layoffs, California school leaders will be challenged to maintain the quality of instruction. Therefore, the purpose of this study is to focus on the new paradigm for school leaders; the preparation, skills and on-going development necessary for future leaders; and the impact of this preparation on student learning.

Change requires making the current way of doing things obsolete. Change requires visionary leaders that can not only see beyond tomorrow, but also can dig and pave the road to get there. "To everything there is a season…a time to tear down and a time to build up" (Ecclesiastes 3:1-3). It is time to begin a new chapter in America's history of education: one that will provide our school leaders with a "new and different set of skills in their toolboxes," a new prospectus on leadership and a "new reality that combines knowledge and experience with research" (Miller et al., 2007, p. 14) in preparation programs for transformation to occur.

## **Research Questions**

The research questions that guide this study are,

- 1. What skills and knowledge are needed for effective school leader [principal] training, in the 21<sup>st</sup> century both before and after school leaders are hired, to prepare and ensure they meet the demands of the job?
- 2. What is the perception of the school leader on the extent to which their training prepared them to support student learning?
- 3. What components of the curriculum in graduate schools of education, if any, do effective leaders find valuable for successful school leadership? Which components do they find most valuable?

## **Clarification of Terms**

Assessment is a task which provides information about student comprehension that includes oral response, homework, quizzes and formal tests. Stakeholders use this information to make evaluations or judgments about student performance.

Capacity building is the daily interactions created by working together to develop leadership for the future.

*Celebration* is the recognition for individual and collective accomplishments.

*Cohort groups* are a group of individuals in an educational setting who, during a specified period of time, take classes together.

*Collaboration* is a purposeful relationship in which all parties strategically choose to cooperate in order to accomplish a shared outcome.

Collaborative leader is an individual who accepts the responsibility to build a team with different skill sets and experiences to accomplish a shared purpose.

Collaborative leadership is a skillful, mission-oriented management of relationships.

*Continuous school improvement* is the continual and incremental improvement of the critical aspects of a school by all its stakeholders.

*Culture* is a unique characteristic in a school that is shaped around a combination of beliefs, values and feelings; it is how things are done in an organization.

Field-based internships are supervised practical experiences that require the application of acquired skills, knowledge and problem-solving strategies within an authentic setting.

Goals are milestones that can be used to assess progress in the advancement toward a vision.

*Leadership* is an office or position that an individual espouses to that is purpose-driven and results in change.

Learning is the acquisition of new knowledge or skills and the application of those skills that result in a change in an individual as a result of experience.

*Management* is the art of controlling and directing an enterprise; it is objectives-driven.

*Paradigm* is a model or theory that forms the basis of something.

*Problem-based learning* is a radical, student-centered, constructivist teaching and learning modality that focuses on real-world problems to blend theoretical and practical knowledge.

*Professional development* is formal and informal learning experiences throughout one's career that presents current ideas and debates about a specific practice.

*Professional Learning* Community (PLC) is a school of thought where educators commit to working collaboratively in ongoing processes of collective inquiry and action research to improve student learning.

*Relationship management* is a purposeful exercise of behavior to influence an individual's relationship with an individual and their collaborative enterprise.

School leadership is the process of enlisting the talents and energies of teachers, students and parents toward achieving common educational aims.

*School structure* encompasses the policies, procedures and relationships within a learning environment.

*Stakeholder* is an individual or group with a direct interest in something i.e., teachers, administrators, students and parents of a school.

Sustainability is the capacity of a system to engage in continuous improvement.

Systems are animate or inanimate objects bound by interrelated actions which see themselves separate from the whole i.e., one pattern rather than the whole pattern.

Systems-thinking is a conceptual framework that asserts that the parts of a system are connected and a change in any one element affects the whole; a discipline that integrates multiple disciplines unifying a coherent body of theory and practice.

## **Importance of the Study**

Challenging times demand a greater urgency than usual. While school budgets are succumbing to plunging property values, high unemployment and low student achievement in many California districts, there is heightening concern that the number of qualified principals is inadequate to meet the needs of public schools in light of their financial and academic calamities. Principal retirements, approximated at 40% over the next decade along with still others who are expected to depart the profession before reaching retirement age, makes the recruitment of replacement talent and the retention of existing talent even more compelling. At stake are six million innocent children, many of whom are poor and low-achieving, who are at risk of not achieving the basic education necessary to either propel him/her to a higher level of learning in a great school where excellence and accountability are embraced.

## **Summary**

Research shows that leadership is the catalyst that catapults teaching and learning and when successful, will ensure that every student meets the minimum proficiency requirement in reading and math as mandated by NCLB (Miller et al., 2007). The school leader of the future must lead a complex learning organization where the school community shares in a common set of commitments to engage in continuous problem

solving and improvement (Fullan, 2003). The multi-facets of leadership in setting the direction for schools; creating prolific, collaborative work environments for teachers; warm, caring and engaging classrooms for students; developing people to yield a legacy of leaders; and re-building the culture of the school to improve student learning are vital components in the teaching-learning process. The constantly changing educational landscape of today's schools along with the local, state and national legislation that mandates guidelines from which schools must conform necessitates a new perspective on school leadership; determines the preparation and on-going development necessary for future leaders; and analyzes the perceived impact of this preparation on student learning.

**Chapter Two: Review of Literature** 

Overview

This chapter presents a review of the new perspective on school leadership that encompasses the knowledge and skills necessary; the preparation and on-going development before and after securing a leadership position; and the perceived impact of this preparation on student learning.

**Historical Perspective** 

Education in the United States has filled a number of purposes since the first common school in the early 19<sup>th</sup> century. Whether viewed as providing a societal foundation or enhancing the socio-political process, educational goals continue to be influenced by broader social needs, political commitments and concerns (Schmoker, 2005). In the 1980s and 1990s, changes were made in education that was mandated by both federal and state governments. The business community concluded that the nation was losing its competitive edge (Kotter, 2007). The U. S. experienced several waves of reform initiated by national reports such as, A Nation at Risk (US Department of Education, 1983), Goals 2000 (US Metric Association, 2002 & 2005) and No Child Left Behind (US Department of Education, 2002 & 2006). Research will be examined that identifies how educational reforms have evolved to meet these ever-changing demands.

**History of School Reforms** 

In 1983, "A Nation at Risk," hailed as the first major milestone in the current generation of education reform and created by the National Commission on Excellence in Education, made its debut. This federal report outlined the poor state of affairs within the K-12 educational system beginning with low basic comprehension rates to high dropout

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rates. Furthermore, this discourse of decline in education and infrastructure has weakened the U. S. once enviable supremacy in commerce, industry, science and technological innovation. Consequently, competitors throughout the world are matching and surpassing the U.S. educational attainments (Friedman, 2006).

One of the greatest changes initiated by first-wave reform was that of standardization (Ross, 1997). Standards-based reforms have been systematized under Goals 2000, a federal initiative, passed under the Clinton administration. Goals 2000 encouraged states to hike graduation requirements, implemented legislative reforms in support of the curriculum to be taught and created testing that focused instruction toward national standards (Ross, 1997).

President Bush's signing of the No Child Left Behind Act (NCLB) in 2002 mobilized Americans around the idea that every child can learn. Increased accountability for schools, higher standards and other choices for parents have produced measurable and sustainable results (US Department of Education, 2002 & 2006). Strong academic progress has been made in the earlier grades; reading and math scores are at an all-time high; and achievement gaps are narrowing, but there is still more to be done. The reauthorization of NCLB in 2006 holds states accountable for ensuring that all students can read and do math at grade level by 2014 (US Department of Education, 2006). In order to achieve this edict, it is imperative that states increase high school offerings of rigorous and advanced coursework; strengthen math and science instruction; collect and analyze student achievement data; and increase high school graduation rates (US Department of Education, 2006). Students must learn new knowledge and skills needed to thrive in college and compete in the global marketplace. Yet, with all of these

changes, no provision was made to assist school leaders in meeting these accountability measures.

America's public educational system dates back more than 150 years. Over the past 50 years, the United States Educational System has experienced unprecedented growth in both size and complexity. It is this growth and multiplicity that spawn a domino effect that compels schools and their leadership to constantly evolve, change and reform as our educational landscape diversifies.

Today, the world is vastly different. Lightning-swift advances in technology and communications have created a global communications system that literally connects people inter-continentally, at warp speed with the push of a button (Friedman, 2006). Almost every job and employer demands that employees operate in the information age and possess the cognitive and problem-solving skills that businesses and organizations need to succeed. This globalization brings competition of skilled laborers from around the world (Friedman, 2006). The dramatic shifts in our economy and society compel a change from the agricultural and industrial mindset to one where globalization and competition form the substratum of how schools are operated and evaluated. Unless education is grounded in these concepts, skills and realities with a vision towards the future, any measure of proficiency for students and school leaders is irrelevant (Laboy, 2008).

To that end, new systems must be created that serve a world that is not fully in existence: a transformation, if you will, from the current way of doing things to one that takes into account future leadership and culture. The transformation must connect people to a greater purpose. This purpose is inclusive of family and community engagement

where school leadership teams are active participants in decision-making; assessment and accountability where real data is used to check students' understanding, progress and the monitoring of instructional practices; and professional development where collaboration and job-embedded learning specific to the organization is taught on the job through mentoring and reflective practice (Fullan, 2007).

Innovativeness requires an abandonment of a reliance on an old model to embrace something new, foreign and perhaps cumbersome and frustrating (Fullan 2007). Changing a paradigm is not easy since old habits die hard. However, this same habitual nature has bred complacency and a state of obsolescence in America's schools (Laboy, 2008). The reluctance to break old habits and step out of comfort zones has shackled schools to an educational model that is antiquated, extremely inadequate and no longer meets the needs of a global system. Fullan (2007) posits that "the capacity of an organization to engage in continuous improvement," (p. 11) takes patience, support and the involvement of every member of the school community to succeed. Innovation occurs by intent and requires a leader to utilize their intellect and persistence to create new directions while overcoming resistance. Institutions of learning must strive to become innovative on a sustainable basis by establishing standards and related qualifications that potential leaders must meet to be certified or qualified for leadership positions. Institutions must provide support for leadership and fund leadership growth in order to achieve large-scale reform (Fullan 2005; Houston et al., 2007).

## **Defining Leadership**

The complex, diverse station of leadership is evident throughout classical Western and Eastern writings (Bass, 1990). In the Pre-Classical Era, leadership focused

on delegation, planning, organization and the division of labor and helped to shape current leadership. Since the beginnings of civilization a number of Egyptian rulers, Greek heroes and biblical patriarchs exercised influence in business transactions, interpersonal relations and other social issues (Wren, 1994). Socrates pointed out that those who knew how to delegate would be successful unlike their counterparts who failed to delegate. Plato's work examined human differences which led to a division of labor into tasks. Aristotle believed that work would improve if the worker concentrated on a specific task which resulted in the division of departments that handled specific tasks. Just as Confucius was known for moral wisdom and his support of a value system, so must current and future school leaders embrace these tenets. Various definitions and theories of leadership have evolved over time; however, similarities among these definitions conclude that leadership is the process of socially influencing an organized group toward accomplishing its goals (Wren, 1995).

## **Complexities of Leadership**

Leadership is one the world's oldest preoccupations and one of the most examined phenomena. More has been written about leadership than any topic in the behavioral sciences (Bennis, 1959) and yet the debate about leadership continues today. Several paradigm shifts, over the past century, have given birth to a voluminous body of knowledge which is complex, dynamic, and interactive and ironically, seems to be linked to the economic landscape of the period (Antonakis, Cianciolo, & Sternberg, 2004).

The Industrial Revolution's shift of the American economy from an agricultural to an industrial one created a new theory of leadership where *common* people gained power resulting from their skills (Clawson, 1999). Max Weber, a German sociologist, is

credited with establishing structural provisions for organizational effectiveness. Mr. Weber's emphasis on bureaucracy was "conceived as a blueprint for efficiency, which would emphasize rules rather than people and competence rather than favoritism" (Wren, 1994, pp. 229-230). In keeping with the mindset of organizational effectiveness and productivity, new theories that focused on classical management and scientific management emerged.

Classical management's focus was on the total organization, rewarding education as a means to promote management rather than technical training (Wren, 1994). Scientific management believed that all jobs should be studied in order to develop the most efficient procedures for carrying them out. Time and motion studies analyzed work tasks to improve worker productivity and efficiency. Incentive pay was offered to the highest producers. The leader functioned to establish and enforce performance criteria to meet organizational goals, focusing on the needs of the organization rather than the individual worker (Hersey, Blanchard, & Johnson, 1996). Although the approach was different in both, the goals were similar: organizations must operate efficiently to achieve high productivity (Morgan, 1997). The heavy emphasis on the mechanization of jobs in both theories undermines the humanism of organizations and neglects the recognition of organizations as complex organisms. The perceived shortcomings of these two management styles toward humanity prompted emerging theorists to realize that humans were not machines. In the mid-1940s a shift occurred where all workers took responsibility for the organization's success or failure (Heckscher & Donnellon, 1994). This shift led researchers to examine the relationship between leaders and followers along with productivity and profitability.

## **Early Leadership Styles**

Every leader has a philosophy of management which incorporates the individual's beliefs about why people work and how they should be motivated. Three styles of leadership were identified during the 1930s that remain applicable today: authoritarian; participative and laissez-faire (Wren, 1995). Authoritarian leaders believe that employees are intrinsically lazy and only interested in monetary rewards. Consequently, these type leaders exert high levels of power over their employees telling them what to do. Few opportunities for making suggestions are permitted although it would be in the best interest of the organization since high employee absenteeism and turnover characterize this form of leadership (Gibson & Hodgetts, 1991). The Participative leader invites employees to contribute to the decision-making process. Involving employees in this process increases job satisfaction and assists in developing people skills. Finally, Laissez-faire leadership permits subordinates to do the work while the leader assumes a passive role.

Unlike the leadership styles of yesteryear, organizations have evolved into places where people are empowered, encouraged and supported in their personal and professional growth. As the landscape of leadership changes with the further integration of the world economy, a corresponding change in the influence, development and progression of leadership theory will emerge, thereby creating the need for continuous learning of new skills and knowledge (Saner & Lichia, 2000).

# Section 1: Major Paradigms of Leadership

Great man. Leadership research is divided into eight major schools of thought. The turn of the 20<sup>th</sup> century began with the "great man" perspective which viewed history being shaped by exceptional individuals (Bass, 1990). The "great man" school of thought suggested that certain characteristics in disposition differentiated leaders from non-leaders. Thus, leadership researchers focused on identifying individual differences, i.e. traits associated with leadership among which were intelligence and dominance. The pessimism that surfaced resulting from the interpretations of these findings by leadership scholars caused the termination of trait research. This termination represented the first major crisis in leadership research. The trait movement segues to the behavioral style of leadership of the 1950s.

Behavioral. Behavioral leadership focused on understanding the relationship between a leader's actions and a follower's satisfaction and related productivity.

Leadership involves accomplishing goals with and through people. Hersey et al. (1996) claimed that "the real power centers within an organization were the interpersonal relationships that developed among working groups" (p. 100). A new theory of leadership began to emerge based on the idea that individuals operate most effectively when their needs are satisfied. Moreover, when this happens they are more likely to increase their productivity which in turn impacts the organization's bottom line.

Contradictory findings related to the behavioral approaches created another crisis in leadership research. It became clear: the style of leader behavior was contingent on the situation. Consequently, in the 1960s, leadership theory began to focus on leadership contingencies.

Situational contingency. Unprecedented social change in the mid-1960s to the mid-1980s shifted from increasing economic wealth to ensuring social rights and equality. Along with this social change, the advent of the computer age provided a jolt to American businesses. Leadership became an intricate process of *multi-lateral brokerage* where leaders focused on other constituents within and outside the organization to survive (Vanourek, 1995). Leader-follower relations, task structure and the position power of the leader would determine leadership effectiveness (Antonakis et. al., 2003). The power transference from those doing the work to those possessing knowledge in organizing the work leveled the playing field for leaders and followers. House (1971) identified another well-known approach which focused on the leader's role in assisting the follower in achieving his goals. Researchers acknowledged that leaders were called upon to do more than *act* – but also to *react* to specific situations.

Relational/transactional. In the late 1970's leadership theory research focused on supervision as a way to improve organizational performance through specific interactions between leaders and followers (Behling & McFillen, 1996; Burns, 1978; Heifitz, 1994; Hunt 1991). This theory is based on reciprocity where the leader earns influence by adjusting to the expectations of followers and vice versa.

Research shows that the transactional leadership theory is the most prevalent in organizations, today (Avolio, Waldman, & Yanimarina, 1991; Seltzer & Bass, 1990). Specific incentives and an exchange of one thing for another i.e., rewards for an employee's compliance, characterize this style of leadership (Bass, 1990).

Transactional leadership concentrates on maintaining the status quo while managing the day-to-day operations of a business rather than identifying the organization's goals and how employees align with these goals (Avolio et al., 1991).

Transactional leadership's focus is narrow: It does not consider the entire situation, employee or future of the organization when offering rewards (Crosby, 1996). The focus is one of control, not adaptation (Tracey & Hinkin, 1994).

Information processing. The information processing perspective is rooted in social and cognitive psychology. It focuses primarily on understanding a leader's legitimacy resulting from his/her characteristics equating with followers' expectations about their leaders (Wofford, Goodwin, & Whittington, 1998). There is a renewed interest in this area and its development should provide more information for research.

# Skeptics.

The Skeptics paradigm of leadership suggests that leader actions are less important than leader ratings which are indicative of leadership theories perceived by individuals (Eden & Leviatan, 1975). These researchers suggest that leader outcomes affect leader ratings (Lord, Binning, Rush, & Thomas, 1978). While many unanswered questions remain about the skeptics of leadership it has provided more rigorous methodologies, the differentiation between top-level and supervisory leadership and expanded the focus on followers and how they perceive reality.

In the 1980s the focus of effective leadership began to change. A Nation at Risk (1983) underscored the urgent need for a different style of leadership in American schools. School leaders were asked to embrace notions and ideas that were foreign to formal schooling tenets and past practices (Houston et al., 2007). The release of the

report included many recommendations such as the benefits of driving key decisions close to the point of impact and implementation --- often at the school and classroom levels. During this period, school districts implemented site-based management, school councils and other decentralized decision-making processes with the express purpose of improving teaching and learning. The implied goal of these changes was simple: If we continue to do what we have always done, we'll get what we always got - and that was not good enough to keep the United States competitive.

Transformational. Interest in leadership was reignited by the promotion of visionary or charismatic leadership (Bass, 1998; Bennis & Nanus, 1985; Burns, 1978). Leaders were no longer concerned about productivity and efficiency but rather a different form of leadership that accounted from follower outcomes centered on a sense of purpose and idealized mission. This new theory, transformational leadership, induced followers to transcend their interests for that of the greater good. It also motivated individuals to work collaboratively to change organizations for sustainable productivity (Dixon, 1998).

Instead of focusing on where the organization is today and maintaining the status quo (the end result of transactional leadership), transformational leaders look beyond the organizations' direction to concentrate on the change needed, both internally and externally, to ensure employees reach the goal (Avolio et al., 1991). Patterson (1993) concludes that transformational leadership has been the theory of choice for the past several decades. This theory originated with Burns (1978), was expanded by Bass (1985), and has been further refined by Bass and Avolio (1994).

Transformational leaders inspire followers to achieve higher levels of performance for the sake of the organization (Burns, 1978; Yukl, 1998). Bass (1990) specified that transformational leadership occurs:

When leaders broaden and elevate the interests of their employees, when they generate awareness and acceptance of the purposes and mission of the group and when they stir their employees to look beyond their own self-interest for the good of the group. (p. 21)

Transformational leaders transform the personal values of followers to support the organization's vision through building relationships and establishing trust (Bass, 1995). Covey (1989) writes, "Trust is the highest form of human motivation because it brings out the very best in people" (p. 178). It creates a moral foundation upon which effective, sustaining leadership yields profitable and successful organizations (Ford, 1991). Avolio et al. (1991) established four primary behaviors that characterize transformational leadership: (a) idealized influence or charismatic influence, (b) inspirational motivation, (c) intellectual stimulation, (d) individualized consideration.

Peters and Waterman (1982) posit that the true role of leadership is to manage the values of an organization; therefore, leaders must be aware of how their values affect the organization (Grubbs, 1999). The influence of a leader's values requires the balancing of multiple constituency needs along with individual and organizational values and beliefs (Carlson & Perrewe, 1995).

