KNOWLEDGE BASE REVISITED: EXAMINING EVIDENCE-BASED MANAGEMENT SKILLS IN PUBLIC SCHOOL ADMINISTRATORS

By

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Abstract

Research supports the theory that evidence-based management practices increase efficiencies in organizations. This study explores the use of evidence-based management among school principals and recognizes the differences with the autonomy and accountability of school system administrators. The review of literature examines the history of management in education, the ongoing debate over a knowledge base for educational administration, positivism and postmodern considerations, and a more utilitarian approach to the epistemological debate in educational leadership. The research study instrument is based upon an adapted World Management Survey, Education Instrument (World Management Survey, n.d.) and uses forced-choice survey and narrative response formats. Basic descriptive statistics were computed and analyzed and indicated a moderate level of application [operations, (M= 3.6), performance, (M= 3.69), target, (M= 3.45), and talent, (M= 3.02)] for each of the management factors measured by the survey. Pearson's zero-order correlational analysis was conducted on items six through 25 from the forced-choice section of the survey and indicated positive significant relationships between and among most items ($p < .05$). Narrative responses regarding school leader and system autonomy and accountability present greater variance and suggest that systems' use of evidence-based management diverges significantly. Suggestions from the research include evidence-based management may provide an integrative framework for educational administrators and provide a path for effective and efficient implementation of system goals and vision. Suggestions for further research include examining the overreliance on context and perceived uniqueness of school

systems, the synergy between social justice goals and evidence-based management, evidence-based management's inclusion to the knowledge base for educational administration, and inclusion among preparation programs for principals.

Keywords: Evidence-based management, leadership, management, World Management Survey, Professional Standards for Educational Leaders

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Dedication

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Chapter 1

Background and Conceptual Underpinnings for the Study

In Donmoyer's (1999) discussion of the change of the thought process regarding educational administration, he asked the reader to consider a speech by Trudy, the bag lady, from Jane Wagner's (1988) play, *The Search for Signs of Intelligent Life in the Universe*: "I refuse to be intimidated by reality anymore. After all, what is reality anyway? Nothin' but a collective hunch…a primitive method of crowd control that got out of hand" (p. 18).

An irrefutable platitude in public education is that there are problems with public education, more specifically, how the problems are managed. It may be the only point that many parties agree to in the field. As with other practitioners, the purpose of this research is to contribute to the literature on improving the model for leadership and management application that improves school district performance in multiple facets, most importantly, to reach higher levels of organizational efficiency. Laws, legislation, and mandates have been passed down from the federal and state level that have purported to advance schools towards the flawless paradigm of leadership to improve achievement. Brooks and Miles (2008) alerted readers to the fact that the overarching objectives that these school improvement platforms convey are confusing as "by design, the exact manner in which these goals should be attained and the implications of these foci for educational leaders at the school and district levels are unspecified and have been a topic of much debate, consternation, and confusion" (p. 108).

Whatever form that governmental and professional collective-group actions take, they sometimes emanate with the force of populism, or as a bureaucratic reprimand. However, with the advent of the School Performance Profile (SPP) in Pennsylvania, and more recently the Future Ready Index, this has become largely more defined. Childress, Elmore, and Grossman (2005) said that this is a positive as "school districts are increasingly being held accountable for the academic performance of their students; the political, social, and economic pressure behind the accountability movement is relentless, unprecedented in its duration and intensity" (p. 3). No Child Left Behind (2001), and, by proxy, the SPP, by virtue of quantitative approach, perpetuate an environment towards a leadership paradigm fit for a culpability age. Brooks and Miles (2008) felt that, "to some, the new accountability is a Clarion call for a new wave of scientific management" (p. 108).

This research explores another call to management theory in an age where government intervention, in the form of sweeping and comprehensive legislation, has become the norm. This new standard for the accountability age is data at every opportunity, and thus, a look back towards progressively more scientific management principles. The call to a social justice ethos works in conjunction with the accountability movement in terms of goals, at least if altruistic motivations are the driving force behind accountability. If the goal is to close the performance gap between poor and minority students, defined as "historically underperforming" by the SPP and their Caucasian, more affluent peers, then goals align (PA SPP, p. 1). However, if accountability is simply a substitute for a call to

vouchers and privatization, in lieu of public education, then that union of social justice and accountability goals disintegrates. The actions taken to reach this new accountability must take root in systems that encompass both local culture and evidence-based best practice, if the profession is to reach the credibility it has sought, as well as to show continuous improvement in a changing social dynamic.