**Servant leadership.** Servant leadership is a logical extension of transformational leadership (Stone, Russell, & Patterson, 2004) although both are considered to be a higher-order evolution in leadership paradigms. Both place emphasis on people and

production; however servant leadership's primary focus is upon his/her followers. Servant leaders value the people who constitute the organization rather than the organization itself.

Block (1993) posits that a deep hunger exists in our society for organizations where individuals are treated humanely and equitably, while being supported in their personal growth. Moreover, to be part of an organization where teamwork, community, values, service and caring behavior are staples and where leaders can be trusted to serve the needs of the many rather than the few.

The servant leader's focus is on service. Lubin (2001) suggests that the servant leader's primary responsibilities are relationships and people surpassing task and product. The servant leader's intention is to motivate, influence, inspire and empower followers to focus on ways to serve others better.

Bass (2000) describes servant leadership as "close to the transformational components of inspiration and individualized consideration" (p. 33). Servant leadership's foundation rests on the belief that the facilitation of growth, development and general well-being of individuals must be foremost, after which the organization's goals will be realized on a long-term basis. Self-interest should not motivate a servant leader but rather to serve and meet the needs of others (Russell & Stone, 2002).

Leader focus separates transformational leadership and servant leadership (Stone et al., 2004). Servant leaders gain influence from servant-hood itself: self-giving without self-glory (Russell & Stone, 2002).

# **Global Perspectives on Leadership**

The history of leadership will never be conclusive although there is general agreement that its understanding is extremely complex. It is prudent to examine leadership holistically and in context with history rather than in isolation from the organizations, forces and events that surround it. Schools have often bore the brunt of and resolution for society's problems.

In the post-World War II years, public schools were blasted by reformers for inadequately dealing with international and domestic threats to the nation. In the 1950s critics berated public schools for failing to keep pace with the scientific and military progress of the Soviet Union (Friedman, 2006). More engineers and scientists were needed to defend the nation in the Cold War. Education responded by raising academic standards and increasing the number of math and science courses.

The Soviet threat gave way to a more serious domestic problem that another group of critics believed school leaders should solve: the inferior schooling of black students in the south and across the nation. As the Civil Rights movement spread from the South to the rest of the nation in the wake of the Brown vs. Board of Education decision in 1954, attention waned from the international threat. Civil Rights marches, school boycotts and violence erupted and provided the impetus to lift those at the bottom of society to the middle classes.

In the mid-1970s critics again pounced on schools for abandoning their mission to teach basic literacy, respect authority and maintain discipline (Cuban, 2001). School violence, illiterate high school graduates and poor teaching made front-page news and supplied a meaty subject for a host of Hollywood films.

Effective leaders employ a variety of leadership styles and should differentiate when best to employ that style based upon the individual and/or organization's needs. No perfect model for examining leadership or exact criteria to follow exists. Leadership may be so complex that, at best, we can only obtain clues, study a variety of styles and partially seek understanding. Leadership is a phantom that exists in the mind; its effects can be felt when it occurs, but we know when it is not there.

# **Section 2: School Leadership Preparation**

The history. Schools are being held accountable for the success of all students and for increasing student performance to breed the next generation of competitors for the global market. Based on the conditions which now exist and those that will exist in the future, twenty-first century leaders have to be well-trained and equipped with a plethora of tools to make this achievement possible.

In the history of educational administration, three schools of thoughts have emerged that point to the future of the profession and the curriculum needed to support the training of educational leaders: (a) educational administration evolved out of the need to operate schools with practical and applied administrative skills; (b) bureaucratic educational organizations required specialized knowledge to ensure the leader's success; and (c) leaders of educational organizations required advanced tools, conceptual frameworks and theoretical knowledge (Berry & Beach, 2006).

In the early 1800s, the supervision and administration of education was delegated to professionally unskilled men, known as School Agents, who governed the local community (Berry & Beach, 2006). There was no classically-trained educational leader to supervise the one-room school rather community members' common sense was used to

organize a school for learning. The first legal recognition of supervision, beyond the employment and examination of teachers, occurred through a Massachusetts statute passed in 1789 (Prince, 1901). In 1826, approximately thirty-seven years later, Massachusetts passed a law requiring the formation of a supervisory committee to oversee the local school (Berry & Beach, 2006). It became clear that the acquisition of knowledge in running a school; information to be collected, synthesized and maintained; and an assemblage of skills and professional qualities that when combined, addressed the needs of the community and its expanding educational organization was necessary (Berry & Beach, 2006).

The need to train educational administrators for tasks that were specific to education escalated during the mid-1800s. As long as schools were locally-controlled and small in size, local businessmen, preachers and teachers possessed the common sense and skills to ensure their smooth operation (Berry & Beach, 2006). However, when schools began expanding into educational bureaucracies, a different set of administrative skills were required that surpassed the ability of most individuals in the local community. It was realized early on that the success of the school district was contingent upon the training and experience of the educational administrator. Consequently, the first university-based class for school administrators was developed at the University of Michigan in 1879. It was not until the early 1900s that Columbia University achieved recognition and professional acceptance by establishing a university-based program of study in educational administration which was followed by a doctoral degree with an emphasis in educational administration (Beach & Berry, 2006).

Early university-based program. Early educational administration programs utilized a common sense approach in teaching supervision, educational leadership, administration and management. The approach was an extension of local needs along with professional knowledge gained during the industrial period (Beach & Berry, 2006). During the early twentieth century, business moguls used the success of their corporations as leverage for local communities, states and the nation by pressing for specific educational outcomes: cheap education, practical knowledge (less academic rigor) and scientific management (Berry & Beach, 2006). The need for a trained and pliable workforce, during the 20<sup>th</sup> century, and an educational structure that addressed teaching, learning and administration with a heavy industrial emphasis was widely reflected in America's K-12 curriculum (Callahan, 1962). The field of educational administration, a university-based program of study, accepted the challenge of training schoolmen using a corporate orientation to managing schools (Berry & Beach, 2006). Although the program reflected applied and practical solutions for the administration of schools by professional businessmen with solutions for education, it was not an academic, theory-based, approach to administration.

Iannacone (1976) posited that educational administration programs in the early twentieth century were "relatively centralized with the dominance of practice over research" (p. 5). It was this dominance over practice that Iannacone further postulated:

Research produced during the twenty-five year period was trivial, atheoretical and useless as a scientific base to guide practice, training or future research, however useful it may have been in fostering certain administrative-political agendas. (p.

19)

Behavioral, scientific and theoretical basis. During the late 1940s and early 1950s in an attempt to become more theory-driven, the field embraced a scientific method that every school administrator should be grounded in the science and theory of administration. Programmatic changes were evident with the emergence of theory-based research that was influenced by the social and behavioral sciences (Iannacone, 1976). By 1960, the field shifted to emphasize a more academic preparation, which "increased the conflict between practice and research" and added to the impending "political revolution in education" (Iannacone, 1976, p. 29).

During the 20th century, educational administration's focus was on applied knowledge, professional knowledge and academic training. The training of educational administrators was viewed from a three-way approach that consisted of practice, professional knowledge and academic scholarship. Attaining a balance between an academic program of study and a practitioner-oriented program of study was of chief concern. The debate has intensified as the last 50 years have been marked with one lengthy redundant conversation surrounding relevance, knowledge base, research, relevance, theory development, scholarly activity and relevance (Beach & Berry, 2006).

Future preparation of an educational leader. Extraordinary economic, demographic, technological and global changes have transformed the job of an educational leader. All American institutions have been jolted by the sweeping changes resulting from the transition of an industrial to a global, information-based economy (Levine, 2005). Specifically, in California the economic crisis is directly proportional to the educational crisis (Shirvani, 2009). Education has been metamorphosed into a powerful catalyst to drive our economy and its future. A more educated adult population

is needed to compete in the global marketplace (Friedman, 2006). Our children need more advanced skills and knowledge to be employable in the information age than ever before. States have responded to government interventions by raising standards for school promotion and graduation, mandating student testing and demanding school accountability (Levine, 2005; US Department of Education, 1983; US Department of Education, 2002/2006; US Metric Association, 1994). Measurable outcomes and improved student achievement are the new standards that drive education in the 1st decade of the 21st century (Beach & Berry, 2006).

In an outcome-based, accountability-driven era, leaders have to lead their schools in the retooling of goals, priorities, budgets, staffing, instruction, assessment, technology, and time and space logistics (Levine, 2005). Secondly, leaders not only have to recruit and retain staff, but also educate new and experienced staff to an educational system that is constantly evolving (Miller et al., 2007). Further, leaders have to ensure the professional development of teachers to increase efficacy and prepare parents and students for the new realities of learning while providing the necessary support for each group to succeed (Levine, 2005). Finally, leaders need to engage in continuous evaluation and school improvement and create a sense of community in a time of change (Fullan, 2007; Miller et al., 2007). Few educational leaders have undergone the preparation needed to carry out this aggressive agenda.

The radical differences that dominate all aspects of schooling today, i.e. changing demographics, and race and income segregation, drastically transform the vision needed for preparing current and future leaders for schools and communities (Miller et al., 2007). Two decades ago, Peter Drucker (1989) predicted that in years to come education would

change more than it had "since the modern school was created by the printed book over three hundred years ago" (p. 232). He also predicted that education would assume a social purpose and that educators should not create barriers between those who were highly-schooled and those that were not. Further he predestined that schools would be expected to educate all of the children, of all of the people, all of the time. NCLB formalized this expectation within a framework of accountability which embodied an anticipated outcome of higher student achievement and learning (De León, 2006).

Public demand for more effective schools and increased student achievement has cast the spotlight on the crucial role of educational leaders: which until recently, had been overlooked by the reform movements of the past 20 years (Davis et al., 2005). Evidence suggests that school leadership is "second only to classroom instruction" (Leithwood, Seashore, Anderson, & Wahlstrom, 2004, p. 3) among school-related factors and strongly affects student learning. To that end, educational leaders should be held accountable for learning. A lack of improvement may result in sanctions for schools that fail to perform, including the educational leader's termination (California Department of Education, 1999). In the past, the focus of American education has been on testing; however, with the passage of NCLB, the focus will change to one of performance and leadership, providing the goal of creating effective schools is realized.

**Leadership in crisis.** Research shows that educational leadership is in a state of crisis precipitated by (a) school districts' inability to attract and retain highly-qualified candidates for leadership roles (Knapp, Copland, & Talbert, 2003); and (b) potential candidates and current educational leaders are ill-prepared and inadequately-supported to organize schools for learning improvement (DeLeón, 2006; Levine 2005).

Despite the nation-wide shortage, many educational administration programs are graduating an increasing number of certified educational leaders (Miller et al., 2007). However, many of these graduates are teachers who enroll for professional development credit and/or salary scale advancement rather than pursue a career as an educational leader (Levine, 2005). The process by which preparation programs traditionally screen, select and graduate candidates are ill-defined, irregularly applied and lacking in rigor (National Policy Board for Educational Administration [NPBEA], 2001). Consequently, many aspiring leaders are too easily admitted on the basis of their academic proficiency rather than the application of knowledge, skills, dispositions and experiences needed to successfully lead schools (NPBEA, 2001). A widening dichotomy exists between the daily realities of school leadership and what is taught in schools of education.

Since the role of the educational leader is cloaked within a panoply of academic and administrative responsibilities along with building school-community relations, it is no surprise that the traditional methods of preparation no longer meets the challenges posed by public schools (Elmore, 2000; Levine, 2005; Peterson, 2002). Levine (2005) charges that the quality of preparation of the nation's school leaders ranges from "inadequate to appalling," (p. 24) and that programs are marked by "low standards, weak faculty and irrelevant curriculum" (p. 24). Education administration programs should be more selective, more focused on instructional improvement, more attuned to the needs of the District and provide more relevant internship experiences (Wallace Foundation, 2008).

**Credentialing.** California has a two-tiered system for obtaining an administrative credential: Five-year Preliminary Credential and a Clear Credential. One of the paths that

school leaders can take to qualify for an administrative position is to take a test to earn both credentials before they participate in a formal preparation program (Davis et al., 2005). Currently, no tracking data exists to determine if this system makes a difference in the quality and skills of an educational leader. Consequently, there is no research that shows whether an educational leader who enters the job in this manner is doing as well as, better or worse than those who have completed a preparation program prior to acquiring the job (Berry & Beach, 2006).

In order to qualify for the Clear Credential, the individual must possess a valid Preliminary Administrative credential, verify 2 years of successful experience as a full-time administrator and complete one of the following: (a) recommendation of a Commission-approved program verifying completion of an advanced preparation program; (b) State Board of Education-approved Administrator Training Program; (c) mastery of Fieldwork Performance Standards through a Commission-approved program; (d) Commission-approved alternative program; or (e) Commission-approved performance assessment (California Commission on Teacher Credentialing, 2009).

University-based and alternative preparation programs. The quality of university-based programs is considered to be a primary weakness in the nation's educational systems. University-based programs have been undergoing scrutiny and have been encouraged to improve by state governments, as well as educational organizations such as the National Council for the Accreditation of Teacher Education (NCATE), the National Policy Board for Educational Administration (NPBEA) and the Interstate School Leadership Licensure Consortium (ISLLC). Educational administration

programs have trained many administrators over the past century, but have failed to gain credibility for its actions or ability (Beach & Berry, 2006).

The typical education administration program has been described as a "random collection of courses that does little to prepare the school leader for the job" (Levine, 2005, p. 27). Curriculum consisted of discrete coursework delivered in a recommended sequence by university professors in specified content areas (Miller et al., 2007). There was minimal, if any, coordination between courses or links drawn in course content. Meaningful clinical or field-based education was virtually non-existent and when offered tended to be disconnected from academic instruction.

Collectively, Levine (2005) found that the quality of university-based, educational administration programs nationwide, were the weakest of all programs at educational schools. Persistent weaknesses include (a) admission standards that allow participants to self-select without either the potential or commitment to assume school leadership positions; (b) curriculum and knowledge base may not best serve the interests of schools, districts and diverse student bodies; (c) weak connection between theory and practice; (d) faculty with limited leader experience; (e) shallow, poorly-designed internships and field-based internships that are disconnected from the rest of the program. Additionally, traditional university-based programs were classroom-based with primary reliance on courses of uniform length, utilizing a faculty consisting of education school professors and some practitioners to provide instruction (Miller et al., 2007). In acknowledgment of these weaknesses and the effort to improve the quality of preparation programs, policymakers have expanded the scope and magnitude of government regulations by

encroaching on traditional university policies such as establishing standards for graduates, modifying curricular content and faculty composition (Levine, 2005).

States have approved alternative routes of preparation and waived traditional certification requirements rather than wait for education administration programs to reform (Levine, 2005). In California, the Commission on Teacher Credentialing and the governor's office determined that schools of education "did not prepare school leaders well enough" (p. 49) or in sufficient numbers to meet the impending shortage, so they passed legislation to allow school leaders to be prepared by virtually anyone (Levine, 2005). Schools of education have been led "like sheep to the slaughter," (Isaiah 53:7) continuing to do business as usual instead of acknowledging their shortcomings. The dramatic changes in the nation and world have provided compelling evidence for schools to re-evaluate their preparation programs for educational leaders (Levine, 2005). Consequently, an increasing number of competitors have flung open their doors for the opportunity to prepare school leaders; an area that was once sacrosanct and reserved for schools of education.

Major competitors, leadership academies, are springing up in a growing number of states with the goal of providing high-quality alternatives that are responsive to district leadership needs and competition to university-based programs (Wallace Foundation, 2008). In 2003, leadership standards were created to guide what is taught in the state's numerous principal-preparation programs. The California State Leadership Academy, established in 1985, was a highly-regarded state-wide program that fell prey to budget cuts in 2003. While in operation, the academy trained approximately 15, 000 school

leaders in a seminar-based program which required students to maintain portfolios to document their leadership development (Levine, 2005).

In contrast to university-based programs, leadership academies offer courses that occur largely in schools; vary in length; experiential-based; taught primarily by practitioners and some business school professors; and focus on management (Levine, 2005). Consequently, these programs are lengthy in practice and short on theory, exactly the opposite of the university-based programs. Ironically, university-based programs have inherent advantages over the alternatives. They bridge connections with various fields and maintain long-standing relationships with school systems and their leaders. While gaining popularity, it is unrealistic to expect alternative programs to make up the difference with the number of administrators needed in the coming years (Levine, 2005). They are just too few, too small and untested. Further evidence of the state's flexibility in offering alternatives is shown in schools where non-educators have been hired to lead school systems i.e., Los Angeles, Philadelphia, and New York.

**Future program needs.** The new knowledge and skills that must be taught in preparation programs today should include not only *what* but "how and when to use which skills effectively" (Miller et al., 2007, p. 14). Research on educational leadership reveals elements of successful practice that must be included in preparation programs for future leaders.

The Levine research (2005) documented that a leader in training needs a framework for leadership and then on-going learning opportunities to practice applying that framework in authentic settings and situations. He also postulated that the integration of theory and practice and the utilization of curriculum that is "rigorous,"

coherent and organized in teaching the skills and knowledge needed at specific schools and at various career stages," (p. 58) attests to more rigorous leadership proficiency.

Ideally, a partnership is formed between the candidate's school and the university preparation program. Both parties influence the content and delivery of the experiences to meet higher standards for preparation programs and provide a blend of theory, research and best practices in rigorous, engaging, performance-based teaching strategies (Miller et al., 2007). Active learning andragogies, such as problem-based learning, case studies, field-based learning, journaling and assignments that engage students in the work of instructional leadership should be used to encourage continuous reflection of the connections between theory and practice (Wallace Foundation, 2008).

Students in administrator preparation programs must be prepared for the real problems they will encounter in schools, in the same way they will face them in real life (Miller et al., 2007). Today's educational leaders are inundated with multiple issues, simultaneously, on a daily basis. Traditional preparation programs offer discrete, artificial and isolated problems that falsely represent a typical day in the life of the leader (Miller et al., 2007). The goal should be to teach concepts in integrated units rather than in isolation. As concepts are introduced, they become the foundation for the application of administrative leadership skills in real settings (Miller et al., 2007). Once presented, students should be able to share their prior experiences in similar settings and improve upon previous actions taken through continued learning, analysis and reflection.

Following this process, students should be able to practice higher levels of awareness, application and expertise. Since learning is designed around actual school settings and individual assignments, the curriculum offers a student-centered approach that is

customized for each learner, allowing for differentiated instruction to take place (Miller et al., 2007).

Different schools require different skills sets which serve to increase exploration, discovery and application of concepts to the real world (Kovalik & Olsen, 1994). Policy and practice need to support a variety of leadership models (Portin et al., 2003). Educational administration programs must provide graduates with the skills and knowledge necessary to lead today's schools (Levine, 2005). The minimum educational requirement for the position of an educational leader should be a Master's Degree earned within program curricula that is comprised of two major tenets: (a) management which includes finance, organizational and change leadership, and human resources alongside; (b) education that includes school leadership, instructional design and faculty development (Levine, 2005).

Quality preparation programs. Levine (2005) offers a nine-point template for judging the quality of school leadership programs: (a) purpose, (b) curricular coherence, (c) curricular balance, (d) faculty composition, (e) admissions, (f) degrees, (g) research, (h) finances, and (i) assessment.

The program's purpose should focus on the education of practicing school leaders with the primary goal of meeting the needs of today's leaders, schools and students.

Additionally, the content and program's philosophy should be aligned; scaffolding should be used to integrate important disciplinary theories and concepts linking them to practice. The curriculum should mirror the program's purposes and goals balancing theory and practice in both the university classroom and in schools with successful practitioners.

The faculty should consist of productive academia and practitioners, who have expertise

in school leadership, are current in their field and firmly rooted in the university and the school. Curriculum and student enrollment should determine faculty size and field of expertise. The selection of students for admittance should be based on their capacity and motivation to assume educational leadership positions. Graduation standards should be high and the degree awarded should be job-relevant and appropriate to the needs of today's schools and educational leaders. Any research administered should be high-quality, practice-driven and beneficial to policy-makers and practitioners. Financial resources should be adequate to support the program. The program should engage in ongoing, systemic self-assessment to update curricula as needed in meeting legislative, school and district needs as well as to maintain credibility and viability.

Professional development. Many districts are so desperate to fill vacancies that they are forced to hire individuals with little or no experience in school administration (Connelly & Tirozzi, 2008). In many cases, an extremely high turnover rate results which supports the reality that schools are not getting the leadership they need and deserve. Professional development will give principals the tools to use data to drive instruction, lead schools with changing demographics and needs and prepare students to meet challenging content standards (Connelly & Tirozzi, 2008). Resources must be made available to ensure that new leaders with talent and potential are retained to increase their effectiveness in leading the learning in their schools.