The call to scientific management principles in educational leadership may be the piece that helps that union of local culture and evidence-based practice to ameliorate. This research exemplifies that union by focusing on acknowledged management best-practices and potentially examining school improvement pathways, including those that are usually ignored in the constricted sense of purely testing accountability, as well as those selfsame Keystone and Pennsylvania System of School Assessment (PSSA) scores. Items such as the SPP or Future Ready Index delve into areas of attendance and achievement gaps in historically underperforming groups, thus, perhaps, marrying the elements of social justice and big data though improved management practices. Educational administration has been quick to separate scientific management principles and achievement for all students as mutually exclusive. Kowalski (2009) pointed out that "acceptance of EBP (evidence-based practice) in most professions occurred as part of a massive scientific transformation that swept across professions several years ago" (pp. 351-352). The opposite has been true of educational administration as the debate over a knowledge base and several passing fads of business-related organizational concepts has led to little or no change in widely accepted management practice. Slavin (2002) pointed out that educators had to

be “dragged, kicking and screaming (p. 16) into this revolution by mandates embedded in the No Child Left Behind Act” (Kowalski, 2009, p. 352). A large part of the resistance has been that mandates have carried with them an austere connotation. Evidence-based management proliferation into the educational administration paradigm has been less than welcomed by practitioners and academics due to the repudiation of running schools like businesses and the threat of being taken over by governmental bodies. “In the context of excellence era reforms, with academic improvement driving school performance, accountability encompasses ambitious but contested purposes, overlapping responsibilities, and a focus on organizational outcomes” (Adams & Kirst, 1999, p. 481). Those contested purposes include the esoteric and looming threat of reduced funding, or funding diverted to further privatization, at both state and federal levels. Moving targets in the form of continually changing state evaluations continue to make it difficult for systems to know precisely what organizational outcomes are desired. It is exceedingly problematic to change behavior when the outcome in question is consistently in doubt.

Evidence-based management practices cannot be examined only through the lenses of social justice and accountability in the form of state and national mandates. A need persists to continue the epistemological debate concerning a knowledge base, while simultaneously furthering the profession. That statement may seem counterintuitive, but a further exploration of a utilitarian approach may lead closer to combining elements of collective evidence-based management practices with contextual understanding. In Kowalski’s defense of evidence-

based practices, he repudiated the governmental mandate pathway and explained the "need for the field of educational administration to examine the merit of EBP [Education-based Practice], not in the context of a federal mandate but rather in the context of a normative standard for contemporary professionals" (2009, p. 352).

The review of literature will demonstrate how great a task it is to find even partial agreement on whether there should be knowledge base at all much less the development of normative standards. A secondary factor in the progression of implementing normative standards is the unique context argument that each school district persistently endorses as exclusive to its own system or culture.

An important explanation for this research is to assist in filling a void in educational administration literature that continues to develop and hone evidence-based management skills that may potentially affect student achievement. According to Hess (2009), this has been given "short shrift" by school and district leaders (p. 14). The task of infusing evidence-based management skills into the lexicon of educational administration has been exceedingly problematic. Many analogous situations with trends in educational administration can be characterized as cyclical and anti-climactic, such as the different eras of educational leadership study and the subsequent culmination of each, only to be replaced by the next best thing.

Management science is derided within the larger study of educational leadership today because the profession simply has not understood that "when it comes to 'research-based practice', the most vexing problem may be the failure to recognize the limits of what even rigorous scientific research can tell us" (Hess, 2009, p. 14). Hess (2009)

argued that we should let evidence or research-based practices such as management science skills add to a framework within the profession, even if it cannot provide a complete causative representation. A derived causal prescription, however, may begin to formulate evidence-based practices as a foundation for tools for the educational leader. Hess (2009) described the use of randomized field trials:

> In education, curricular and pedagogical interventions can indeed be investigated through randomized field trials, with results that can serve as the basis for prescriptive practice. Even in these cases, however, there is a tendency for educators to be cavalier about the elements and execution of research-based practice. When medical research finds a certain drug regimen to be effective, doctors do not casually tinker with the formula. Yet, in areas like reading instruction, districts and schools routinely alter the sequencing and elements of a curriculum, while still touting their practices as research based. (p. 14)

While an examination of management skills and their relative use within school systems will not demonstrably solve all issues facing educational leaders, it can lessen the cavalier, contextual approach, and move closer to a research- or evidence-based methodology. Acceptance may be slow, but perhaps a scaffolding can be built as the profession moves towards stronger inclusion of evidence-based management.