On-going professional development should encompass short-term programs that complement the school leader's career stage, the needs of the school and/or district and recent developments in the field (Levine, 2005). The content of the development program should be focused on reducing isolation and building skills; allowing ample time

to concentrate on instruction, including the development and evaluation of research-based curriculum; providing educational leaders with the authority to allocate resources to meet the needs of their schools; and utilizing accurate, relevant data to diagnose students' needs and teacher direction (Haycock, 2007). Current research on school leadership, management, instructional leadership and state licensing standards should also be integrated into the curriculum (Davis et al., 2005).

**State's role in preparing leaders.** Improving the quality and the job-relevance of school leaders' preparation both before and after leaders assume positions is paramount. To that end, many states and districts are taking the high road in committing energy and resources to achieve this effort. Forty-six states have adopted leadership standards and many have utilized them to evaluate leadership training programs and school leaders to hold them more accountable (Wallace Foundation, 2008).

Some educational organizations such as the National Council for the

Accreditation of Teacher Education (NCATE), the National Policy Board for Educational

Administration (NPBEA), the related Interstate School Leadership Licensure Consortium

(ISLLC) and many states are pressing universities to redesign their leadership programs
through new accreditation guidelines and more rigorous standards (Berry & Beach, 2006;

Miller et al., 2007). Potentially, the state can determine who may enter preparation

programs; curricular content; certification requirements for initial licensing and renewal;

ground rules for appointment; and requirements for professional development (Southern

Regional Education Board, 2006). The State's power to license educational leaders can

be a powerful weapon in ensuring that schools have leaders that are focused on

improving instruction.

The Wallace Foundation Report (2008) identifies four action areas that can lead to the optimal training of educational leaders:

- Successful training programs should be more selective and focused on
  instructional improvement and the needs of districts and provide more relevant
  field-based internships with hands-on leadership experiences.
- Leadership training should continue with high-quality mentoring for new educational leaders and professional development for all leaders to promote career growth long after educational leaders are hired.
- High-quality professional development can make a real difference provided adequate resources are allocated continually.
- Transforming the ills of leadership preparation programs is essential but improving the difficult working conditions is also a necessity. (pp. 5-9)

# **Section 3: Impact on Student Learning**

Traditional schools have been characterized, to a great degree, by teacher isolation. It has been said that a "traditional school functions as a group of independent contractors united by a common parking lot," (Dufour, Eaker, & Dufour, 2005, pp. 10-11). Old paradigms are being reincarnated as new paradigms without changing old ways of thinking (Marzano, Waters, & McNulty, 2005). A new paradigm is needed that emphasizes the improvement of student learning for all students through shared leadership and responsibility and holding every stakeholder accountable.

Richard Elmore (as cited in Fullan, Hill, & Crevola, 2006) remarked, "When schools do not have their internal act together, it simply does not have the capacity to improve," (p. 8). As stated earlier, the demands and challenges that educational leaders

face today have become increasingly more complex than those faced only a few decades ago. The change of magnitude needed today to shift our schools from mediocre to exemplary is too large a job for any one individual. To be effective change agents, educational leaders need to cultivate transformational growth with all stakeholder groups. Leaders must be strong communicators, knowledgeable and committed to the change. The effective operation of a school increases a student's chance of success and the reverse is also true (Marzano et al., 2005).

Successful and effective educational leaders focus relentlessly "on the things they can change, not on the things they can't" (Haycock, 2007, p. 30). In the past, California policymakers paid sporadic attention to educational leaders choosing instead to focus on reforms to silence the public's demand for increased student achievement (Miller et al., 2007). However, in the 1990s, leadership emerged as the catalyst for school improvement around which everything else evolved (Fullan, 2007). Research shows that effective school leaders are instrumental in creating a culture within schools that supports improvement in student learning and achievement (Deal & Peterson, 1990). Strong leaders who believe in a students' potential is imperative. Energetic and entrepreneurial leaders are needed who can create a vision and marshal the enthusiasm and skills of the faculty to get there. School leadership is also a key factor in the recruitment and retention of teachers (Gaston, 2009). Real growth takes place with people who enjoy living outside their comfort zones.

Education transforms lives and schools are very powerful agents in its realization.

Educational leaders must harness that power to catapult our students from where they are to where they need to go. Successful school leaders influence student achievement

through (a) the development and support of effective teachers and (b) the implementation of effective organizational practices (Davis et al., 2005). Processes must be simplified and efforts realigned toward common purposes. Habits that do not move the school and students forward must be discarded.

New paradigm of successful leadership. As indicated previously, evidence suggests that school leadership is "second only to classroom instruction" (Leithwood et al., 2004, p. 3) among school-related factors and strongly affects student learning. The impact of this leadership tends to be greatest in schools where learning needs are most acute. Three sets of simple leadership practices comprise the core of what successful leaders do that are consistently linked to improved student learning and make up the essence of this new paradigm of successful school leadership: (a) setting directions, (b) developing people, and (c) developing the organization.

Setting directions has the greatest influence on the effectiveness of leadership and involves building a shared vision, setting group goals and encouraging high performance from all school stakeholders. People are motivated by goals that help them make sense of their work and the extent to which their work performance is in alignment with the goals of the organization. In application, this includes providing staff with an overall purpose for their work; helping staff build consensus around district and school priorities; connecting decisions to group goals in alignment with the mission and goals of the school; and encouraging staff to be effective innovators (Leithwood et al., 2004).

Developing people denotes providing individualized support, offering intellectual stimulation to improve work performance and provide comparable models of practice.

Together a culture must be created that values collaboration and rewards shared success.

This practice encompasses the thoughts and actions of all stakeholders, requires nurturing the best in ourselves and each other, solicits internal and external partnerships to garner community involvement and provide quick responses as opportunities arise. In application, this includes identifying resources for professional development of staff; recognizing staff as individuals and respecting their uniqueness; modeling; being willing to change practice as a result of new learning; and serving as a model for success and accomplishment within the profession. (Leithwood et al., 2004).

Developing the organization involves creating a collaborative culture, restructuring the organization, and building positive relationships with families and communities. The contributions of schools to student learning are contingent upon the collective and individual capacities of teachers and administrators. It is about building a team to achieve the shared vision of effective teaching and learning. Leaders are able to accomplish this by promoting a climate of caring and trust, involving staff in decision-making, establishing workplaces that facilitate collaboration for professional growth and integrating community characteristics and values in the school (Leithwood et al., 2004).

Leading has been described as a process of influencing others to achieve mutually agreed-upon purposes (Patterson, 1993). This influence implies planting and cultivating relationships among people which aligns with *developing the people*. The dead-end paradigm of single-handed heroism has long been inducted into the *leadership hall of fame* and forgotten until a researcher sees fit to compare past leadership practices with the present. The new paradigm of school leadership functions through the distribution and participation of school stakeholders (Spillane, Halverson, & Diamond, 2001). This relationship has been described as a *social contract* among people or between a person

and their follower (Rost, 1993). Barth (2001) proposes that it takes a community of leaders to truly mobilize a school so that teaching and learning, change and improvement are continuous. The educational leader is only one player on the team; how the leader transfers the baton to cultivate leadership throughout determines the leader's contribution in moving the school forward. The results needed in today's schools point to a school-wide focus on better teaching and learning led by dedicated, well-prepared individuals who involve others in creating a vision, share authority and are accountable for achieving the school's goals (Wallace Foundation, 2008).

Vision, authority and achievement. Leadership begins with a vision; without which there can be no effective leadership. King Solomon said it best, "Where there is no vision, the people perish" (Proverbs 29:18, KJV). From the leader's perspective, the vision is a reality that has not yet entered into existence. Vision can be the creation of a focus (Miller et al., 2007) or a faith-walk (Hebrews 11:1, NKJV). A vision can provide a glimpse of the future for which people are willing to work. "All leaders have the capacity to create a compelling vision" and to "translate that vision into reality" and "manage the dream" (Bennis, 1990, p. 46). Although the vision speaks to the future, it must be grounded in the present.

The leader must provide others in the organization with the opportunity to become part of something by choice. Creating a vision is not a singular event but rather an evolutionary process that develops over time by listening to others and sorting the priorities. Its development requires continued articulation, reflection and reevaluation. Whether developed collaboratively or initiated by the leader, the vision of an

organization is owned by the followers and becomes the common ground in which all are staked (Miller et al., 2007).

The leader must develop networks, relationships and the organizational culture that will allow the vision to be realized in an environment where stakeholders can find meaning and motivation. Workers are more effective when they can take pride in the product, the quality of their services rendered or the known integrity of the organization (Gardner, 1990). Leaders who are open to participation and empowerment believe in the inherent desire and ability of most people to contribute positively to their organizations (Wheatley, 2006). Leaders should focus on teamwork and develop skills in their stakeholders for building consensus as well as problem-solving through teamwork. Leading by example is one of the best methods to demonstrate desired characteristics (Birnbaum, 1992).

Selecting the right leader. Evidence suggests that there are differences in the administrative competencies needed to lead different kinds of school. Selection should consider candidate characteristics and qualifications within the context in which they will be working (Leithwood et al., 2004).

The decline of low-performing schools is not due to the lack of effort or motivation, but making poor decisions about what to work on (Marzano et al., 2005). The *right work* encompasses the implementation of methods that make a positive difference in student performance. The addition of technology and diversity to the curriculum broadens the skills and knowledge of students; developing relationships builds social skills, cohesion and understanding with others in the learning environment.

Leaders must prioritize the right work to determine whether the expense of time and personnel benefit the long-term goals of students.

Leadership will have a positive or negative impact on student achievement with the determination of the focus of change and order of change (Marzano et. al., 2005). The focus of change addresses whether the leader identified the correct focus for the school and instruction. This is evident in the creation of the vision and how the vision affects instruction. The order of change determines whether the leader understands the magnitude of the change being led and enables adjustments in leadership practices. Leadership practices should focus on learning and guiding rather than enforcing.

While evidence shows small, but significant effects of leadership across the total spectrum of schools, existing research shows the effects of effective leadership is greatest in schools that are in more dire circumstances (Leithwood et al., 2004). Ironically, research shows that powerful leaders have made a positive difference in reversing achievement in troubled schools. Without question, there are many variables that may contribute to such reversals but leadership is the catalyst. The value of transforming leadership capacities of underperforming schools is incalculable to school improvement efforts.

In the past, most conventional views of leadership were founded on the premise that the leader makes leadership happen. Few opportunities were presented to anyone but the leader to shoulder the power, authority and responsibility for the group's success. However, case studies show that educational leaders influence learning primarily by motivating and enlisting others around ambitious goals and supporting teachers to improve learning (Togneri & Anderson, 2003). Leadership is not individual; it is a

relational phenomenon that mobilizes people to fulfill the purposes of education. It dwells in interpersonal networks among the members of the group: the faculty, the workforce, the nation (Donaldson, 2006). Donaldson (2006) proposes the Three Stream Model: (a) relational which fosters a mutual openness, trust and affirmation sufficient for stakeholders to influence and be influenced by others; (b) purposive which marries individual commitments and organizational purposes to foster the belief that work is productive and good; and (c) action-in-common which nurtures a shared belief that collectively, goals can be accomplished more successfully than individually.

When leaders bring people together in trust with a commitment to a common purpose and a belief that acting together, rather than apart, will make them more effective with children, those individuals will mobilize to serve children better.

Professional learning communities. The focus of traditional schools is teaching; however, the focus of the Professional Learning Community (PLC) is student learning. A PLC is a relatively new concept that positions teachers as inquirers: a radical departure from past practices that have historically advocated teacher isolation and a radical shift in the teacher-student relationship. Professional teaching requires learning that is both measurable and measured. Teachers in PLC's recognize that teaching has not occurred until learning has occurred so they make adjustments, accordingly (Dufour & Eaker, 1998). PLC's provide the education community with one of the best opportunities to reculture schools (Dufour et al., 2005). Schools that operate in this manner are characterized as having a student-centered focus and a collaborative culture.

Collaborative models aid schools in increasing capacity by creating schoolwide systems that make student needs, the educational teams responsibility (Fullan, 2006).

When an educational team chooses to direct its focus on transformation into a PLC, all stakeholders simultaneously focus on: effective collaboration, shared vision, mission and goals, learning, leadership, continuous school improvement, celebration, and persistence (Blankstein et al., 2008).

Professional learning communities offer a venue for combining professional staff development and classroom assessment practices for the purpose of improving student learning and instruction (Blankstein et al., 2008). Professional staff development and formative assessments of student learning are distinct attributes of school culture that have a profound influence on student and teacher learning. Staff development that is ongoing and focused on student learning as well as the school's individual needs hold the potential to improve instructional practice. In a world of standards and accountability, PLC's are more likely to succeed in an environment where teachers have extended opportunities for professional development and learning that is grounded in practice. Moreover, assessment practices that originate at the classroom level can inform decisions that guide instruction and student learning.

In a recent study, McLaughlin and Talbert (2006) found that effective educational leaders "leverage teacher commitment and support for collaboration," "develop learning resources for teacher communities," and "support transitional stages of community development" (p. 56). In doing so, the educational leader spreads and develops leaders across the school, creating a critical mass of school leaders as a resource for the present and the future (Fullan, 2007).

Newmann, King, and Youngs (2006) focused on the concept of school capacity.

School capacity consists of the collective effectiveness of the whole staff working

together to improve student learning for all. School capacity integrates five components:

(a) teachers' knowledge, skills and dispositions, (b) professional community, (c) program coherence, (d) technical resources, and (e) educational leadership.

While teachers' knowledge, skills and abilities may make a difference in individual classrooms, unless it is connected to collective learning, it fails to influence the culture of the school (Newmann et al., 2006). Social resources are critical in school improvement; therefore, individual development must be conjoined with schoolwide professional communities to increase capacity. Program coherence comprises organizational focus and integration. It is defined as the "extent to which the school's programs for students and staff learning are coordinated, focused on clear learning goals and sustained over a period of time" (Newmann et al., 2006, p. 5). Instructional improvement requires additional materials, equipment, space and expert accessibility. Finally, quality leadership must be present to develop school capacity.

The role of the educational leader is to consistently improve the aforementioned components. Moreover, this role includes the engagement of faculty in the creation of a shared vision and values to give people the direction they need to act autonomously which facilitates consensus, conflict resolution and a sincere interest in finding common ground (Dufour & Eaker, 1998). Educational leaders involve others in decision-making processes and empower them to act on their ideas. Elmore (2000) states:

The job of administrative leaders is primarily about enhancing the skills and knowledge of people in the organization, creating a common culture of expectations around the use of those skills and knowledge, holding the various pieces of the organization together in a productive relationship with each other,

and holding individuals accountable for their contribution to the collective result. (p. 15)

# **Summary**

Leithwood et al. (2004), after studying and developing educational leadership for the past 40 years, concluded that leadership determines approximately three to five percent of the variation in student learning across schools. In another, thorough study, Marzano et al. (2005) drew similar conclusions. They examined 69 studies involving 2802 schools, approximately 1.4 million students and 14,000 teachers and found a .25 correlation between the leadership behavior of the educational leader and student achievement. The study also identified 21 specific behaviors that influence student learning, most of them indirectly, through shaping the culture and relationships of people within and between the school as well as outside.

Leaders influence student learning by helping to create a shared vision and goals around which the school evolves and by gathering the necessary resources to support teachers. It is clear that school improvement is a vital component of the teaching-learning process of which, the educational leader in some schools, is key.

As we enter a new century, the issues facing leaders are more complex among which are (a) decreasing financial support for public education and the growing impetus for stronger alternatives such as charter schools, open enrollment vouchers, school choice; (b) increasing accountability measures for academic improvement and vocational preparation; and the (c) increasing expectation to better educate children with special needs i.e., special education, English language learners, and children from non-traditional families.

It is imperative that states, local school districts and universities make a concerted effort to establish new and relevant connections to achieve the goals of having educational leaders who are prepared to lead in all schools, particularly those that need them most (Miller et al., 2007; Wallace Foundation, 2008). The right kind of training for this new leadership paradigm means that the curricular content utilized in universities, academies and other providers needs to be more firmly embedded within the leadership standards that places learning first and foremost (Wallace Foundation, 2008).

Preparation also needs to be connected to the daily realities of schools and districts that its graduates will eventually lead. Universities and districts must maintain an on-going dialogue and work collaboratively in meeting mutual needs by pooling talents, resources and expertise (Miller et al., 2007).

In addition to working collaboratively within connections, states and districts also need to work together to ensure that policies affecting leadership standards, preparation and work conditions are all interlinked and being driven by the same objective: educational leaders who are both prepared and supported to provide leadership for learning (DeVita, 2007). A continuum of learning opportunities that focuses on instructional leadership, providing support for new educational leaders and developing leadership academies that provide state or regional professional development are critical to the program's success (Haycock, 2007).

The program calendar, length and content should also be redesigned to allow for a seamless transition from classroom to practice rather than a strict adherence to the time constraint of a semester/quarter system (Levine, 2005). Course offerings should be designed so that they vary in length and in accordance with the stages of an educational

leader's career: from aspiration to mastery, is ideal (Levine, 2005). Research in and outside of education should serve as the cornerstone of the program with a faculty that is comprised of an integrated team of practitioners and academicians (Miller et al., 2007). The ultimate measure of the program's success and accountability should be the analysis of accurate and detailed data that corroborates improved student achievement in the schools, program graduates led (Levine, 2005). Continuous assessment and research are the heart of the program so that "research drives practice and practice fuels research" (Levine, 2005, p. 62).

Bold, new approaches are needed in leadership preparation programs to marry theory and practice, combine teaching and learning and produce on-going, relevant professional development for both universities and public schools. It is time for a revolution: a radical departure from what was done in the past to what must be done in the present to meet the national imperative of improving failing schools. This dramatic reversal begins with the preparation of school leaders because in the final analysis the impact of leadership affects student learning.

**Chapter Three: Methodology and Procedures** 

Overview

The purpose of this research study was to explore a new paradigm of school leadership where collaboration and building relationships are critical to increasing student achievement. To that end, the research questions that guided this study are: (a) What skills and knowledge are needed for effective school leader [principal] training in the 21<sup>st</sup> century, both before and after school leaders are hired, to prepare and ensure they meet the demands of the jobs; (b) What is the perception of the leader on the extent to which their training prepared them to support student learning; and (c) What components of the curriculum in graduate schools of education, if any, do effective leaders find valuable for successful school leadership and which component do they find most valuable? The research questions were divided in 3 sections so as to categorize the findings with the greatest degree of accuracy and clarity. This chapter identified the research and analysis methods that were used to examine the three aforementioned research questions. The review of literature provided comprehensive information on these three areas and was therefore, instrumental in the development of the research Survey Questionnaire.

Education cannot keep step with the changes that are occurring on a daily basis in society and reform does not match the pace of the changes. Leadership is extricably linked with effective teaching and learning. A recent California study identified school leadership as a key factor in high student achievement (Kirst, Haertel, & Williams, 2005). Leadership skills and knowledge must be constantly molded to meet the challenges of our changing schools. Research shows that leaders who put people first are far more effective because people are the core of change. Consequently, change must focus on the

perceptions of the people that the change will affect to be successful (Ketelle & Mesa, 2006).

# **Research Approach and Design**

The research design consisted of mixed methods: qualitative to determine underlying concepts and theories and quantitative using descriptive statistics and two inferential tools – ANOVA and Chi Square. A Survey Questionnaire was administered to a sample size of approximately 92 principals.

Responses from this survey were analyzed and expected to provide useful information for Superintendents to determine the appropriate professional development for various subgroups among LAUSD Principals. Due to the large number of Principals expected to participate in the study coupled with their various assignments within Pre-K-Adult schools permitted a cross-section of principal backgrounds, experiences, preparation and training to be examined, holistically, and as individual groups.

# **Subjects**

The targeted participants in this study were school principals; ethnicity and gender were determined by participants' responses on the Survey Questionnaire. Since there were a maximum of 92 principals assigned in Los Angeles Unified School District (LAUSD) Local District 3, all principals were requested to participate in the study to avoid partiality and exclusion. All of these principals are expected to attend monthly local district meetings from which subjects for this study will be recruited. Principals who were absent from the district meeting were contacted via phone by the principal investigator to elicit their participation. The presentation and telephone scripts are included in Appendices A and B, respectively.