Statement of the Problem

Educational leadership practitioners have used the arguments of context for many years to justify decision-making and dogmatic thinking in systems. The idea that each system is so distinctive is born of both ignorance of managerial best practices and a lack

of training in educational leadership preparation. There is an unequivocal deficiency of emphasis placed on the epistemological debate within education relating to the development of a knowledge base within leadership programs. This has a fundamental effect on practitioners' approaches to problem-solving and their willingness to look outside of their myopic views for development. Until educational leaders embrace a current and evidence-based practice incorporating management principles, there will be a lack of progress in the educational system that will be exacerbated by continual and dynamic pressures from society.

In their argument to address research-based best practices in school administration, Kowalski, Place, Will, and Ziegler (2009) proposed a conceptual argument:

> In the context of an information-based society, practitioners in all professions are expected to access and analyze empirical data when addressing problems and making decisions. In school administration, the failure to respond to this anticipation presents both a social challenge (improving school effectiveness) and a professional challenge (legitimizing the need for practitioners to be licensed), and both are magnified by philosophical and epistemological dissonance among faculty. (p. 1)

The disagreement among scholars that guide preparation, and the methodology of practitioners in school systems, perpetuates a system of cognitive dissonance among those in leadership positions in the acceptance of evidence-based practice. In a time when there is obviously a demand for higher quality school leadership as evidenced by

privatization vouchers in their various forms, schools have to look at progress in other fields and come to terms with "persistent criticisms indicating that field's knowledge base and practice protocols are fragmented and weak" (Kowalski et al., 2009, p. 1).

Schools must shed the provincial thought and practice and embrace a new evidence-based dynamic, as one that also views management as both an art and science. School leaders must begin to embrace the contribution to the literature that research like the World Management Survey (Bloom et. al, 2015) made in developing a new paradigm based on the experience of thousands, not of just a small amount. Gary Jones (2016) contended an account of practitioners as unacquainted as it relates to evidence-based practice in school leadership:

> Most school leadership and management decisions are not based on the best available evidence. Instead, school leaders often prefer to make decisions rooted solely in their personal experience. However, personal judgment alone is not a very reliable source of evidence because it is highly susceptible to systematic errors – cognitive and information processing limits that make us prone to biases that have negative effects on the quality of the decisions we make. (p. 8)

Jones (2016) challenged the contextual dispute and lack of knowledge-based argument by bringing up the problem of "benchmarking" as opposed to evidence-based practices (p. 5). This research based on managerial best practices as described by the WMS also refuted the problem of the school leaders who

> through benchmarking and so called 'best practices' practitioners sometimes copy what other departments and schools are doing without critically evaluating if these practices are effective, and if they are, whether they are also likely to work in a different school. (p. 8)

While broader than a singular school or district mindset, it is truly no more evidence-based than grounding it on a singular practitioner's plans.

In Slavin's (2004) rebuttal to David Olsen's (2004) response to Slavin's (2004) work, he contended

> each of these 'treatments,' he believes, is too diverse, too context bound, to permit useful generalizations. It is surely true that there are no 'pure' treatments in education and that effects vary according to contexts and vary from child to child and school to school. (p. 27)

However, Slavin (2004) argued that research must answer the "what works" questions and "produce answers that are well justified" (P. 27). In the same manner, this research will ask "what works" by looking at evidence-based management practices; it also contests a "simplistic characterization of experimental research pretends that such can only produce x versus y comparisons" and buoys the notion that "well-designed studies also characterize the conditions under which x works better than y" (p. 28). School leaders must continually challenge themselves to go outside of their comfort zone and challenge the veracity of their practice and the foundation upon which it was built.