These subjects were selected for several reasons: (a) Schools within LAUSD, Local District 3 are representative of a Pre-Kindergarten through Adult population allowing for a cross-section of principal backgrounds, experiences, preparation and training; (b) the principals assigned in this local district represent a cross-section of ethnicities; (c) Local District 3 is comprised of one Primary Center, 59 Elementary Schools, 11 Middle Schools, seven High Schools, seven Continuation Schools, three Special Education Schools, one Community Day School and three Community Adult Schools totaling approximately 85,000 students; and (d) the local district serves students of low socio-economic backgrounds and low-achievement.

It is important to mention that the sample of principals is not a representative sample of the general principal population in California, but specifically representative within LAUSD. This select group has undergone three to seven levels of evaluation before being placed on an unranked Principal's Eligibility List for selection.

# **Consent Procedures**

A letter requesting principal's participation (Appendix C) and informed consent (Appendix D) were provided to all subjects describing the nature and purpose of the study. The letter also addressed voluntary participation, confidentiality of the data, subjects' access to findings upon request and subjects' ability to decline to participate in the study. The Informed Consent for Participation in Research Study addressed the subjects' understanding of the study, as presented by the principal investigator, including potential risks and benefits. The subjects were requested to review, sign and return their informed consent in the separate white, postage-paid, self-addressed envelope provided prior to completing the survey within 48 hours after receipt of delivery or return the

informed consent to the principal investigator at the conclusion of the Local District 3 meeting.

The standard Informed Consent for Participation in Research Studies from

Pepperdine University was utilized for this study although certain sections were omitted
because of their irrelevance to the study. Subjects were informed verbally and in writing
that their participation in this study was voluntary and their responses to the Survey

Questionnaire were kept confidential. Also, subjects' agreement to participate in this
study does not waive any legal or human right and at any time the subject may refuse to
participate or withdraw from the study without prejudice. All subjects were requested to
sign the informed consent prior to the release of and their participation in the Survey

Questionnaire.

#### Instrumentation

The Survey Questionnaire was the primary instrument of data collection. Seven of the 36 questions were demographic and encompassed school level, experience, ethnicity, gender and type of preparation program of educational leaders currently assigned in a variety of Pre-K – Adult Schools. The remaining 29 utilized a Likert scale in which response ratings were assigned that ranged from +2 to -2. The questions sought responses to the school leader's preparation before and after being hired as a principal, their perception of this preparation on student learning and the components of the curriculum in graduate schools of education that Principals found valuable and most valuable for successful school leadership.

# **Procedures**

A proposal to conduct research in Los Angeles Unified School District (LAUSD) was submitted to the LAUSD Research Unit on April 5, 2010 providing detailed information on the following: (a) Title of the Project, (b) Researcher's Identity and Title, (c) Institutional Support, (d) Statement of Purpose, (e) Research Questions, Hypotheses, Literature and Anticipated Contribution, (f) Sample, Methods and Analysis, (g) Instruments, (h) Legal and Ethical Principles, (i) Anticipated Benefits of Research, (j) Burden on Research Subjects, and (k) Data Request.

An Application for Approval of Research Project, Expedited Review, was submitted by the principal investigator to the Pepperdine University Institutional Review Board (IRB). The levels of risk, discomfort or inconvenience to subjects who participated in the study were minimal. Each subject was requested to complete the same Survey Questionnaire based on each subject's educational preparation program, experience and training; therefore, no right or wrong answers existed. Since participation in this study was voluntary, prospective subjects had the option of declining to participate or discontinuing their responses to the Survey Questionnaire if doing so made the subject uncomfortable or stressed without obligation or prejudice. The potential risk to each subject was further minimized by the reporting of data in aggregate form, confidential data collection, analysis procedures and records access and storage. Since the Survey Questionnaire did not request any personal, identifying information, each subject's confidentiality was protected. Additionally, the separation of each subject's identity and data were maintained since the completed informed consent was requested to be mailed in the separate envelope provided prior to completing the Survey Questionnaire.

Following the completion of the study, all data collected were stored in a locked file cabinet of which the principal investigator had exclusive access. After 5 years, the data will be destroyed through the use of a paper shredder.

Once approval to conduct the research study was obtained from LAUSD and Pepperdine IRB, the principal investigator notified the Local District 3 administrator for inclusion on the agenda at the next Local District 3 principal's meeting. Subjects who volunteered to participate received a research packet that consisted of an: (a) informed consent; (b) a letter explaining the purpose and importance of the study, the subjects' rights and the principal investigator and faculty supervisor's contact information for those who might have questions; (c) the Survey Questionnaire; (d) Starbucks' Gift Card; and (e) two postage-paid, self-addressed envelopes: one white, the other brown. All subjects were advised that the Survey Questionnaire would take approximately 20 minutes to complete.

Subjects who chose not to submit their completed, signed Informed Consent after the meeting could use the two envelopes provided as follows: the white, postage-paid, self-addressed envelope was to be used for return of the signed informed consent prior to taking the survey. The brown 4 x 6 clasped, postage-paid, self-addressed envelope was to be used for the return of the completed Survey Questionnaire which was requested to be mailed within 7 calendar days of the meeting.

Subjects who were absent from the principal's meeting received a phone call from the principal investigator to elicit their voluntary participation in the study. The (a) letter explaining the purpose and importance of the study, participants' rights and the principal investigator and faculty supervisor's contact information for those who might have

questions; (b) informed consent; (c) Survey Questionnaire; (d) Starbucks' Gift Card; and (e) two postage-paid, self-addressed envelopes: one white, the other brown would be personally delivered by the principal investigator on the same day or the following day, once participation in the study was obtained. Subjects were requested to review, complete and sign the informed consent and return it to the principal investigator within 48 hours and prior to completing the Survey Questionnaire. A signed copy of the informed consent was sent to each subject who voluntarily participated for their records.

# **Data Collection and Recording**

Upon receipt of both the LASUD and IRB approvals, the principal investigator requested inclusion on the agenda at the next Local District 3 principal's meeting. The principal investigator informed subjects that as a school leader, principals were called upon to utilize their knowledge and skills in a variety of situations that arose on a daily basis. However, relatively little was known about the effects of the preparation in the day-to-day operation of a school. Therefore, the objective of the survey was to gather information that would identify what skills and knowledge were needed for effective school leader [principal] training, in the 21<sup>st</sup> century both before and after school leaders were hired, to prepare them for the demands of their jobs and their perception of this preparation on student learning. In addition, what components in the curriculum of graduate schools of education did effective leaders find valuable and most valuable for successful school leadership. Once approval was given by the district administrator, subjects were invited to ask clarifying questions, then requested to review, complete, sign and submit the Informed Consent to Participate in the Research Study to the Principal Investigator.

Upon completion, the Informed Consent to Participate in the Research Study and Survey Questionnaire should be mailed in their respective envelopes to the principal investigator within 7 calendar days after the local district meeting. Upon return of the aforementioned documents, the subject's participation in the study was terminated. If subjects desired to know the results of the research study, the results would be provided upon request with the approval of LAUSD and Pepperdine IRB.

# **Data Process and Analysis**

The primary purpose of the proposed study was to focus on the preparation, skills and on-going development necessary for current and future leaders; the perception of the school leader regarding their training in preparing them to support student learning; and the components of the curriculum, in graduate schools of education, if any, that effective leaders find valuable and most valuable for successful school leadership.

As the completed Survey Questionnaire was received the month and date were recorded. The 29 questions that utilize the Likert scale were assigned response ratings that ranged from +2 to -2 and were used to calculate the means and standard deviations for each response along with histograms to graphically illustrate the distribution. Pie charts were used to graphically illustrate percentage distribution.

One-way analysis of variance (ANOVA) was utilized to determine whether principals of various experience levels differ markedly on the five key questions concerning professional development (No. 25–29). Both Chi Square and one-way ANOVA were used to determine whether there was a statistically-significant difference between experienced groups on professional development questions.

# **Research Questions and Corresponding Survey Questions**

The responses to research question #1 which asked, "What skills and knowledge are needed for effective school leader [principal] training in the 21<sup>st</sup> century both before and after school leaders are hired to prepare and ensure they meet the demands of the job" was sub-divided into three areas: (a) curricular content which was answered by responses to survey questions 1, 2, 3, 4, 5, 6, & 7; (b) instructional practices which was answered by responses to survey questions 8, 9, 10, 11, & 12; and (c) professional development which was answered by responses to survey questions 25, 26, 27, 28, & 29.

The responses to research question #2 which asked, "What is the perception of the school leader's preparation on student learning" was answered by responses to survey questions 13, 14, 15, 16, 17, & 18.

The responses to research question #3 which asked, "What component of the curriculum in graduate schools of education, if any, do effective leaders find most valuable for successful school leadership" was answered by responses to survey questions 19, 20, 21, 22, & 23.

# Bias of the Researcher

This research study was designed to minimize the influence of bias in data collection and analysis. The researcher is currently assigned as Assistant Principal in LAUSD, Division of Adult and Career Education, in the Local District 3 where the survey was conducted. A few of the principals are known by the researcher through the normal course of school business; however, the relationship is strictly professional.

# **Methodological Assumptions**

Leadership preparation courses may be politically driven by local, state or federal governance as well as individual school districts. Leadership preparation courses should be examined holistically not just with an eye focused on legislation but the entire needs of children, families and the community.

The researcher assumed that the majority of the Survey Questionnaires would be returned because the majority of school leaders would want to contribute to the improvement of leading and learning. Once the survey was completed it would give the subject cause to reflect on their performance as a leader and make any appropriate adjustments.

The researcher believed that subjects' responses were honest and reflected an accurate assessment of their experiences, preparation and training. This study did not seek to draw personal attention to any subject, but rather to examine responses in aggregate to determine what training, preparation and on-going development was needed to strengthen and provide for school leaders of today.

The overall results of the findings were positive because the future of educational leadership as it impacts children; the economy; and workforce was at stake.

#### Limitations

It was not the intent of this paper to convey a comparative or longitudinal study, but rather to research the growing consensus that is gaining momentum in California and other select states that a new perspective of leadership is needed to prepare and train effective educational leaders for today's schools to increase student achievement.

A limitation of this study was the lack of data available to assess the effectiveness of existing leadership credentialing pathways. A formalized process was needed for tracking and collecting data that could be evaluated to determine if one credentialing route was more effective than another. Critical to this assessment was the ability to obtain direct feedback from program completers and information from program providers. Information collected should include the credentialing route completed, the attainment of a related position, the length of time in the position, the reason for resigning the position and the Annual Yearly Progress (AYP) scores during their tenure. A comparative analysis could be made of the two tiers to determine if one route produced more positive outcomes than the other and if there is a correlation between school rankings (performance) and the method of credentialing completed.

As part of the preparation program for ongoing self-assessment, information solicited from graduates should be an integral part of the self-evaluation process. The collection and analysis of this data can be used to identify strengths and areas of improvement as well as identify and promote practices that lead to improved program outcomes and student performance.

The sample survey was expected to be large enough to aggregate the data further by delineating the 92 schools in sub-groups that comprised Local District 3: Pre- K, Elementary (K-5), Middle (6-8), Senior High (9-12), Continuation Schools (9-12), Special Education (Pre-K–12 or 7-12), Community Day School (7-9) and Community Adult Schools (9 – Adult); as a follow-up to this study.

# **Summary**

Challenging times demand a greater urgency than usual. Schools have heard the battle-cry: You have to do more with less. This poses a tremendous challenge as school budgets succumbed to plunging property values, high unemployment and low student achievement in many California districts. Coupled with the heightening concern that the number of qualified principals is inadequate to meet the needs of public schools in light of their financial and academic calamities leaves unanswered questions as to the next step. The constantly changing educational landscape of today's schools resulting from local, state and national legislation that mandates guidelines from which schools must conform necessitates a change in how school leaders are prepared. It is imperative that the skills and knowledge needed for today's schools be identified to equip leaders with the tools needed to effectively manage people, communities and the world. This qualitative and quantitative research designs provided insights into the perceptions, attitudes, preparation and training needed for future leaders to strengthen our educational system and economy to regain our competitive edge.

# **Chapter Four: Results**

# Overview

The purpose of this research study was to explore a new paradigm of school leadership where collaboration and building relationships are critical to increasing student achievement. To that end, the research questions that guided this study are: (a) What skills and knowledge are needed for effective school leader [principal] training in the 21<sup>st</sup> century, both before and after school leaders are hired, to prepare and ensure they meet the demands of the jobs; (b) What is the perception of the leader on the extent to which their training prepared them to support student learning; and (c) What components of the curriculum in graduate schools of education, if any, do effective leaders find valuable for successful school leadership and which component do they find most valuable? The research questions were divided in three sections so as to categorize the findings with the greatest degree of accuracy and clarity.

#### Section 1

This section addressed the research question: What skills and knowledge are needed for effective school leader [principal] training in the 21<sup>st</sup> century, both before and after school leaders are hired, to prepare them for the demands of their jobs? The findings are as follows:

- Females scored theoretical concepts much higher in importance; however, males outscored the women in more analytical, hands-on, interactive concepts.
- 2. There was a broad difference in opinion from the group as a whole as to the need for MVC Theory and MVC Practice.

- 3. The Chart of General Comparisons showed that men and women generally agreed on the level of importance of each category of skills and knowledge; however, they disagreed as to the degree of that importance.
- The Chart of General Comparisons showed that there was no difference in responses between females and males on the use of data to monitor school progress.
- 5. Fifty-seven percent (57%) of participants agreed that the content of Leadership Preparation programs emphasized School Finance followed by Working with Stakeholders and Theory and Practice each with 48%. It was also noted that 48% of participants strongly agreed that the content emphasized Theory and Practice. However, when combining the strongly agree and agree categories for each category, the three factors with the highest percentages were: Theory and Practice 96%; School Law 88%; and Instructional Leadership 83%.
- 6. Among the instructional practices of Leadership Preparation programs, 44% of participants rated the use of Small Group Work to a great extent; 35% of participants rated the usage of Field-based Projects to a great extent; 27% rated the usage of Action Research to a great extent; 26% each rated the usage of Problem-based Learning to a great extent and frequently; 48% rated the usage of Analysis of Case Studies, frequently. When combining the categories of To a Great Extent and Frequently, the percentage of participant ratings increased as follows: 87% Small Group

Work; 74% - Field-based Projects; 57% - Analysis of Case Studies; 53% - Action Research; and 52% - Problem-based Learning.

Table 1

Analysis of Instructional Practices

Instructional Practice	Usage	Rating
Small Group Work	44% (87%)	Great Extent + Frequently
Action Research	27% (53%)	Great Extent + Frequently
Analysis of Case Studies	48% (57%)	Frequently + Great Extent
Problem-Based Learning	26% (52%)	Great Extent + Frequently
Problem-Based Learning	26% (52%)	Frequently
Field-Based Projects	35% (74%)	Great Extent + Frequently

7. The Principal network was rated as extremely helpful by 39% of the participants. When combining the Extremely Helpful and Helpful categories, the rating increased to 87%.

Table 2

Differences in Female vs. Male Responses

Value	Female	Male	Difference
Theory & Practice	1.58	1.26	0.32
School Law	1.33	1.10	0.23
School Improvement	1.33	1.10	0.23
Working with			
Stakeholders	1.20	0.99	0.21
MVC-Instructional			
Leadership	1.20	0.99	0.21
School Operations			
Management	1.23	1.09	0.14
MVC-School Op.			
Management	1.23	1.09	0.14
Principal Network	1.09	0.98	0.11
Leadership-School			
Improvement	1.40	1.32	0.08
Small Group Work	1.27	1.22	0.05
Action Research	0.98	0.93	0.05
MVC-Practice	0.82	0.80	0.02
Collaborative			
Environment	1.13	1.12	0.01
Use data	1.00	1.00	0.00
School Finance	0.88	0.94	-0.06
PD-University Courses	0.88	0.94	-0.06
Analysis Case Studies	0.74	0.80	-0.06
Reading	0.90	0.99	-0.09
Problem-based			
Learning	0.76	0.86	-0.10
Evaluate teachers	0.62	0.72	-0.10
Mentoring/Coaching	0.62	0.72	-0.10
Content/Instructional			
Leadership	0.91	1.04	-0.13
Impact on Learning –			
How Students Learn	0.49	0.63	-0.14
Design Prof.			
Development	0.49	0.63	-0.14
Workshops/Conferences	0.20	0.35	-0.15
Preparation –Field-			
Based Projects	0.63	0.78	-0.15
MVC-Theory	0.36	0.53	-0.17
Evaluate Curriculum			
Materials	0.02	0.41	-0.39

The following charts depict the difference between female and male responses.

The mean male response (MMR) is always subtracted from the mean female response (MFR), and a change from positive to negative (yellow bar) indicates the MMR becomes more in agreement with associated category. As the MMR more strongly agrees with the MFR, the yellow bar becomes negative.

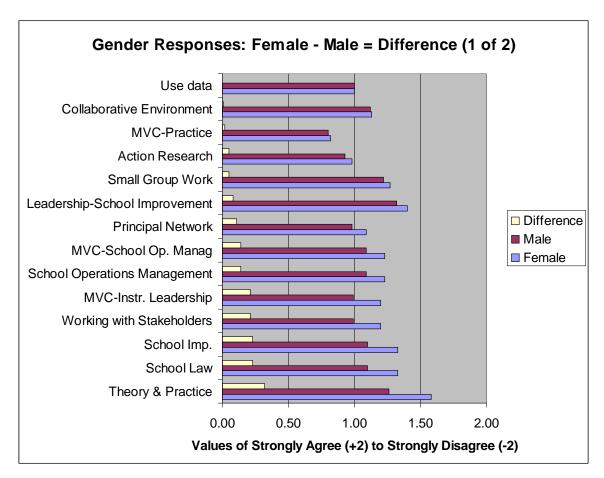


Figure 1. Differences among values between male/female responses

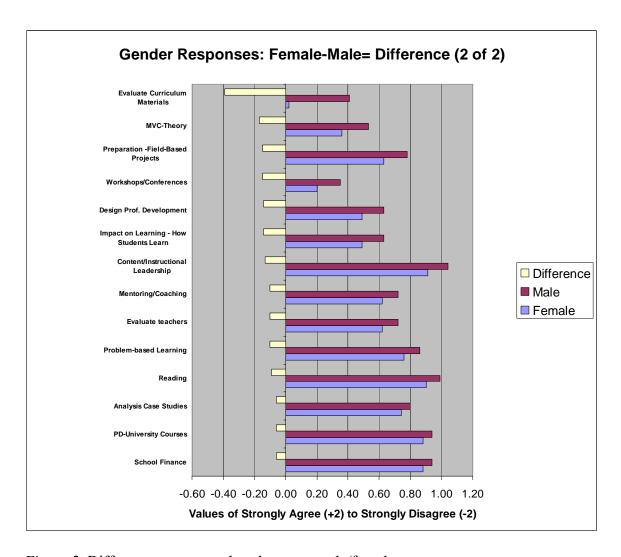


Figure 2. Differences among values between male/female responses

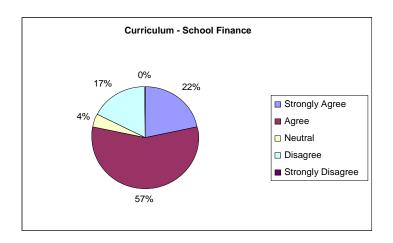


Figure 3. School finance: Content of leadership preparation programs

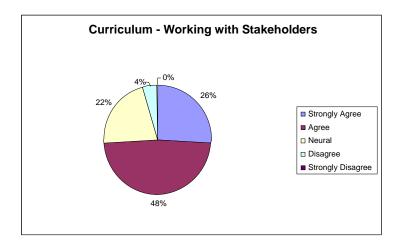


Figure 4. Working with stakeholders: Content of leadership preparation programs

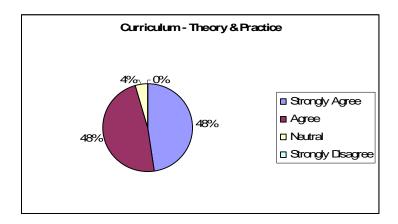


Figure 5. Theory and practice: Content of leadership preparation programs

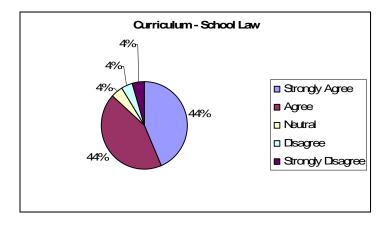


Figure 6. School law: Content of leadership preparation program curriculum

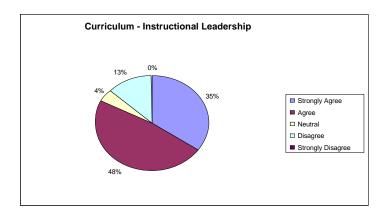


Figure 7. Instructional leadership: Leadership preparation program curriculum

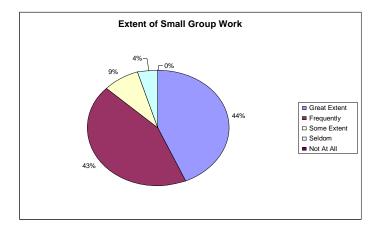


Figure 8. Extent of small group work: Leadership preparation program curriculum

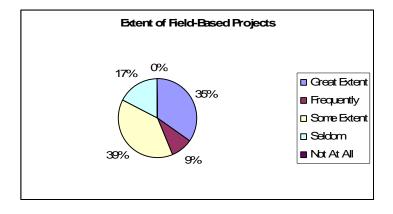


Figure 9. Extent of field-based project: Content of instructional program

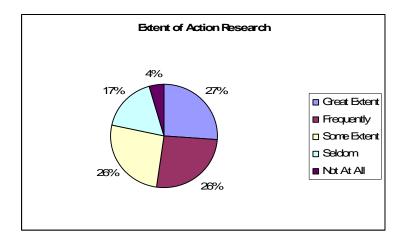


Figure 10. Extent of action research: Content of instructional programs

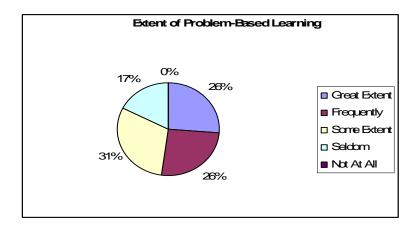


Figure 11. Extent of problem-based learning: Content of instructional program

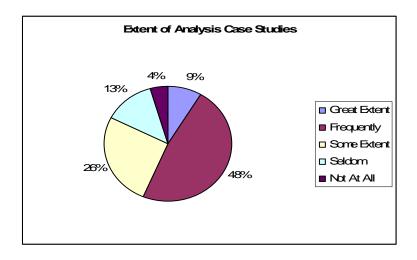


Figure 12. Analysis of case studies: Content of instructional program

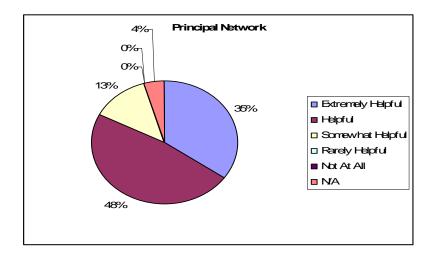


Figure 13. Principal network: Most helpful in professional development

# **Section 2**

This section addressed the second research question: What is the perception of the leader on the extent to which their training prepared them to support student learning?