Purpose of the Study

Within organizational structures, there is a common acceptance and striving to be more efficient in order to maximize resources to achieve the organization's goals. Schools are no different but have taken widely divergent paths to improve on what are ostensibly disputed goals. Defining the goal of school systems has been explored by several states; however, improving evidence-based management practices is not a large part of that paradigm. This era of accountability mandates that performance be defined, and in organizational efforts to improve upon performance, educational leadership practices, in the form of evidence-based management practices that improve performance, also need to be meticulously considered. Defining educational system goals is also in dispute with an overabundance of professional groups, ranging from distinctly data-based quantitative measures to agendas based upon a social justice ethos. Arthur W. Foshay (1991) described this variety:

> Other statements of educational purpose have also been widely accepted: to develop the intellect, to serve social needs, to contribute to the economy, to create an effective work force, to prepare students for a job or career, to promote a particular social or political system. These purposes offered are undesirably limited in scope, and in some instances they conflict with the broad purpose I have indicated; they imply a distorted human existence. The broader humanistic purpose includes all of them, and goes beyond them, for it seeks to encompass all the dimensions of human experience. (p. 277)

The categories put forth by omnipresent school system barometers cover a gamut of information that is as varied as Foshay's (1991) summarization, and

these may also explicate the reasoning for educational leadership's "distorted … existence" (p. 277) with management science and defining best practices. As the educational environment attempts to define an assessment or tangible definition of performance, so, too, must educational leadership scholarship look to introduce evidence-based management study and practice to reach collective ideas for what performance metrics the field strives.

This study's goal was using the WMS to determine what management best practices are employed by Western Pennsylvania school administrators. These responses will be used to potentially define relationships between management-based best practices and other covariates that may have an impact on those systems. The study is also designed to attempt to gain knowledge from educational leaders who use evidence-based management practices to increase performance in school systems. Knowledge gained could be used to enhance current principal preparation programs, increase organizational efficiencies, and begin to develop a model in terms of management applications for educational leadership and training for current administrators. Questions from the survey are used to determine specific uses of standardization of instructional practices, data-driven planning techniques, performance review and tracking, target development and accountability, and clearly defined leadership goals, vision, and accountability. Survey questions should provide awareness as to whether the school's leadership paradigms include specific management practices and to what degree they are engaged. School administrators will be asked to answer questions

regarding categories of management as defined through the WMS education benchmarking survey and its antecedent, the WMS survey educational instrument.

The purpose of this study is not unlike the described purpose of the Professional Standards for Educational Leaders (PSEL, 2015) except that this research is management-specific. This also allows for a more individualized and contextual description of evidence-based management practices described by the WMS for education. The PSEL (2015), formerly the Interstate School Leaders Licensure Consortium (ISLLC) Standards, "embody a research-based and practice-based understanding of the relationship between educational leadership and student learning" (National Policy Board for Educational Administration, [NPBEA], 2015, p. 9). And, while the NPBEA (2015) has member organizations of the most prominent and influential educational leadership groups, management is given "short shrift" (Hess, 2009, p. 14). There is more than tacit approval of the member organizations of the NPBEA (NPBEA, 2015, Introduction, p. iii), consisting of the

- American Association of Colleges of Teacher Education (AACTE);
- American Association of School Administrators (AASA);
- Council for the Accreditation of Educator Preparation (CAEP);
- Council of Chief State School Officers (CCSSO);
- National Association of Elementary School Principals (NAESP);
- National Association of Secondary School Principals (NASSP);
- National Council of Professors of Educational Administration (NCPEA);

- National School Boards Association (NSBA); and
- University Council for Educational Administration (UCEA)

While the claim of the National Policy Board is to examine "holistic leadership…and qualities and values of leadership work that research and practice suggest are integral to students' success," management is not a large part of that holistic vision (NPBEA, 2015, p. 9). As evidenced by the support from member organizations, management science will continue to be in the background.

There is a void in the literature dealing with scientific management practices and evidence-based practice in educational leadership. This study uses established measures in the forms of the WMS to attempt to fill the vacuity as presented in today's practice and preparation. Hess (2009) summarized the folly of our collective educational leadership practice as simply looking at the wrong data. He stated, "Although enormously useful, these assessments have also exacerbated a tendency of school and district leaders to focus on the [*sic*] data they have rather than on the [*sic*] data they need" (p. 16). In educational leadership, it is easier to look at what we have, what we have always looked at, and with what we are comfortable. Accountability, social justice, equity, and cultural responsiveness are all paradigms that must be elucidated through our leadership practice, however, not at the expense of evidence-based management data that promotes school improvement and better enables those other aims of leadership. Hess (2009) expressed this:

> Current conditions call to mind the parable of the drunken man crawling under the streetlight while searching for his keys. A Good Samaritan stops

> to help; after minutes of searching, she finally asks, 'Are you sure you dropped your keys here?' The man looks up and gestures toward the other end of the street, saying, 'No, I dropped them down there—but the light's better over here.'

We must take care that the ready availability of data—do not become streetlights that distract more than they illuminate. (p. 16)

Positionality Statement

Educational administrators must lead organizations in a multidimensional fashion in order to attempt to reach sometimes cryptic goals put forth for schools from societal, political, and economic forces. The field has continued to mature, but questions of the professional stature of educational leadership, the knowledge base or lack thereof of a base, and what preparation should entail, still linger. University programs and practitioners have at times had contradictory views, with great variance in university programs as well. From the practitioner's standpoint, there are growing responsibilities and complexities that require the idealized conceptualizations of leadership from an equity, inspirational, communal, and moral vantage. However, an issue that a remains is the existence of organizational structures to support and carry those multifaceted needs to fruition. These organizational structures and evidence-based paradigms are often coined as merely transactional or are sometimes negatively oversimplified as coming from the private sector, as opposed to being applied to rigorous research practices and contextual adaptation.

This research has been structured through administrative experience, concepts from within and outside of the field, and through an analysis of a continual demand for

empirical evidence in educational administration practice. Practitioners of educational administration have been trained in university programs teeming with transformational and change leadership, indoctrinated through several professional organizations' idealized versions of standards for educational leadership. Many principal and doctoral programs display a general pattern of adherence to some amalgam of standards, or locally set standards deemed important by university professors. Within those standards, there is a decidedly lacking focus on evidence-based managerial practices: practices that have been grounded in research and shown to have positive effects in general organizational environments, as well as specified for schools. These evidence-based management practices have some widespread application and could be introduced into an eclectic and inclusive knowledge base for educational administrators. This more comprehensive knowledge base could serve as a tool for educational administrators facing issues of target-setting, performance-monitoring, and operational efficiencies. The benefits of these evidence-based management practices could wither the vilifying nature of management concepts in preparation programs as well as in practice. Evidence-based management that is specific to the educational leadership environment can be an invaluable tool to promote the ideals of social justice and equity, but only when seen as a working partner with transformational leadership ideals, as opposed to a binary opposite. When accepted as an integral piece to the knowledge base for educational administrators, evidence-based management practices can provide structure to increase creativity and add to practitioner discourse that will further the field of educational administration.

Environment for the Study

Western Pennsylvania was the chosen area for this study. Several factors mark this area as different from other portions of the state and these factors lead to diverse educational setting. Geographically, western Pennsylvania is usually considered the western third of the state due to the natural separation caused by the Appalachian Mountain Range. Geographic and resulting socioeconomic diversity in this region provide a rich environment for the study. Western Pennsylvania also has several metropolitan areas including the cities of Pittsburgh, Erie, Altoona, and Johnstown. Pittsburgh is the largest and houses most of the region's largest and most prominent court systems, cultural centers, and the largest concentration of schools. The Pittsburgh metropolitan area has the largest variety of schools as there are urban and suburban schools ranging greatly in socioeconomic and racial diversity. Agriculture remains one of the largest industries and several rural school districts are distributed across the region.

The region has over two dozen colleges and universities, and many K-12 schools have developed working partnerships with these higher education institutions to enhance their curriculum and post-secondary outcomes. There are over 20 charter schools in the region, and they vary in composition from privately-owned to district-chartered. Teachers in these school districts are largely unionized, with Pennsylvania State Education Association the largest, and the American Federation of Teachers the second largest professional association. Intermediate Units are the education service centers in Pennsylvania. They serve as conduits for funding and information from both the federal and state level, as well as providing instructional, professional development, and technical surveys. They serve as the ideal method for distribution of surveys as they have list serves with administrator names for each district.