The findings were as follows:

- Approximately 50% of the participants rated the school leader's perception of
  the extent to which their training prepared them to use data to monitor school
  progress as good. However, when combining the Very Well and Good
  categories, the percentage rating increased to 66%.
- Forty-four percent (44%) of the participants rated the school leader's
  perception of the extent to create a collaborative environment as very well.
  However, when combining the Very Well and Good categories, the
  percentage rating increased to 74%.
- 3. Thirty-five (35%) of the participants rated the school leader's perception of the extent to which their training prepared them to understand how different

students learn as Good. However, when combining the Very Good and Good categories, the percentage rating increased to 61%.

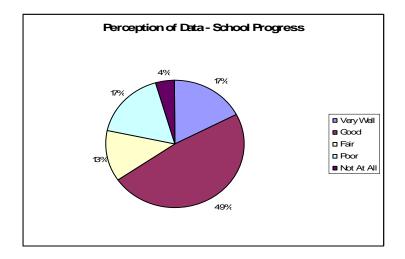


Figure 14. Using data to monitor school progress: Impact on student learning

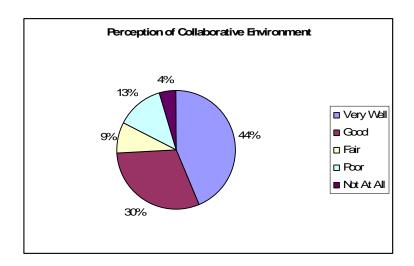


Figure 15. Creating a collaborative environment: Impact on student learning

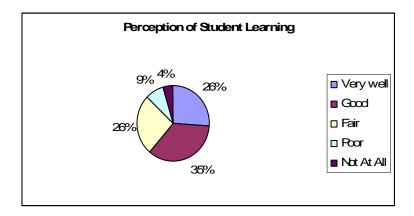


Figure 16. How students learn: Impact on student learning

# **Section 3**

This section addressed the third research question: What components of the curriculum in graduate schools of education, if any, do effective leaders find valuable for successful school leadership and which component do they find most valuable? The findings were as follows:

- Forty-four percent (44%) of participants rated Practice as an Extremely
   Valuable component of the curriculum in graduate schools of education for successful school leadership. However, when combining the categories of Extremely Valuable and Very Valuable, the rating percentage increased to 61%.
- 2. Thirty-five percent (35%) of participants rated Instructional Leadership as an Extremely Valuable component of the curriculum in graduate schools of education for successful school leadership. However, when combining the categories of Extremely Valuable and Very Valuable, the rating percentage increased to 74%.

3. Fifty-seven percent (57%) of participants rated Theory as a somewhat valuable component of the curriculum in graduate schools of education for successful school leadership.

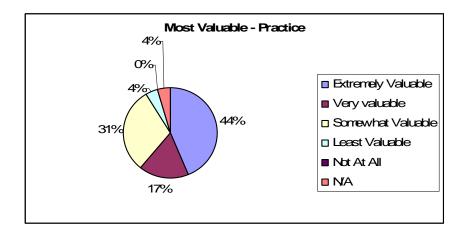


Figure 17. Practice extremely valuable component: Curriculum of graduate schools of education

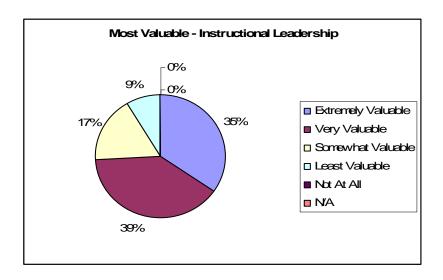


Figure 18. Instructional leadership: Most valuable component

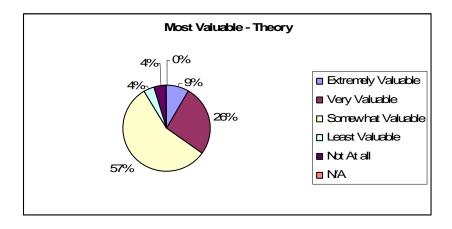


Figure 19. Somewhat valuable component: Curriculum of graduate schools of education

# **Summary**

The original intent of the dissertation was to analyze data from a survey of approximately 90 people and provide useful information to educational managers that (a) armed them with an effective instrument to select the appropriate professional development for various subgroups of the school district's principals which would include level (Pre-K/Elementary vs. Middle School/High School) gender, and experience (in terms of years); (b) assisted leadership preparation programs in identifying strengths and weaknesses; and (c) determined the school leaders' perceptions as to how well their training prepared them to support student learning. Specifically, the original proposal identified descriptive statistics and two inferential tools – ANOVA and Chi Square.

The data came in the form of survey responses from 23 individuals. The specific information was the individuals' degree of agreement or disagreement with questions on the need for different Professional Development (PD) subjects. Each level of response was given a numerical value: Strongly agree was +2 and decreasing values were assigned down to strongly disagree at -2. This meant there were exactly five possible values to be assigned.

F-distributions (ANOVA) are predicated on a population which would be normally distributed. Unlike heights of individuals or manufacturing values dispersed from a targeted mean, all sorts of curves (skewed or flat for example) are possible. Moreover, because there are so few values available, the variance for any population could actually extend outside of the possible values.

In Chi Square, distributions or responses can be analyzed and compared such as below:

Table 3

Chi Square Distributions

	Male	Female
2		
1		
0		
-1		
2		

This is provided that at least 80% of the cells (the empty squares in the chart) have at least five observations or more, and none of the cells has a zero. There were only two subgroups that could establish a clear definition to compare and still have at least five in each group (Pre-K/Elementary vs. Middle School/High School and Female vs. Male). The number of responses received in the P-K/E vs. MS/HS was distributed at 16 and 7 respectively, as was the Female vs. Male analysis. In neither case was it possible due to the small numbers and sheer mathematics to attain 80% or higher of five or greater responses.

The original proposal also included t-Distribution, but it was also not indicated, since the confidence interval was neither being determined nor did the process compare two populations.

Unfortunately, the small return of completed survey questionnaires eliminated all three of the methodologies discussed in the original proposal. Rather than quit or re-start the process, the data were analyzed using two other techniques.

- 1. The first was the Fischer Exactness Test (FET). It is similar to Chi Square except (and most importantly), it allows for an analysis of smaller samples. FET was used to analyze the distribution of responses for both subgroups named above (PK/E vs. MS/HS and for Female vs. Male). The  $H_0$  (null hypothesis) was the distributions will be the same and  $H_1$  (the alternative hypothesis) was that they will not (Appendices H and I).
- The second technique, Mann Whitney was used to evaluate the median scores
  for the same groups. H<sub>0</sub> was the two subgroups will have the same median;
  H<sub>1</sub> was that they will not (Appendix J).

A test statistics that would exceed the critical value for the level of significance (0.05) was explored. The speculation was, where  $H_0$  was rejected, decision-makers would offer differing Professional Development options to the target groups.

Although the mean values for the subgroups for each response were different, it was virtually impossible from the analysis to absolutely reject  $H_0$ . This does not mean that the groups did not differ; it means that there was insufficient statistical proof to say so. This finding itself is significant, as it means educational managers can select Professional Development based on the population of principals as a whole, without worry of differing desires of the subgroups.

Thus, it is not necessary to eliminate any reference to inferential processes; it is simply there was insufficient evidence to reject the null hypothesis. Moreover, descriptive statistical presentations will provide equally, if not more so, valuable insight into the wants and needs of the principals. Charts and graphs depicting the outcomes of surveyed "wants," presented from highest to lowest, will give educational managers a picture of how to cater to their school site administrators' requirements.

# **Chapter Five: Discussion**

# Overview

The purpose of this research study was to explore a new paradigm of school leadership where collaboration and building relationships are critical to increasing student achievement. To that end, the research questions that guided this study are: (a) What skills and knowledge are needed for effective school leader [principal] training in the 21<sup>st</sup> century, both before and after school leaders are hired, to prepare and ensure they meet the demands of the jobs; (b) What is the perception of the leader on the extent to which their training prepared them to support student learning; and (c) What components of the curriculum in graduate schools of education, if any, do effective leaders find valuable for successful school leadership and which component do they find most valuable?

# **Findings and Implications**

Curriculum, instructional practices and professional development. What skills and knowledge are needed for effective school leader [principal] training in the 21<sup>st</sup> century, both before and after school leaders are hired, to prepare and ensure they meet the demands of the jobs? After combining the categories of Strongly Agree and Agree, the findings showed that Participants rated the curriculum used in leadership preparation programs in descending order as follows: Theory and Practice (96%); School Law (88%); and Instructional Leadership (83%).

Instructional practices form the substratum for what school leaders do as practitioners. It is imperative that school leaders have a solid background in creating a personal vision and subsequently a school-wide vision, which engages parents in the learning process and manages the daily operations of a school. The more hands-on

leadership experiences and input received, the more equipped and knowledgeable leaders become in working with other school stakeholders to manage and facilitate the instructional program to ensure the teaching-learning process is the best it can be. The instructional practices most utilized in leadership preparation programs in descending order, combining the Great Extent and Frequently categories, are Small Group Work (87%); Analysis of Case Studies (57%); Action Research (53%); Problem-based Learning (52%); and Field-Based Projects (44%).

The results of this study were consistent with the findings of Levine (2005);

Miller et al. (2007); and the Wallace Foundation (2008). Levine (2005) documented that a leader in training needs a framework first, then on-going learning opportunities to practice applying that framework in authentic settings and situations. He also postulated that the integration of theory and practice and the utilization of curriculum that is "rigorous, coherent and organized in teaching the skills and knowledge needed at specific schools and at various career stages," (p. 58) attests to more rigorous leadership proficiency. Miller et al. (2007) confirmed that when theory and practice are merged, "the leader-in-training can apply new knowledge in authentic settings from the outset" (p. 50). The Wallace Foundation (2008) cited instructional improvement along with a close integration of coursework and fieldwork as characteristics of exemplary programs.

Leadership training should not end when people are hired. It must continue with mentoring and professional development to promote career growth in alignment with school and district needs. Professional development will provide principals with the tools needed to use data to drive instruction, lead schools with changing demographics and needs and prepare students to meet challenging content standards (Connelly & Tirozzi,

2008). Participants rated the on-going preparation for school leaders after they are hired, combining the Extremely Helpful and Helpful categories in descending order as follows: Principal Network (83%); Mentoring (79%); Reading (79%); Workshops (74%); and University Courses (52%). While the primary goal of networking is to develop a model of practice for school leaders where they learn from one another to advance a collective work, professional development programs must also continue to explore the training and skills required for school leaders to improve practices, perceptions and protocols to lead our diverse schools and ultimately increase student achievement.

It has been said that learning is a continuous process for students and teachers, but school leaders should not be excluded. Senge (2006) confirms that to be a true teacher you must be a learner first. It is common knowledge that a teacher's expertise coupled with their passion for learning, ignites the spark for their students. In much the same way, school leaders must be practitioners who are committed to organizational learning tools and principles rather than act as advocates or simply, doers void of any personal commitment. Schools are complex social institutions that exist in a whirlpool of government mandates, social and economic tensions and competing interests which affect the entire school community. As schools have adjusted to new accountability measures, school leaders have scrambled to put these reforms in place often without the knowledge and capacity necessary to either guide their efforts or ensure their success. School leaders continually devoting themselves to learning is necessary to maintain quality leadership and ensure that every school stays connected to shape current thinking and future planning for sustained school improvement.

**Impact on Learning.** What is the perception of the school leader on the extent to which their training prepared them to support student learning? Traditional schools have been characterized, to a great degree, by teacher isolation. It has been said that a "traditional school functions as a group of independent contractors united by a common parking lot" (Dufour et al., 2005, pp. 10-11). Teachers, under the guidance of the school leader, must work together to affect positive change in the teaching-learning environment so that all students can achieve. Drucker (1989) states, "Learning is as personal as fingerprints; no two learners learn alike" (p. 247). So the problem in schools may not be learning itself, but how one learns. The use of data yields powerful evidence and insights into the learning process. This evidence plays a critical role in determining who is learning, who is not and why. School leaders must spend time in the classrooms to examine instructional strategies to evaluate learning as a means to further develop teachers in the consistent delivery of high-quality instruction as well as meet accountability measures of standards-based reform. A new paradigm is needed that emphasizes the improvement of student learning for all students through shared leadership and responsibility and holding every stakeholder accountable.

Collaborative leadership focuses on prioritization and clarification of common goals; engaging in open, data-driven conversations about best instructional practices and sharing knowledge and expertise with colleagues. The findings of this research study showed that creating a collaborative environment as part of program preparation received a 74% response after combining the Very Well and Good categories. Sixty-six percent (66%) of participants rated the use of data to monitor school progress as part of their preparation program, after combining the Very Well and Good categories. The results of

this study were consistent with the findings of the Wallace Foundation (2008) and the Education Commission of the State (2008-2009).

The Wallace Foundation (2008) determined that using data was an integral part of the curriculum at exemplar preparation programs. According to the Education Commission of the State (2008-2009), instruction should be provided in several key areas: data-analysis and interpretation, curriculum and assessment, instructional observation and feedback, and decision-making.

Today, federal and state mandates are driving schools and districts toward a data-driven system of accountability. School leaders are urged to interpret research findings and evaluate data. The use of data provides a wealth of information about the current and future learning potential of students; identifies which instructional strategies are the most successful; determines the type of intervention needed to support low-achieving students; and identifies staff development needs. Using data to monitor the school's progress provides concrete evidence of what is working and what is not and can be used as a yardstick to measure change. It can also create a starting point for collaborative conversations with all school stakeholders. Inquiry, reflection and data-driven decision-making must be embraced to ensure continuity in achievement and progress.

The leader's role is to stimulate and inspire creativity in others in pursuit of a common goal so that followers are converted into leaders and leaders into moral agents (Bennis & Nanus, 1985; Miller et al., 2007; Wofford, 1999). "Leadership is not about one person; it is about building a shared commitment and building a leadership team" (Haycock, 2007, p. 30).

Most valuable component. What components of the curriculum in graduate schools of education, if any, do effective leaders find valuable for successful school leadership and which component do they find most valuable? The findings showed that the component of the curriculum in graduate schools of education that was found to be extremely valuable and very valuable for successful school leadership as rated by 61% of the Participants is Practice.

Leaders are neither born nor created within the confines of a classroom. They are developed with training and molded by their real-life experiences, applications and diligence. It is not a surprise that 57% of Participants rated Theory as a somewhat valuable component in graduate schools of education for successful school leadership. In the final analysis, Theory opens the door for discussion but is far removed in creating a path toward positive outcomes. Theory provides the façade from which learning can begin; however, practice places the learner in the actual arena where triumphs and failures are experienced first-hand.

It has been said that experience is a hard teacher, because she gives the test first, the lesson afterward. Yet, these experiences can be a physical manifestation of the didactic instruction received. They can either be viewed as learning opportunities or delegated tasks. Those experiences may look very different for some would-be school leaders contingent upon how the choice to pursue school leadership originated. School leaders are servants first, called to serve and do what is best for others. In stark contrast are leaders who ascribe to leadership first, having an insatiable thirst for power and the acquisition of material possessions while servant-hood is flippantly regarded as an afterthought. Real growth stems from real application and depending on the initial mind-set,

it can make the difference between creating a great school with everyone working together to achieve a common goal or a school that hangs on the edge of receivership, chaos and lost dreams.

The results of this study were consistent with the findings from Levine (2005) in which he states that practice and theory should be blended, balancing didactic study with on-the-job training under the tutelage of successful practitioners.

# **Conclusions and Recommendations**

The Lone Ranger or Superwoman principals who rode in to save the day then rode off into the sunset are not the leaders needed for today's schools. Effective school leaders cannot do it alone, they must collaborate with the entire school community to prioritize and clarify common goals. School leaders should strive to become builders: builders of the school community; builders of effective programs; builders of relationships; and builders of the teaching-learning process. School leaders must be reflective and keenly aware of biases that might potentially obstruct meaningful connections with staff. While there are some decisions that a leader makes alone, there are many more where collaboration can provide the vehicle to move the school forward without impediment. The responsibilities of a school leader are staggering, but with the right team all stakeholders can ride into the sunset, everyday.

Leadership is a faith walk and faith expects what is beyond expectation. It is an intrinsic belief in the people that are doing the work and a belief that under the right conditions, children can and will learn. Building positive relationships are the key to increasing student achievement. School leader-teacher relationships are also crucial to the success of the school. Support, praise and recognition go a long way in advancing the

common goals of the school. Learning for all students requires that everyone in the school community be involved in their education. The strengths of each teacher must be known and capitalized on to improve overall student performance.

Student-teacher relationships should be reciprocal. Students should be cognizant of clear learning expectations of each teacher as well as the expectations the school holds for each student. Student-engagement strategies and student-centered practices ensure learning gains are met for all students. Students must be praised and given immediate feedback by their teachers, which not only validates and acknowledges their achievement, but also provides them with intrinsic and extrinsic rewards.

Twenty-first century schools call for revolutionary school leaders who unselfishly share the baton in empowering and transforming others to action. The development of meaningful relationships must take precedence over the traditional role of school leaders. The combined efforts of the entire school community in the teaching-learning process will chart a positive progression toward moving the school forward, far more than any one leader working alone.

# **Next Steps**

A recurring theme throughout this study was the value of Practice rather than didactic instruction. Approximately 50% of participants strongly agree that the content of leadership preparation programs emphasized Theory and Practice. In rating the Most Valuable component of the curriculum in graduate schools of education for successful school leadership, Practice was rated as Extremely Valuable by 44% of participants while Theory was rated only somewhat valuable by a whopping 57% of participants. It seems to beg the question whether Practice should be the primary instructional tool used in

leadership preparation programs and professional development. The research study would seek answers to the question: To what extent do instructional practices such as field-based projects; problem-based learning; and action research prepare school leaders for the challenges that permeate the school environment i.e., operations, instructional program and student assessment?