Research Questions

The purpose of this study is to determine the degree of use and a relationship exists between the use of evidence-based management practices in western Pennsylvania public schools and potential covariates. The research questions were:

1. What evidence-based management practices are used by Pennsylvania public school administrators?
2. What is the relationship between the size (student population) of the school district and the evidence-based management practices used by Pennsylvania public school administrators?
3. What is the relationship between the use of evidence-based management practices and tenure in position and gender by Pennsylvania public school administrators?
4. What is the relationship between the use of evidence-based management practices and leadership vision, strategies, and accountability of building principals by Pennsylvania public school administrators?
5. What is the relationship between the use of evidence-based management practices by assistant principals and building/head principals?

Definitions of Key Terms

Evidence-Based Management- Evidence-based management (EBMgt) is about making decisions through the conscientious, explicit, and judicious use of the best available evidence from multiple sources (Pfeffer & Sutton, 2006, p. 1).

Hegemonic Modernists- A discourse in which the rules of modernism have been enshrined as all-inclusive and commanding (thus, hegemonic). All other alternatives are either considered trivial, inapplicable, or otherwise relegated to subservient positions (English, 2003, p. 248).

Leadership- A leader is one or more people who selects, equips, trains, and influences one or more follower(s) who have diverse gifts, abilities, and skills and focuses the follower(s) to the organization's mission and objectives causing the follower(s) to willingly and enthusiastically expend spiritual, emotional, and physical energy in a concerted coordinated effort to achieve the organizational mission and objectives (Patterson & Winston, 2006, p. 7).

Management - management is forecasting, planning, organization, command, coordination, and control (Fayol, 1916)

Modernism - A distinctive perspective which arose in the 17th century and is captured by a faith in rationality and its principal method, science (Usher & Edwards, 1996, p. 2).

Post-Modernism- Originally a critique of modernism in the arts and architecture. Today it can be characterized by "a state of mind, a critical, self-referential posture and style, a different way of seeing and working" (Usher & Edwards, 1996, p. 2).

Professional Standards for Educational Leaders- National Policy Board for Educational Administration- 10 standards that describe what effective school leaders should be able to know and do to lead high-achieving staff, schools, and students in the 21st century. Formerly the ISLLC standards—for the Interstate School Leaders Licensure Consortium (National Policy Board for Educational Administration, [NPBEA], 2015)

Scientific Management - management of a business, industry, or economy, according to principles of efficiency derived from experiments in methods of work and production, especially from time-and-motion studies (Oxford Dictionary, n.d.).

World Management Survey – an evaluation tool designed by a leading consultancy firm that broadly rates management practices in three areas: monitoring, targets, and incentives. It was originally developed to measure management practices in industrial settings (Bloom, Dorgan, Dowdy, Rippin, & Van Reenen, 2005).

World Management Survey – Benchmark Your School- An abridged version of the original WMS survey for education that is on the website for schools to have a swift method of benchmarking their school in terms of management practices against other school systems by country and size (Barends, Rousseau, & Briner, 2014).

Chapter 2

Review of Literature

This chapter will review the literature and prominent themes relating to evidence-based management practices in education, especially in terms of leadership theory and the subjugation of evidence-based management theory in education. Factors connoting the immediacy and relevancy of evidence-based management practices to increase organizational efficiency will also be examined. Of note in the review is the controversy surrounding the development of a knowledge-base or core system regarding educational administration, and the lack of use of evidence-based managerial practices.

Management and Leadership– Defined and Contrasted

A great deal of literature on supposed management practice in public education is available, but its focus on being grounded in true management theory has lacked in scholarly research. This is evidenced by the countless publications that blur the line between the two, treating management concepts as the manufactured byproduct of appropriate leadership practices. Rife throughout educational, and other fields' commonplace leadership literature, is a vein that describes management as a consequence of properly executed leadership practices, as opposed to an art and science. Management has often been construed as objective and simplistic, less concerned with the humanity needed to lead people towards organizational goals. This research set out to prove that management science should not have that connotation, but rather a richer and more robust denotation. Weihrich (1997) argued, when referencing the most recognized thinkers on management, that "evidence is submitted that most of these thinkers were as much concerned with the philosophy of the intrinsic value of a human being as they were with

devising techniques to optimise the use of labour" (p. 1). Thus, the relationship between leadership and management has always been one of indistinct differences or mutually exclusive absolutes, with few academic studies providing answers. Northhouse offered, "Leadership entails working with people, which management entails as well. Leadership is concerned with effective goal accomplishment, and so is management. In general, many of the functions of management are activities that are consistent with the definition of leadership" (2004, p. 12).