A second interest for further study is the Principal Network. The findings from this research study showed that the Principal Network was rated as the most helpful in Professional Development by approximately 50% of the participants. The research study would seek answers to the question: What do School leaders find most effective about networking and how do you capitalize on these findings as a resource to design future professional development?

A third interest is the curriculum of leadership preparation programs in graduate schools of education and subsequent credentialing of school leaders. The research study would seek answers to the questions: What revisions in the curriculum of leadership preparation programs of graduate schools of education have been made to address public demands for better-prepared and qualified school leaders? Were these revisions made in conjunction with school districts and their needs, state/federal mandates or based on the findings from national research-based studies? If there are revisions in curriculum, how do these revisions affect the credentialing process?

In light of the value placed on "practice" by the survey responders, a worthy consideration for leadership preparation programs is to offer a Leadership Preparatory Field-Experience in which all potential candidates of Graduate Schools of Education would be mandated to attend, as a pre-requisite for acceptance into a doctoral program.

The purpose of this preparatory experience would be to expose doctoral students to the challenges faced in today's schools, pique participant interest in a career as a school leader and assist one in determining whether this career path is an appropriate one.

Partnerships would be established beforehand with Pre-K through Adult schools, then, depending on the school level of participant's interest, the participant would be assigned and mentored by the school leader in specific, previously-agreed upon tasks. This preparatory course would provide participants with an introduction to the world of leadership from a school leader perspective as well as an opportunity to examine the daily challenges faced in school, personnel and instructional management.

In terms of professional development, the researcher recommends annual workshops that focus on new and current trends in leadership or annual case studies in leadership taken from actual leader experiences from the previous academic year to keep the training/ workshop material current and maintain interest. Attendees could work together in small groups to encourage collaboration. A step-by-step analysis of the problem and its solutions that is career-staged and applicable for everyone could prove to be an invaluable learning experience.

The goal in any of the aforementioned, suggested research studies, including the current one, is to better educate school leaders in generating improvement in student achievement. This goal can be realized by developing a single, national focus in the preparation of school leaders so that every school can have a world-class leader at the helm to facilitate instruction and build collaborative relationships. Working together permits all school stakeholders to get involved in building an active learning community that is future-oriented, strategically-driven and where every child can achieve.

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#### APPENDIX A

# **Presentation Script**

Good morning, Leaders

# Introduction

I am Paula Du Bois, a doctoral candidate at Pepperdine University and Assistant Principal for Los Angeles Unified School District under the auspices of the Division of Adult and Career Education.

# Purpose of my Study/Presentation

I am requesting your <u>voluntary</u> participation in a research study about Effective Leadership. I am particularly interested in your responses because as a school leader you are called upon to utilize your skills and knowledge in a variety of situations, daily. However, relatively little is known about the effects of this preparation and the on-going development of school leaders in the day-to-day operations of a school. The Survey Questionnaire focuses on the preparation received before and after you were assigned as Principal, your perception of this preparation on student learning and the components of the curriculum in graduate schools of education that you found most valuable for successful school leadership.

# Research Packet

The following items are in your Research Packet: (1) a cover letter explaining the purpose of the study, the subjects' rights, the Faculty Supervisor and PI's contact information for those who might have questions; (2) Informed Consent for Participation in Research Studies; (3) Survey Questionnaire; (4) two envelopes: one brown and one white; and (5) Starbucks Gift card. The Survey Questionnaire will take approximately 20 minutes to complete. The confidentiality of your responses will be maintained.

# **Confidentiality**

Please take a moment now to read the Informed Consent for Participation in Research Studies. If you understand and agree to participate in this study: print your name in the blank next to Participant, sign your name in #1, then sign and date the consent form. You must return the consent form prior to completing the survey. Please do not place your name or any identifying information on the consent form.

# **Participation**

There are no costs associated with participation in this study. Since your participation is voluntary, should you choose not to participate or if you decide after completing parts of the survey that you do not want to continue, you have the right to withdraw without obligation or prejudice.

# Benefits

The potential benefits to the subject is the (1) potential design and implementation of professional development for school leaders that is career-staged and affords the

acquisition of new knowledge to manage and implement legislative changes and reforms; and (2) to increase communications between school districts and university programs where both sides actively collaborate on the curricular and practical needs of current and future leaders.

# Risks

While the risks to those who participate in the study are minimal, the PI realizes that some anxiety or discomfort may result due to subjects' concern about their confidentiality being compromised. This poses a behavioral risk that might affect your answering questions honestly. In order to safeguard your confidentiality, no participant will be asked to identify him/herself or affix their name or any other identifying information on the Survey Questionnaire. You have the option of declining to participate or discontinuing your responses to the Survey Questionnaire if doing so makes you uncomfortable.

All of you are being asked to complete the same Survey Questionnaire based on your educational preparation program, experience and training; therefore, no right or wrong answers exist.

# Questions

If you have questions or would like to share comments about this survey, you may contact me at (213) 819-0177 or e-mail <a href="mailto:paula.dubois@lausd.net">paula.dubois@lausd.net</a>. You may also contact Robert Barner, Ph.D., my Faculty Supervisor at (323) 296-7980 or the Pepperdine IRB Chair, Doug Leigh, Ph.D. at (310) 568-2389.

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# **Acknowledgements**

Thank you, Supt. Havard and Ms. Hewlett-Bloch, for permitting me the opportunity to present my study and thank you leaders for your attention.

#### APPENDIX B

Telephone Script
Principals not in attendance at the Local District 3 Principal's Meeting

Good morning,	Mr/Ms/Dr		

# **Introduction**

I am Paula Du Bois, a doctoral candidate at Pepperdine University and Assistant Principal for Los Angeles Unified School District under the auspices of the Division of Adult and Career Education.

# Purpose of my Study/Presentation

I am requesting your <u>voluntary</u> participation in a research study about Effective Leadership. I am particularly interested in your responses because as a school leader you are called upon to utilize your skills and knowledge in a variety of situations, daily. However, relatively little is known about the effects of the preparation and on-going development of school leaders in the day-to-day operations of a school. The Survey Questionnaire focuses on the preparation received before and after you were assigned as Principal, your perception of this preparation on student learning and the components of the curriculum in graduate schools of education that you found most valuable for successful school leadership.

# **Research Packet**

The following items are in your Research Packet that you will be receiving shortly: (1) a cover letter explaining the purpose of the study, the subjects' rights, the Principal Investigator, Faculty Supervisor and IRB Chair's contact information if you have questions; (2) the Survey Questionnaire; (3) the Informed Consent for Participation in Research Studies outlining the purpose of this study for your review and signature; (4) two envelopes: one brown and one white; and (5) a Starbucks Gift Card.

If you understand and agree to participate in this study, complete the form and return it in the enclosed white, legal-sized stamped, self-addressed envelope provided, **prior** to taking the survey. The confidentiality of your responses will be maintained. My goal is to gather the maximum data possible with the minimum expension of your time. The length of time needed to complete the survey is approximately 20 minutes.

# **Confidentiality**

The written Consent form must be either mailed in the white envelope provided or submitted to the PI before you complete the Survey Questionnaire. Do not place the Informed Consent in the same envelope with your Survey Questionnaire. All of the information you provide will be kept strictly confidential and will be used for research purposes only. In order to safeguard your confidentiality, no participant will be asked to identify him/herself or affix their name or any other identifying information on the Survey Questionnaire.

# **Participation**

There are no costs associated with participation in this study. Since your participation is voluntary, should you choose not to participate or if you decide after completing parts of the survey that you do not want to continue, you have the right to withdraw without obligation or prejudice.

# **Benefits**

The potential benefits to the subject are the (1) potential design and implementation of professional development for school leaders that is career-staged and affords the acquisition of new knowledge to manage and implement legislative changes and reforms; and (2) to increase communications between school districts and university programs where both sides actively collaborate on the curricular and practical needs of current and future leaders.

## Risks

While the risks to those who participate in the study are minimal, the PI realizes that some anxiety or discomfort may result due to subjects' concern about their confidentiality being compromised. This poses a behavioral risk that might affect your answering questions honestly. Please know that your participation is voluntary and you may withdraw participation at any time.

All subjects being asked to complete the same Survey Questionnaire based on their educational preparation program, experience and training; therefore, no right or wrong answers exist.

# Due Dates

Complete the enclosed survey questionnaire and return it in the stamped, self-addressed brown envelope provided no later than Friday, July 23, 2010. Do not place your name or any other identifying information on this form.

# Questions

Your comments concerning any aspect of the information presented that may not be covered in the survey instrument are welcomed. If you have questions at any time before or during the study, you may contact me at (213) 819-0177 or e-mail <a href="mailto:paula.dubois@lausd.net">paula.dubois@lausd.net</a>. You may also contact Robert Barner, Ph.D., my Faculty Supervisor at (323) 296-7680 or the Pepperdine IRB Chair, Doug Leigh, Ph.D. at (310) 568-2389.

# **Conclusion**

Thank you for your participation in this study.

#### APPENDIX C

# Letter Requesting Principal's Participation

July 14, 2010

# Dear Principal:

I am Paula Du Bois, a doctoral candidate at Pepperdine University and Assistant Principal for Los Angeles Unified School District, Division of Adult and Career Education.

I am writing to request your <u>voluntary</u> participation in a research study about Effective Leadership. I am particularly interested in your responses because as a school leader you are called upon to utilize your skills and knowledge in a variety of situations, daily. However, relatively little is known about the effects of the preparation and the on-going development of school leaders in the day-to-day operations of a school. The enclosed Survey Questionnaire focuses on the preparation needed before and after school leaders are hired to perform their job effectively, their perception of this preparation on student learning and the components of the curriculum in graduate schools of education that effective leaders find most valuable for successful school leadership.

# Research Packet

The Research Packet consists of: (1) cover letter explaining the purpose of the study, the subject's rights and the contact information for the Principal Investigator (PI), Faculty Supervisor and IRB Chair for those who might have questions; (2) Survey Questionnaire; (3) Informed Consent for Participation in Research Studies outlining the purpose of this study for your review and signature; (4) two envelopes: one white and one brown; and (5) Starbuck's Gift card.

If you understand and agree to participate in this study, complete the Informed Consent for Participation in Research Studies and return it in the white, stamped, self-addressed envelope **prior** to taking the survey. My goal is to gather the maximum data possible with the minimum expension of your time; therefore, the length of time needed to complete the survey is approximately 20 minutes.

# Confidentiality

The Informed Consent for Participation in Research Studies must be mailed in the designated white envelope provided before you complete the Survey Questionnaire to maintain your anonymity. All of the information you provide will be kept strictly confidential and will be used for research purposes only. In order to safeguard your confidentiality, no participant will be asked to identify him/herself or affix their name or any other identifying information on the Survey Questionnaire.

# **Participation**

There are no costs associated with participation in this study. Since your participation is voluntary, should you choose not to participate or if you decide after completing parts of the survey that you do not want to continue, you have the right to withdraw without obligation or prejudice.

#### Benefits

The potential benefits to Subjects are the (1) potential design and implementation of professional development for school leaders that is career-staged and affords the acquisition of new knowledge to manage and implement legislative changes and reforms; and (2) to increase communications between school districts and university programs where both sides actively collaborate on the curricular and practical needs of current and future leaders.

## Risks

While the risks to Subjects who participate in the study are minimal, the PI realizes that some anxiety or discomfort may result due to Subject's concern about their confidentiality being compromised. This may pose a behavioral risk that might affect your answering questions honestly. All Subjects are being asked to complete the same Survey Questionnaire based on their educational preparation program, experience and training; therefore, no right or wrong answers exist.

#### Due Dates

Complete the following:

- Informed Consent for Participation in Research Studies and return it in the white envelope as soon as possible but **no later than Wednesday**, **July 21, 2010**.
- Survey Questionnaire and return it in the brown envelope as soon as possible but **no later than Friday, July 23, 2010.** Do not mail both forms in the same envelope.

# Questions/Comments

Your comments concerning any aspect of the information presented that may not be covered in the survey instrument are welcomed. If you have questions at any time before or during the study, you may contact me at (213) 819-0177 or e-mail paula.dubois@lausd.net. You may also contact Robert Barner, Ph.D., Faculty Supervisor, at (323) 296-7680 or the Pepperdine IRB Chair, Doug Leigh, Ph.D., at (310) 568-2389.

Sincerely,

Paula Du Bois Doctoral Candidate Pepperdine University

#### APPENDIX D

Informed Consent for Participation In Research Activities

Participant:		
Principal Investigator	: Paula Du Bois	
Title of Project:	From Isolation to Collaboration: A New Leadership	Perspective on School
to participate in the Schmieder-Ramir under the supervise	I,I,I, er research study under the direction of D ez and Dr. Eric Todd. I understand that was ion of Drs. Barner, Schmieder-Ramirez a em may be designated to assist or act in the	or. Robert Barner, Dr. June while the study will be and Todd, other personnel

- 2. The overall purpose of this research is:
  - To focus on the skills and knowledge needed for effective school leader [principal] training, both before and after school leaders are hired, to prepare and ensure they meet the demands of the job; your perception to which this training prepared you to support student learning and the components of the curriculum in graduate schools of education that you found most valuable for successful school leadership. As a school leader you are called upon to utilize your skills and knowledge in a variety of situations, daily. However, relatively little is known about the effects of this preparation and the on-going development of school leaders in the day-to-day operations of a school.
- 3. Your participation will involve the following:
  Subjects are requested to complete, sign and return this form to acknowledge their agreement to participate in this study. Subjects are also requested to complete a Survey Questionnaire that consists of 36 questions.
- 4. Your participation in the study will take approximately 15-20 minutes. The Survey Questionnaire will be completed during the Local District 3 Principal's meeting.

I understand that the possible benefits are the (1) potential design and implementation of professional development for school leaders that is career-staged and affords the acquisition of new knowledge to manage and implement legislative changes and reforms; and (2) to increase communications between school districts and university programs where both sides actively collaborate on the curricular and practical needs of current and future leaders.

The potential benefits to society are (1) the study contributes to the acquisition of generalizable knowledge; (2) assess the needs of the school community and take

appropriate action; and (3) to inform instruction in leadership preparation programs to ensure that integration of theory and practice form the substratum upon which all coursework evolves so that future leaders can utilize learned skills and knowledge immediately and without hesitation.

5. I understand that there are certain risks and discomforts that might be associated with this research.

While the risks are minimal, I realize that some anxiety or discomfort may result due to a concern about your confidentiality being compromised. This may pose a behavioral risk that might affect your answering questions honestly. In order to safeguard your confidentiality, no participant will be asked to identify him/herself or affix their name or any other identifying information on the Survey Questionnaire. During the presentation the PI will assure the subjects that their participation is strictly voluntary, their answers will be kept confidential and that they may contact the PI or Faculty Supervisor if they have any concerns about the study.

All participants are being asked to complete the same Survey Questionnaire based on their educational preparation program, experience and training; therefore, no right or wrong answers exist.

- 8. I understand that I may choose not to participate in this research.
- 9. I understand that my participation is voluntary and that I may refuse to participate and/or withdraw my consent and discontinue participation in the project or activity at any time without penalty or loss of benefits to which I am otherwise entitled.
- 10. I understand that the investigator(s) will take all reasonable measures to protect the confidentiality of my records and my identity will not be revealed in any publication that may result from this project. The confidentiality of my records will be maintained in accordance with applicable state and federal laws.
- I understand that the investigator is willing to answer any inquiries I may have concerning the research herein described. I understand that I may contact **my** Faculty Supervisor, Robert Barner, Ph.D. @ (323) 296-7680 if I have other questions or concerns about this research. If I have questions about my rights as a research participant, I understand that I can contact Doug Leigh, Ph.D., Chairperson of the Graduate and Professional Schools Institutional Review Board, Pepperdine University, @ (310) 568-2389.
- 12. I will be informed of any significant new findings developed during the course of my participation in this research which may have a bearing on my willingness to continue in the study.

13.	research project. All my quest received a copy of this information	the information regarding participation in the tions have been answered to my satisfaction. I have ed consent form which I have read and understand. in the research described above.
	Participant's Signature	
	Date	
conse	1	the research procedure in which the subject has ained this and answered any questions, I am person's consent.
Prin	cipal Investigator	Date

# APPENDIX E

# Survey Questionnaire

# Leadership Preparation Program Curriculum

Reflecting on your leadership preparation program, please rate the following factors as it relates to the program's content. (Rating: Strongly Agree = +2 and Strongly Disagree = -2)

1.	Content emp	ohasized instruc	tional leadership?		
	Strongly Agree	Agree	Neutral □	Disagree □	Strongly Disagree
2.	Content emp	phasized leaders	ship for school imp	rovement	_
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
3.	Content emp	ohasized efficie	nt school operation	s management	Ц
	Strongly Agree	Agree	Neutral □	Disagree □	Strongly Disagree
4.	Content emp	ohasized workin	ng with all stakehol	ders in the school c	community
	Strongly Agree	Agree	Neutral □	Disagree □	Strongly Disagree
5.	Content emp	ohasized school	law		
	Strongly Agree	Agree	Neutral □	Disagree □	Strongly Disagree
6.	Content emp	phasized school	finance including l	oudget analysis	_
	Strongly Agree	Agree	Neutral □	Disagree □	Strongly Disagree
7.	Content inte	grated theory a	nd practice		_
	Strongly Agree	Agree	Neutral	Disagree □	Strongly Disagree

# **Leadership Preparation**

To what extent was the following instructional practices part of your leadership preparation coursework? (Rating: To a great extent = +2; Not at all = -2)

8.	Field-based projects in which you applied ideals in the field				
	o a Great Extent	Frequently	To Some Extent	Seldom	Not at All
9.	Use of pro	blem-based learning	ng approaches		
	o a Great Extent	Frequently	To Some Extent	Seldom	Not at All
10.	Use of acti	ion research, inqui	ry projects		
Te	o a Great		To Some		Not at All
	Extent	Frequently □	Extent	Seldom □	
11.	Analysis o	f case studies			NT /
	o a Great Extent	Frequently	To Some Extent	Seldom □	Not at All
12.	_	on in small group v			
	-	on in sman group			
	o a Great Extent	Frequently	To Some Extent □	Seldom □	Not at All □
<u>Impe</u>	act on Studen	t Learning			
Ho	w well did the	program prepare	you to: (Rating: V	Very well = +2; N	(ot at all = -2)
13.	Understan	d how different stu	idents learn		
Ve	ry Well □	Good □	Fair □	Poor 🗆	Not at all □
14.	Evaluate c	urriculum material	s in support of lear	rning	
Ve	ry Well □	Good □	Fair □	Poor □	Not at all □

15.	Design profe	essional develop	ment that builds up	on teachers' kno	wledge and	l skills
Very	y Well □	Good □	Fair 🗆	Poor □	Not at	all 🗆
16.	Evaluate tea	chers and provid	le instructional feed	lback		
Very	y Well □	Good □	Fair □	Poor □	Not at	all 🗆
17.	Create a coll	laborative learni	ng environment			
Very	y Well □	Good □	Fair 🗆	Poor □	Not at	all 🗆
18.	Use data to	monitor school p	orogress			
Very	y Well □	Good □	Fair □	Poor □	Not at	all 🗆
<u>Most</u>	Valuable Con	<u>aponent</u>				
	relates to th	e value of your	ing components of success as a school le = +2, Not at all =	leader?	n programs	s as it
19.	Theory					
	tremely aluable	Very Valuable □	Somewhat Valuable □	Least Valuable □	Not At All □	N/A □
20.	Practice					
	tremely aluable	Very Valuable □	Somewhat Valuable □	Least Valuable □	Not At All □	N/A □
21.	Instructional	l leadership				
	tremely aluable	Very Valuable □	Somewhat Valuable	Least Valuable □	Not At All □	N/A □
22.	School opera	ations managem	ent			
	tremely aluable	Very Valuable □	Somewhat Valuable □	Least Valuable □	Not At All □	N/A

23.	School imp	provement				
	atremely aluable	Very Valuable □	Somewhat Valuable □	Least Valuable □	Not At All N/	
24.		-	nt of the curriculur t you found most v	m, other than those valuable?	listed in	
	Y	'es (Spec	cify)			
	N	lo				
<u>Profe</u>	essional Deve	elopment				
		• •	on in professional = +2; Not at all ho	-		
25.	University	courses related to	my role as princip	pal		
	tremely elpful □	Helpful □	Somewhat Helpful □	Rarely Helpful □	Not at all □	
26.	Mentoring	or coaching by an	n experienced prince	cipal		
	xtremely elpful □	Helpful □	Somewhat Helpful	Rarely Helpful □	Not at all □	
27.	Participation	ng in a principal n	etwork			
	xtremely elpful □	Helpful □	Somewhat Helpful □	Rarely Helpful	Not at all □	
28.	Workshop	s, conferences or	training			
	xtremely elpful □	Helpful □	Somewhat Helpful □	Rarely Helpful □	Not at all □	
29.	Reading pr	rofessional books	or articles			
	tremely elpful □	Helpful □	Somewhat Helpful □	Rarely Helpful	Not at all □	

# **Demographics**

What is your administrative title?
Principal
Assistant Principal
Assistant Principal, Counseling
Other
In what type of school are you currently assigned?
Pre-School
Elementary
Middle School
Secondary
Adult School
Other (Specify)
How many years have you worked in a certified leadership position?
Are you male or female?MaleFemale
What is your ethnicity?
African American
Asian
Latino
White
Pacific Islander
Native American
What is your highest degree held?
BA/BS
BAVBS MA/MS
JD
PhD/EdD
1 IID/ EQD
Through what venue did you receive your leadership preparation?
University
Leadership Academy
Assessment
Referral
Other (Specify)

# APPENDIX F

Table F4

Research Question Matrix

Descend Overtions	Dalayant Cumyay	Mathad of Analysis
Research Questions	Relevant Survey Questions	Method of Analysis
1. What skills and	Curricular Content	Response ratings range
knowledge are needed for	1, 2, 3, 4, 5, 6 & 7	from +2 to -2 and will be
effective school leader	1, 2, 3, 4, 3, 0 & 7	used to calculate the
[principal] training, in the	Instructional Practices	means and standard
21 <sup>st</sup> century both before and	8, 9, 10, 11 & 12	deviations for each
after school leaders are	0, 9, 10, 11 & 12	response along with using
hired, to prepare and ensure	Professional Development	histograms to graphically
they meet the demands of	25, 26, 27, 28 & 29	illustrate the distribution.
the job?	23, 20, 27, 20 & 29	mustrate are distribution.
		Pie charts will be used to
2. What is the perception of	13, 14, 15, 16, 17 & 18	graphically illustrate
the school leader's	-, , -, -,	percentage distribution.
preparation on student		
learning?		One-way analysis of
		variance (ANOVA) will
3. What component of the	19, 20, 21, 22 & 23	be utilized to determine if
curriculum, if any, within		principals of various
graduate schools of		experience levels differ
education do effective		markedly on the five key
leaders find most valuable		questions concerning
for successful school		professional development
leadership?		(#25 -29).
		Both Chi Square and one-
		way ANOVA will be
		used to determine if there
		is a statistically
		significant difference
		between experienced
		groups on professional
		development questions.
		To address validity, one
		or more citations from the
		literature will be used for
		each corresponding
		survey item.