The problem has been, and still remains the question of how to properly define each construct in a manner that fits the consumer of that definition in a way that applies to their professional environment. In the end, there are both disparate and collective purposes that must be reviewed. As such "all organizations have to make provisions for continuing activities directed toward the achievement of given aims. Regularities and activities such as task allocation, coordination and supervision are established which constitutes the organization's structure" (Pugh, 1990, p. 1). This leads in large part to the debate over leadership and management. The context within which the given attributes are being analyzed and how that power is enacted is central to each organizational structure, as well as individual consumer. A great deal of the debate is spurned by organizational management theory providing the underpinnings of future disagreement and abstruse definitions. Peter Drucker (1973) pointed out that while education has largely eschewed management science, it is not just a given commodity within organizational structures such as school systems.

> As a subject management is multidimensional. It is first a discipline in its own right. It is a young discipline; modern organizations are barely a

> century old, and management arose with them. But while there is still a great deal we do not know, we know management is not just common sense. It is not just codified experience. It is, at least potentially, an organized body of knowledge. (p. xi)

While management has become more of a scientifically studied set of knowledge over the last century, its multidimensional aspects as well as the fact that there is a symbiosis between the growth of management and the growth of organizations, lead to research questions in this study designed to examine that collective evolution. As such, it is important to examine the underpinnings of management science to evaluate the modern definition that is pertinent to education, and to examine the both leadership and management in education.

The process of defining each construct is imperative as this is what defines the relative lack of true management training and skills in school administrators. Zaleznik (1977) was one of the first researchers to provide a theoretical framework for the differences between manager and leaders. In his 1977 work, *Managers and Leaders: Are They Different?,* Zaleznik (1977) proffered a central divergence in leadership and management thought as he described that "leadership is a psychodrama in which a lonely person must gain control of himself/herself as a precondition for controlling others…this contrasts sharply with the mundane, practical, and yet important conception that leadership is managing work that other people do" (p. 69). Lunenburg (2011) attempted to define the differences between leadership and management in which he developed "key distinctions-at least in theory" (p. 1). Lunenburg (2011) added a valuable piece to the research on this topic for two reasons. The first was his precise evaluation of the

differences presented in a coherent format. The second, and more important, element he added to the debate was the definition of the oppositional goals these two approaches sometimes have to administering organizations. Lunenberg (2011) stated, "we need leaders to challenge the status quo and to inspire and persuade organization members. We also need managers to assist in developing and maintaining a smoothly functioning workplace" (p.1). He asserted that, "we need strong leadership and strong management for optimal effectiveness" (p. 1).

Developing the differences is important to this examination as both are imperative to successful schools, and the expectations for these skill sets are varied across systems. Until there is an understanding that the skill sets are not remotely mutually exclusive, basic premises of further research are compromised.

Management Science Influences - Pre- and Industrial Revolution

Management has a long, ambiguous history. While there has been interest in the benefits of applied management theory from many disparate fields, that imprecise history has led to its difficulty in application in education and other fields. According to Koontz (1961), "what is rather upsetting to the practitioner and the observer, who see great potential from improved management is that the variety of approaches to management theory has led to a kind of confused and destructive jungle warfare" (p. 175). This confusion stems from the subdivisions of management science as they reach out into different fields of human endeavor, merging both human and material sides of organizational practice in the process. Perhaps the oldest of all clichés concerning educational management is that schools do not produce widgets and face a much more

complex and dynamic social and organizational challenge in attempting to perfect their outputs. That challenge was described by Prasad and Gulshan (2011):

> The old world was characterized by the need to manage things- stone, wood, and iron. But the modern world is characterized by the need to manage people. All kinds of resources, physical and well as humans, are sought to be managed in a manner that should bring optimum results. (p. 6)

As the beginnings of management science are explored, a convergence of many disciplines, including a changing landscape of outputs and a great variance of items needing to be managed, must all be kept in consideration.