# APPENDIX G

# Supplemental Survey Data

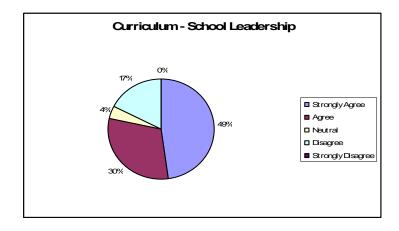


Figure G20. School leadership: Leadership preparation program curriculum

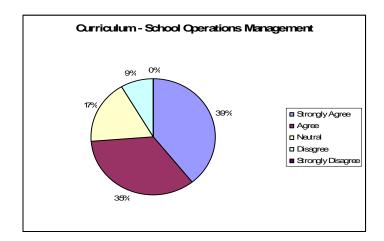


Figure G21. School operations management: Leadership preparation program

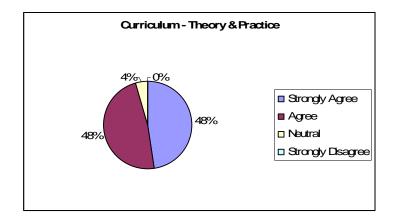


Figure G22. Theory and practice: Leadership preparation program curriculum

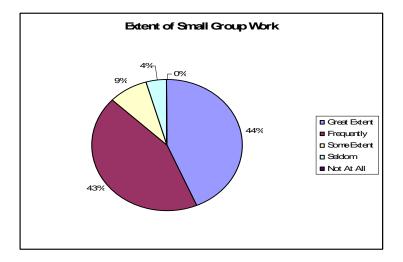


Figure G23. Extent of small group work: Instructional practices

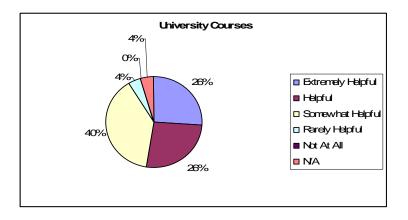


Figure G24. University Courses and professional development

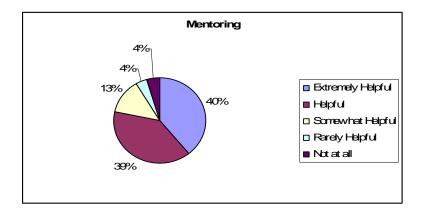


Figure G25. Mentoring and professional development

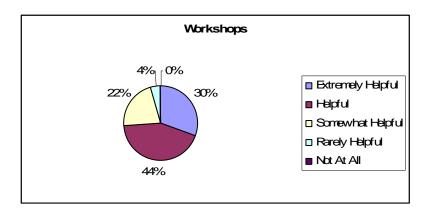


Figure G26. Workshops and professional development

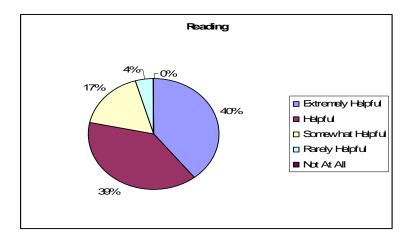


Figure G27. Reading and professional development

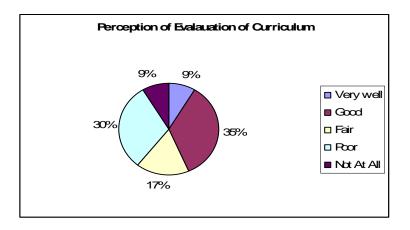


Figure G28. Evaluation of curriculum: Impact on student learning

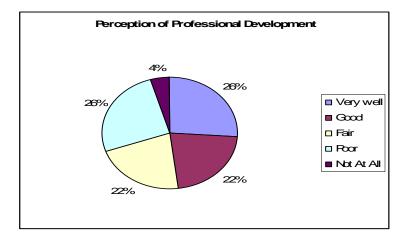


Figure G29. Professional development: Impact on student learning

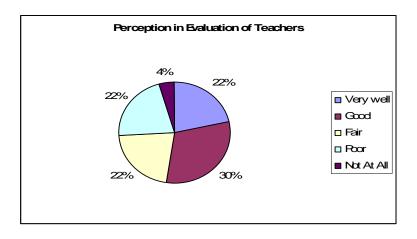


Figure G30. Evaluate teachers: Impact on student learning

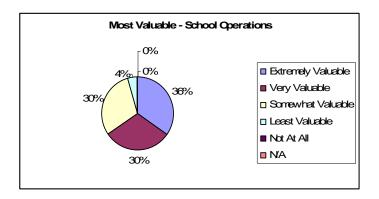


Figure G31. School operations: Most valuable component

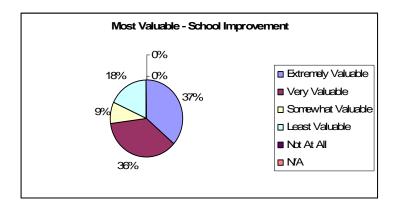


Figure G32. School improvement: Most valuable component

#### APPENDIX H

# Fisher Exactness Test for a Comparison of Male/Female Responses

The Fisher Exactness Test is used when Chi Square is inappropriate. Chi Square is meaningful when 80% or more of the cells have 5 or more observations, and none are less than one. Due to the limited number of responses, Chi Square was found to be an unsuitable tool.

 $P_B$  gives the probability (out of 1.000) of finding an array with a lower probability of occurrence. Generally speaking, statisticians consider the 0.05 as significant. The closer to 1.000  $P_B$  is, the more likely there is agreement between the two groups. Anything less than 0.05 indicates the two groups are significantly different. Unfortunately, there is no mathematical definition for  $P_B$  of, say, between 0.01 and 0.50. It does indicate some difference, but it cannot definitively state, that is the case.

You will see an array on each page. The rows/columns correspond as below:

	M	F
-1		
0		
1		
2		

In MOST cases, there were no responses for -2. In several of those that did score -2, there was only one such response, and it was eliminated from the data base (the test was not designed for a 2x5 matrix). In one case, the numbers were not run since there was no available calculator for it.

# Reading

# Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$ .	3	1	2	1	7
$R_2$	6	8	2	0	16
Totals	9	9	4	1	23

The Fisher test is performed only if N≤120.

Note that  $P_{\text{A}}$  and  $P_{\text{B}}$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

# Fisher Exact Probability Test

Probability per Definition A:

 $P_{A} = 0.22965283471408027$ 

Probability per Definition B:

P<sub>D</sub> = 0.10013583132441635

No. of tables evaluated = 55

# Workshops

### Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	0	2	4	1	7
$R_2$	7	8	1	0	16
Totals	7	10	5	1	23

The Fisher test is performed only if N≤120.

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

$$P_{A} = 0.006632484489531212$$

$$P_{B} = 0.006632484489531212$$

# Principal's Network

### Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
R <sub>1</sub> ]	2	4	1	0	7
$R_2$	6	7	2	0	15
Totals	8	11	3	0	22

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

# Mentoring/Coaching

### Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	1	3	2	1	7
$R_2$	8	6	1	1	16
Totals	9	9	3	2	23

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

$$P_A = \begin{bmatrix} 0.27546837332811086 \\ \end{bmatrix}$$

$$P_B = 0.21996108616111204$$

# **School Improvement**

### Data Entry

	$C_1$	$C_2$	C <sub>3</sub>	$C_4$	Totals
$R_1$	3	4	0	0	7
$R_2$	5	4	2	4	15
Totals	8	8	2	4	22

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

# Fisher Exact Probability Test

Chi-Square Test (df=3)

# PD: University Courses

### Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	3	0	4	0	7
$R_2$	3	6	5	1	15
Totals	6	6	9	1	22

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

# **Operations Management**

### Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	3	3	1	0	7
$R_2$	5	4	6	1	16
Totals	8	7	7	1	23

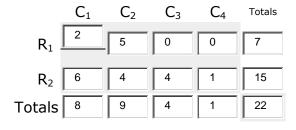
The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

# Instructional Leadership

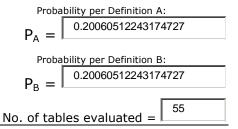
# Data Entry



The Fisher test is performed only if N≤120.

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.



### **MVC** Practice

# Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
R <sub>1</sub> .	1	3	2	0	6
$R_2$	9	1	5	1	16
Totals	10	4	7	1	22

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

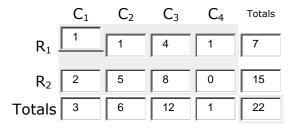
The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

$$P_{\Delta} = \begin{bmatrix} 0.07252087437845987 \end{bmatrix}$$

$$P_{\rm p} = 0.06126278262501206$$

# **MVC** Theory

# Data Entry



The Fisher test is performed only if N≤120.

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

# Using Data

### Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$_{R_1}$	1	4	0	1	6
$R_2$	2	7	3	3	15
Totals	3	11	3	4	21

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

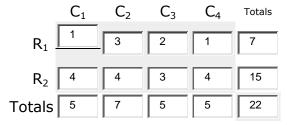
The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

# Fisher Exact Probability Test

No. of tables evaluated = 60

### Collaboration

### Data Entry



The Fisher test is performed only if  $N \le 120$ .

Note that  $P_{\text{A}}$  and  $P_{\text{B}}$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

$$P_A = \begin{bmatrix} 0.8152969321699937 \\ \end{bmatrix}$$

$$P_{B} = 0.7126841167088821$$

# **Evaluating Teachers**

### Data Entry

	$C_1$	$C_2$	C <sub>3</sub>	$C_4$	Totals
$R_1$	1	3	2	1	7
$R_2$	4	4	3	4	15
Totals	5	7	5	5	22

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

$$P_A = \begin{bmatrix} 0.8152969321699937 \\ \end{bmatrix}$$

# **Designing Professional Development**

### Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	1	2	3	1	7
$R_2$	5	3	2	5	15
Totals	6	5	5	6	22

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

$$P_{\Lambda} = 0.4283000281452273$$

$$P_{B} = 0.40719110610751274$$

# **Evaluating Curricular Materials**

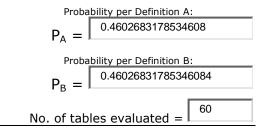
Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	1	1	2	2	6
$R_2$	1	7	2	5	15
Totals	2	8	4	7	21

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.



### How Students Learn

Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	1	2	3	1	7
$R_2$	4	7	3	1	15
Totals	5	9	6	2	22

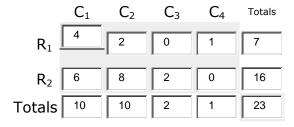
The Fisher test is performed only if N≤120.

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

# Small Group Work

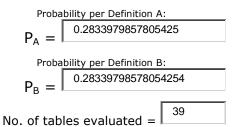
### Data Entry



The Fisher test is performed only if N≤120.

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.



### **Case Studies**

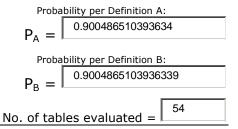
### Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	1	3	1	1	6
$R_2$	1	7	5	2	15
Totals	2	10	6	3	21

The Fisher test is performed only if N≤120.

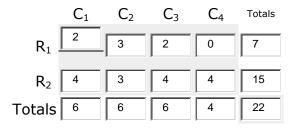
Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.



### **Action Research**

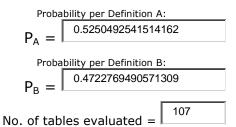
### Data Entry



The Fisher test is performed only if N≤120.

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.



# **Problem Based Learning**

### Data Entry

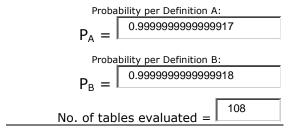
	$C_1$	$C_2$	C <sub>3</sub>	$C_4$	Totals
R <sub>1</sub>	2	2	2	1	7
R <sub>2</sub>	4	4	5	3	16
Totals	6	6	7	4	23

The Fisher test is performed only if N≤120.

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

## Fisher Exact Probability Test



M/F VIRTUALLY IDENTICAL

# Field Based Projects

### Data Entry

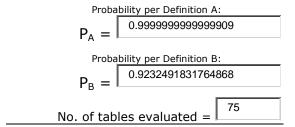
	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	2	1	3	1	7
$R_2$	6	1	6	3	16
Totals	8	2	9	4	23

The Fisher test is performed only if N≤120.

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

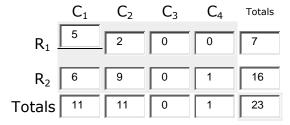
## Fisher Exact Probability Test



M/F VIRTUALLY IDENTICAL

# Theory/Practice

### Data Entry



The Fisher test is performed only if  $N \le 120$ .

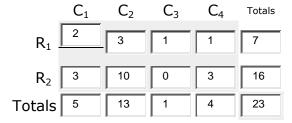
Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

$$P_{B} = 0.3410957060169587$$

### Finance

### Data Entry



The Fisher test is performed only if  $N \le 120$ .

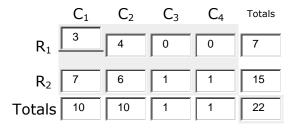
Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

$$P_A = 0.5100282675999431$$

School Law

Data Entry



The Fisher test is performed only if N≤120.

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

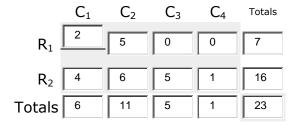
## Fisher Exact Probability Test

Probability per Definition A:
$$P_{A} = 1.0$$
Probability per Definition B:
$$P_{B} = 0.852237545736007$$
No. of tables evaluated = 28

Tacit Agreement

### Work with Stakeholders

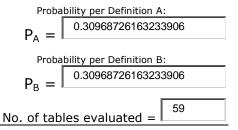
### Data Entry



The Fisher test is performed only if N≤120.

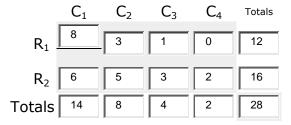
Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.



# **Operations Management**

### Data Entry



The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

# Fisher Exact Probability Test

No. of tables evaluated = 131

# Leadership-Instruction

# **Data Entry**

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	3	2	0	2	7
$R_2$	5	9	1	1	16
Totals	8	11	1	3	23

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

# Fisher Exact Probability Test

Probability per Definition A:

 $P_A = \begin{bmatrix} 0.3931888544891641 \\ \end{bmatrix}$ 

Probability per Definition B: 0.28011845470453633

No. of tables evaluated = 48

#### APPENDIX I

Fisher Exactness Test for a Comparison of School Level: Middle/Secondary vs. Elementary/Pre-K

The Fisher Exactness Test is used when Chi Square is inappropriate. Chi Square is meaningful when 80% or more of the cells have 5 or more observations, and none are less than one. Due to the limited number of responses, Chi Square was found to be an unsuitable tool.

 $P_B$  gives the probability (out of 1.000) of finding an array with a lower probability of occurrence. Generally speaking, statisticians consider the 0.05 as significant. The closer to 1.000  $P_B$  is, the more likely there is agreement between the two groups. Anything less than 0.05 indicates the two groups are significantly different. Unfortunately, there is no mathematical definition for  $P_B$  of, say, between 0.01 and 0.50. It does indicate some difference, but it cannot be definitively stated, that is the case.

There is an array on each page. The rows/columns correspond as below:

	Secondary/Middle	PreK/Elementary
-1		
0		
1		
2		

In MOST cases, there were no responses for -2. In several of those that did score -2, there was only one such response, and it was eliminated from the data base (the test was not designed for a 2x5 matrix). In one case, the numbers were not run since there was no available calculator for it.

# Reading

### Data Entry

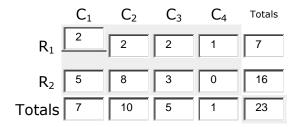
	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	4	1	1	1	7
$R_2$	5	8	3	0	16
Totals	9	9	4	1	23

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

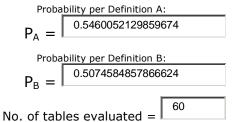
# Data Entry



The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.



# Principal's Networking

### Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
R <sub>1</sub> ]	2	4	1	0	7
$R_2$	6	7	2	0	15
Totals	8	11	3	0	22

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

$$P_{B} = 0.8374613003095987$$

# Mentoring/Coaching

### Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	2	2	2	0	6
$R_2$	7	7	1	1	16
Totals	9	9	3	1	22

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

# Fisher Exact Probability Test

No. of tables evaluated = 40

# **School Improvement**

### Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	4	2	1	0	7
$R_2$	4	6	2	3	15
Totals	8	8	3	3	22

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

# **MVC** Operations Management

### Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	2	2	3	0	7
$R_2$	6	5	4	1	16
Totals	8	7	7	1	23

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

# Fisher Exact Probability Test

No. of tables evaluated = 64

# MVC Instructional Leadership

Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	4	3	0	0	7
$R_2$	4	6	4	2	16
Totals	8	9	4	2	23

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

### **MVC** Practice

# Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	4	2	0	0	6
$R_2$	6	2	7	1	16
Totals	10	4	7	1	22

The Fisher test is performed only if N≤120.

Note that  $P_{\text{A}}$  and  $P_{\text{B}}$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

# Fisher Exact Probability Test

Probability per Definition A:

 $P_A = \begin{bmatrix} 0.1198048597429407 \\ \end{bmatrix}$ 

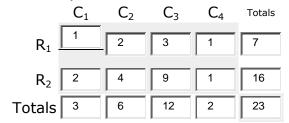
Probability per Definition B: 0.10291772211276905

 $P_{B} = \begin{bmatrix} 0.10291772211276905 \\ 1.0010291772211276905 \end{bmatrix}$ 

No. of tables evaluated = 45

# Theory

### Data Entry



The Fisher test is performed only if  $N \le 120$ .

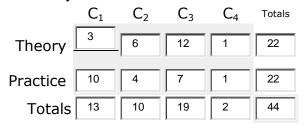
Note that  $P_{\text{A}}$  and  $P_{\text{B}}$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

Probability per Definition B:
$$P_{B} = \begin{array}{|c|c|c|c|c|}\hline 0.9091398573159244 \\ \hline \end{array}$$

# Theory vs Practice

## Data Entry



The Fisher test is performed only if N≤120.

Note that  $P_{\text{A}}$  and  $P_{\text{B}}$  are both non-directional (two-tailed).

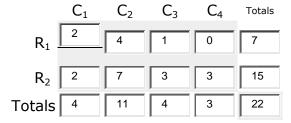
The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

$$P_{A} = 0.10925682473107842$$

$$P_B = 0.10925682473107843$$

Data

## Data Entry



The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

$$P_A = \begin{bmatrix} 0.7678018575851423 \end{bmatrix}$$

$$P_{B} = 0.674922600619198$$

## Collaborative Environment

## Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	4	2	0	1	7
$R_2$	6	5	2	2	15
Totals	10	7	2	3	22

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

## **Evaluate Teachers**

## Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
R <sub>1</sub> .	2	3	2	0	7
$R_2$	3	4	3	5	15
Totals	5	7	5	5	22

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

$$P_{\rm R} = \begin{bmatrix} 0.33814734027582216 \end{bmatrix}$$

#### **Design Professional Development**

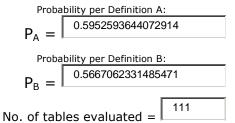
## Data Entry

		$C_2$	$C_3$	$C_4$	Totals
$R_1$	3	1	2	1	7
$R_2$	3	4	3	5	16
Totals	6	5	5	7	23

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.



# **Evaluate Curricular Materials**

## Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	2	1	2	1	6
$R_2$	0	7	2	6	15
Totals	2	8	4	7	21

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

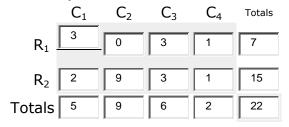
The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

$$P_A = 0.06424148606811197$$

$$P_B = 0.06424148606811197$$

## How Students Learn

Data Entry



The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

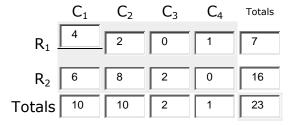
The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

# Fisher Exact Probability Test

Significant Disagreement

## Small Group Work

Data Entry



The Fisher test is performed only if  $N \le 120$ .

Note that  $P_{\text{A}}$  and  $P_{\text{B}}$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

## Fisher Exact Probability Test

Probability per Definition A:

 $P_{A} = 0.2833979857805425$ 

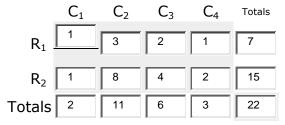
Probability per Definition B:

 $P_B = 0.28339798578054254$ 

No. of tables evaluated = 39

## Case Studies

## Data Entry



The Fisher test is performed only if  $N \le 120$ .

Note that  $P_{\text{A}}$  and  $P_{\text{B}}$  are both non-directional (two-tailed).

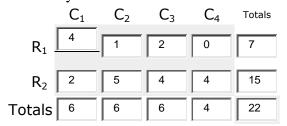
The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

## Fisher Exact Probability Test

No. of tables evaluated =

## **Problem Based Learning**

## Data Entry



The Fisher test is performed only if  $N \le 120$ .

Note that  $P_{\text{A}}$  and  $P_{\text{B}}$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

## **Problem Based Learning**

## Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$ .	3	2	1	1	7
$R_2$	3	4	6	3	16
Totals	6	6	7	4	23

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

## Fisher Exact Probability Test

No. of tables evaluated = 108

## Field Based Projects

## Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	4	1	1	1	7
$R_2$	4	1	8	3	16
Totals	8	2	9	4	23

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

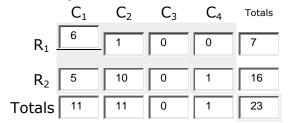
The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

$$P_{\Delta} = 0.29074021953278606$$

$$P_{B} = 0.27018196502649033$$

# Theory/Practice

## Data Entry



The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

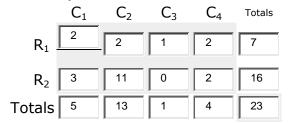
The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

$$P_A = \begin{bmatrix} 0.08937945887737197 \\ 1.008937945887737197 \\ 1.008937945887737197 \\ 1.008937945887737197 \\ 1.008937945887737197 \\ 1.008937945887737197 \\ 1.008937945887737197 \\ 1.008937945887737197 \\ 1.008937945887737197 \\ 1.008937945887737197 \\ 1.008937945887737197 \\ 1.008937945887737197 \\ 1.008937945887737197 \\ 1.008937945887737197 \\ 1.008937945887737197 \\ 1.008937945887737197 \\ 1.008937945887737197 \\ 1.00893794787 \\ 1.008937947 \\ 1.00893794 \\ 1.0089379 \\ 1.00897$$

Probability per Definition B:
$$P_{B} = \begin{array}{|c|c|c|}\hline 0.0686498855835235\\ \hline \end{array}$$

## Finance

## Data Entry



The Fisher test is performed only if  $N \le 120$ .

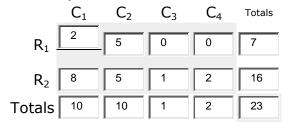
Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

$$P_{\Lambda} = 0.1582985596984776$$

Law

## Data Entry



The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

# Working with Stakeholders

## Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	2	5	0	0	7
$R_2$	4	6	5	1	16
Totals	6	11	5	1	23

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

$$P_A = \begin{bmatrix} 0.30968726163233906 \\ \end{bmatrix}$$

# **Operational Management**

Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$	2	2	2	1	7
$R_2$	7	6	2	1	16
Totals	9	8	4	2	23

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

## Fisher Exact Probability Test

Probability per Definition A:

$$P_{\Delta} = 0.6655857266975796$$

Probability per Definition B:
$$P_{B} = \boxed{ 0.61624591588247}$$

Chi-Square Test (df=3)

## Leadership Improvement

## Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
R <sub>1</sub> .	5	1	0	1	7
$R_2$	6	6	1	3	16
Totals	11	7	1	4	23

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

## Fisher Exact Probability Test

# Chi-Square Test (df=3)

## Instructional Leadership

## Data Entry

	$C_1$	$C_2$	$C_3$	$C_4$	Totals
$R_1$ .	4	2	0	1	7
$R_2$	4	9	1	2	16
Totals	8	11	1	3	23

The Fisher test is performed only if  $N \le 120$ .

Note that  $P_A$  and  $P_B$  are both non-directional (two-tailed).

The chi-square test is performed only if at least 80% of the cells have an expected frequency of 5 or greater, and no cell has an expected frequency smaller than 1.0.

## Fisher Exact Probability Test

$$P_A = 0.5326423475568713$$

$$P_{B} = \begin{bmatrix} 0.48552968097994314 \end{bmatrix}$$

# Chi-Square Test (df=3)

## APPENDIX J

## Mann-Whitney Analysis

## Mann-Whitney

$$w_{1-a/2} = n_1 n_2 - w_{a/2}$$

$$n_1 n_2 = 112$$
 (ie 16 x 7)

We select a level of significance of 0.05= a

Since  $n_1 = 16$  and  $n_2 = 7$ , the critical value for 0.05 = 22.

$$W_{0.95} = (16)(7) - 22 = 112-22 = 90$$

Anytime the test statistic exceeds 90, the null hypothesis will be rejected that the two samples have the same median.

$$H_0$$
:  $M_{PK} = M_S$   $H_1$ :  $M_{PK} > M_S$ 

## Reading

```
Data of Group B: -1.0(1.0), 0.0(3.5), 1.0(10.0), 2.0(19.0), 2.0(19.0),
2.0(19.0), 2.0(19.0)
Group A:
Sample Size = 16
Mean = 1.125
Rank Sum = 185.5
Test Statistics = 49.500
Group B:
Sample Size = 7
Mean = 1.143
Rank Sum = 90.5
Test Statistics = 62.500
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224.000
Z-Score .434
One-Sided P-Value for A < B: .332
Two-Sided P-Value for A not equal to B: .664
******************* Note **************
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

## Workshops and Conferences

```
Data of Group C2: -1.0(1.0), 0.0(3.5), 1.0(10.5), 1.0(10.5), 2.0(19.0),
2.0(19.0)
Group C1:
Sample Size = 16
Mean = 1.125
Rank Sum = 189.5
Test Statistics = 53.500
Group C2:
Sample Size = 6
Mean = .833
Rank Sum = 63.5
Test Statistics = 42.500
Expectation of Test Statistics = 48.000
Variance of Test Statistics = 184.000
Z-Score -.405
One-Sided P-Value for C2 < C1: .343
Two-Sided P-Value for C1 not equal to C2: .685
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

## Principal Network

2.0(18.5), 2.0(18.5), 2.0(18.5), 2.0(18.5), 2.0(18.5),

Data of Group C2: 0.0(2.0), 1.0(9.0), 1.0(9.0), 1.0(9.0), 1.0(9.0), 2.0(18.5), 2.0(18.5)

Group C1:

Sample Size = 15

Mean = 1.267

Rank Sum = 178.0

Test Statistics = 58.000

Group C2:

Sample Size = 7

Mean = 1.143

Rank Sum = 75.0

Test Statistics = 47.000

Expectation of Test Statistics = 52.500

Variance of Test Statistics = 201.250

Z-Score -.388

One-Sided P-Value for C2 < C1: .349

Two-Sided P-Value for C1 not equal to C2: .698

## Mentoring/Coaching

Group C1: Sample Size = 16 Mean = 1.250 Rank Sum = 209.0 Test Statistics = 73.000

Group C2: Sample Size = 7 Mean = .571 Rank Sum = 67.0 Test Statistics = 39.000

Expectation of Test Statistics = 56.000

Variance of Test Statistics = 224.000

Z-Score -1.136

One-Sided P-Value for C2 < C1: .128

Two-Sided P-Value for C1 not equal to C2: .256

## PD University Courses

```
Data of Group C2: 0.0(6.0), 0.0(6.0), 1.0(13.5), 2.0(19.5), 2.0(19.5),
2.0(19.5)
Group C1:
Sample Size = 16
Mean = .625
Rank Sum = 169.0
Test Statistics = 33.000
Group C2:
Sample Size = 6
Mean = 1.167
Rank Sum = 84.0
Test Statistics = 63.000
Expectation of Test Statistics = 48.000
Variance of Test Statistics = 184.000
Z-Score 1.106
One-Sided P-Value for C1 < C2: .134
Two-Sided P-Value for C1 not equal to C2: .269
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

## **School Improvement**

```
Data of Group C2: -1.0(2.5), 1.0(10.5), 1.0(10.5), 2.0(18.5), 2.0(18.5),
2.0(18.5), 2.0(18.5)
Group C1:
Sample Size = 15
Mean = .733
Rank Sum = 155.5
Test Statistics = 35.500
Group C2:
Sample Size = 7
Mean = 1.286
Rank Sum = 97.5
Test Statistics = 69.500
Expectation of Test Statistics = 52.500
Variance of Test Statistics = 201.250
Z-Score 1.198
One-Sided P-Value for C1 < C2: .115
Two-Sided P-Value for C1 not equal to C2: .231
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

## **MVC School Operations Management**

```
Group C1:
Sample Size = 16
Mean = 1.000
Rank Sum = 198.0
Test Statistics = 62.000
Group C2:
Sample Size = 7
Mean = .857
Rank Sum = 78.0
Test Statistics = 50.000
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224.000
Z-Score -.401
One-Sided P-Value for C2 < C1: .344
Two-Sided P-Value for C1 not equal to C2: .688
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n 1 * n 2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

## MVC Leadership

```
Group C1:
Sample Size = 16
Mean = .812
Rank Sum = 165.0
Test Statistics = 29.000
Group C2:
Sample Size = 7
Mean = 1.571
Rank Sum = 111.0
Test Statistics = 83.000
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224.000
Z-Score 1.804
One-Sided P-Value for C1 < C2: .036
Two-Sided P-Value for C1 not equal to C2: .071
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

#### **MVC** Practice

```
Group C1:
Sample Size = 16
Mean = .812
Rank Sum = 162.0
Test Statistics = 26.000
Group C2:
Sample Size = 6
Mean = 1.667
Rank Sum = 91.0
Test Statistics = 70.000
Expectation of Test Statistics = 48.000
Variance of Test Statistics = 184.000
Z-Score 1.622
One-Sided P-Value for C1 < C2: .052
Two-Sided P-Value for C1 not equal to C2: .105
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

## **MVC** Theory

```
Group C1:
Sample Size = 16
Mean = .375
Rank Sum = 191.5
Test Statistics = 55.500
Group C2:
Sample Size = 7
Mean = .429
Rank Sum = 84.5
Test Statistics = 56.500
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224.000
Z-Score .033
One-Sided P-Value for C1 < C2: .487
Two-Sided P-Value for C1 not equal to C2: .973
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

#### Use Data

```
Group C1:
Sample Size = 16
Mean = .375
Rank Sum = 173.5
Test Statistics = 37.500
Group C2:
Sample Size = 7
Mean = 1.000
Rank Sum = 102.5
Test Statistics = 74.500
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224.000
Z-Score 1.236
One-Sided P-Value for C1 < C2: .108
Two-Sided P-Value for C1 not equal to C2: .216
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

#### Collaborative Environment

```
Group C1:
Sample Size = 16
Mean = .812
Rank Sum = 179.0
Test Statistics = 43.000
Group C2:
Sample Size = 7
Mean = 1.286
Rank Sum = 97.0
Test Statistics = 69.000
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224.000
Z-Score .869
One-Sided P-Value for C1 < C2: .193
Two-Sided P-Value for C1 not equal to C2: .385
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

#### **Evaluate Teachers**

```
Group C1:
Sample Size = 16
Mean = .188
Rank Sum = 171.0
Test Statistics = 35.000
Group C2:
Sample Size = 7
Mean = 1.000
Rank Sum = 105.0
Test Statistics = 77.000
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224.000
Z-Score 1.403
One-Sided P-Value for C1 < C2: .080
Two-Sided P-Value for C1 not equal to C2: .161
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

## Design Professional Development

```
Group C1:
Sample Size = 16
Mean = .188
Rank Sum = 175.0
Test Statistics = 39,000
Group C2:
Sample Size = 7
Mean = .857
Rank Sum = 101.0
Test Statistics = 73.000
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224,000
Z-Score 1.136
One-Sided P-Value for C1 < C2: .128
Two-Sided P-Value for C1 not equal to C2: .256
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

#### **Evaluate Curriculum Materials**

```
Group C1:
Sample Size = 18
Mean = -.056
Rank Sum = 224.0
Test Statistics = 53.000
Group C2:
Sample Size = 7
Mean = .286
Rank Sum = 101.0
Test Statistics = 73.000
Expectation of Test Statistics = 63.000
Variance of Test Statistics = 273.000
Z-Score .605
One-Sided P-Value for C1 < C2: .273
Two-Sided P-Value for C1 not equal to C2: .545
******************** Note **************
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n 1 * n 2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

```
How Students Learn
   Group C1:
   Sample Size = 16
   Mean = .625
   Rank Sum = 191.0
   Test Statistics = 55.000
   Group C2:
   Sample Size = 7
   Mean = .714
   Rank Sum = 85.0
   Test Statistics = 57.000
   Expectation of Test Statistics = 56.000
   Variance of Test Statistics = 224.000
   Z-Score .067
   One-Sided P-Value for C1 < C2: .473
   Two-Sided P-Value for C1 not equal to C2: .947
   Use Normal Approximation, when at least 1 sample-size is > 10.
   Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
   Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

# Small Group Work

```
Group C1:
Sample Size = 16
Mean = 1.250
Rank Sum = 184.0
Test Statistics = 48.000
Group C2:
Sample Size = 7
Mean = 1.286
Rank Sum = 92.0
Test Statistics = 64.000
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224.000
Z-Score .535
One-Sided P-Value for C1 < C2: .296
Two-Sided P-Value for C1 not equal to C2: .593
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

# **Analysis Case Studies**

```
Group C1:
Sample Size = 16
Mean = .375
Rank Sum = 187.5
Test Statistics = 51.500
Group C2:
Sample Size = 7
Mean = .571
Rank Sum = 88.5
Test Statistics = 60.500
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224.000
Z-Score .301
One-Sided P-Value for C1 < C2: .382
Two-Sided P-Value for C1 not equal to C2: .764
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

#### **Action Research**

```
Group C1:
Sample Size = 16
Mean = .188
Rank Sum = 162.5
Test Statistics = 26.500
Group C2:
Sample Size = 7
Mean = 1.286
Rank Sum = 113.5
Test Statistics = 85.500
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224.000
Z-Score 1.971
One-Sided P-Value for C1 < C2: .024
Two-Sided P-Value for C1 not equal to C2: .049
******************** Note **************
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

# **Problem Based Learning**

```
Group C1:
Sample Size = 16
Mean = .438
Rank Sum = 175.0
Test Statistics = 39.000
Group C2:
Sample Size = 7
Mean = 1.000
Rank Sum = 101.0
Test Statistics = 73.000
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224.000
Z-Score 1.136
One-Sided P-Value for C1 < C2: .128
Two-Sided P-Value for C1 not equal to C2: .256
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

# Field Based Projects

```
Group C1:
Sample Size = 16
Mean = .375
Rank Sum = 172.0
Test Statistics = 36.000
Group C2:
Sample Size = 7
Mean = 1.143
Rank Sum = 104.0
Test Statistics = 76.000
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224.000
Z-Score 1.336
One-Sided P-Value for C1 < C2: .091
Two-Sided P-Value for C1 not equal to C2: .181
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

# Theory and Practice

```
Group C1:
Sample Size = 16
Mean = 1.188
Rank Sum = 161.0
Test Statistics = 25.000
Group C2:
Sample Size = 7
Mean = 1.857
Rank Sum = 115.0
Test Statistics = 87.000
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224.000
Z-Score 2.071
One-Sided P-Value for C1 < C2: .019
Two-Sided P-Value for C1 not equal to C2: .038
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

## School Finance

```
Group C1:
Sample Size = 16
Mean = 1.562
Rank Sum = 203.0
Test Statistics = 67.000
Group C2:
Sample Size = 7
Mean = .571
Rank Sum = 73.0
Test Statistics = 45.000
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224.000
Z-Score -.735
One-Sided P-Value for C2 < C1: .231
Two-Sided P-Value for C1 not equal to C2: .462
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

## School Law

```
Group C1:
Sample Size = 16
Mean = 1.125
Rank Sum = 196.5
Test Statistics = 60.500
Group C2:
Sample Size = 7
Mean = 1.286
Rank Sum = 79.5
Test Statistics = 51.500
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224.000
Z-Score -.301
One-Sided P-Value for C1 < C2: .382
Two-Sided P-Value for C1 not equal to C2: .764
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

# Working with Stakeholders

```
Group C1:
Sample Size = 16
Mean = .812
Rank Sum = 175.0
Test Statistics = 39.000
Group C2:
Sample Size = 7
Mean = 1.286
Rank Sum = 101.0
Test Statistics = 73.000
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224.000
Z-Score 1.136
One-Sided P-Value for C1 < C2: .128
Two-Sided P-Value for C1 not equal to C2: .256
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

# **School Operations Management**

```
Group C1:
Sample Size = 16
Mean = 1.188
Rank Sum = 206.5
Test Statistics = 70.500
Group C2:
Sample Size = 7
Mean = .714
Rank Sum = 69.5
Test Statistics = 41.500
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224.000
Z-Score -.969
One-Sided P-Value for C2 < C1: .166
Two-Sided P-Value for C1 not equal to C2: .333
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

# Leadership School Improvement

```
Group C1:
Sample Size = 16
Mean = .938
Rank Sum = 174.5
Test Statistics = 38.500
Group C2:
Sample Size = 7
Mean = 1.429
Rank Sum = 101.5
Test Statistics = 73.500
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224.000
Z-Score 1.169
One-Sided P-Value for C1 < C2: .121
Two-Sided P-Value for C1 not equal to C2: .242
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```

# Content Instructional Leadership

```
Group C1:
Sample Size = 16
Mean = .938
Rank Sum = 176.0
Test Statistics = 40.000
Group C2:
Sample Size = 7
Mean = 1.286
Rank Sum = 100.0
Test Statistics = 72.000
Expectation of Test Statistics = 56.000
Variance of Test Statistics = 224.000
Z-Score 1.069
One-Sided P-Value for C1 < C2: .143
Two-Sided P-Value for C1 not equal to C2: .285
Use Normal Approximation, when at least 1 sample-size is > 10.
Formula Used for the Expectation of the Test Statistics = (n_1 * n_2)/2
Formula Used for the Variance of the Test Statistics = n_1 * n_2 * (n_1 + n_2 + 1) / 12
```