Management as a scientific study is fairly fledgling. Depending upon which field of study or epoch is considered its origin, management does not have an actual chronological age or date of birth. Rather, it is more like a foster child that has lived in the homes of several types of disciplines, having takeaways from all of them in different measures. The idea that management is an art as well as a science leads even more esotericism in the beginnings. In an article by Khandkar (2014), the author stated, "It is said that the management is the oldest of arts and youngest of sciences. This explains the changing nature of management" (management is an art and a science, 2014). This dichotomy of management's classification in real terms as an art opposed to its age as a science presents many of the reasons it has struggled to find traction in the education realm. Management science represents the knowledge base that has been developed over time, through empirical measures. Management art represents the application of

knowledge and skills to a given organization or problem. Weihrich (1997) elucidated the differences and their symbiotic relationship by stating, "managing as practiced is an art; the organized knowledge underlying the practice may be referred to as a science. In this context both science and art are not mutually exclusive but are complementary" (p. 7).

For the purposes of this research, the literature reviewed will examine both management as an art and as a science. It is due to the inseparable nature of the two aspects of management and its evolution as a social science that this heuristic examination is taken. The synergy of art and science in educational management, or lack thereof, will be an ongoing dynamic. Deal and Peterson (1994) described this dualistic relationship and its unsettled nature as, "the resolution of the art/science leadership binary will not be resolved by science alone because science is the doorjamb for the binary distinction. Rather, it will mean that as a tradition, science is only one way of knowing among many" (p. 9). Science as the hinge will be a large piece of the research on evidence-based management practices as the knowledge base question really revolves around the pursuit of the empirical versus the concept of context. Deal and Peterson (1994) suggested that the approach must be eclectic as many modes,

> must be pursued to fully engage the entire spectrum regarding the study of leadership. Accepting the idea of paradox in theory may be a very reasonable assumption in terms of coming to grips with understanding the phenomenon of leadership. (p. 9)

This dualistic approach is necessary as the study of management theory has had, at times, both great and lasting impact on educational administration or has been

marginalized in the field. The design of this literature review compares management-theory development and history with its effects on educational administration development, in whatever form of art or science it has occurred. The impact of each managerial development period, comprised of more obvious direct effects or the infiltration of subtle practices, has to be examined as each continues to have relative influence. However, it must be stated that these management and education management eras do not relate perfectly, nor do they have precise beginnings and endings. In part, this is due to the prevalent societal and economic factors that exist in each milieu. Lunenburg and Ornstein (2008) described this synergistic approach to explaining the history of education management: "if we view the sequence of developments in organizational and administrative theory, we notice a correlational rather than a compensatory tendency. Traces of the past coexist with modern approaches to administration" (p. 28). There are certainly pieces of classical management theory in both preparation programs as well as in practice in schools. As there is no precise standard for educational management agreed upon by scholars, no single dogmatic approach has traction for a precise period of time or in definitive environments.

Other societal issues impacted organizational leadership thought at this time. Global competitiveness and geographically expansive businesses also made the management function increasingly important. According to Guah (2008), companies had outpaced traditional management concepts as, "with growing size and complexity of organizations, the split between owners (individuals, industrial dynasties or groups of shareholders) and day-to-day managers (independent specialists in planning and control) gradually became more common" (p. 22).

Fundamental to the discussion of management theory's role in education, and the afore-mentioned increase in size and complexity of organizations, are the turn-of-the-century conventions for educational administration. As is often the case with educational leadership, a pendulum swing was about to occur due to the societal and industrial factors of the era. Early 20th-century thought portrayed educational leaders as more symbolic than substantial, with leaders more often socially placed than earning their positions through degree attainment. Brooks and Miles (2008) described this spiritually- and politically-driven period: "at the onset of the twentieth century many community members viewed school leaders as having a few primary concerns, including the promotion of traditional spiritual values and the development of strong social contacts within the school community" (p. 100). The lack of a driving force towards the study of educational leadership as an art and science was particularly manifest when viewed opposed to the burgeoning theory trending towards scientific management. Education soon found this unacceptable as "sensing social problems and applying an uncomplicated (and uncompromising) moral functionalism as a salve was soon not enough for a field moving quickly toward professionalism and systematic preparation (Brooks & Miles, 2008, p. 100).

These cultural and social factors spurned a great deal of research and ideas as the Industrial Revolution surged forth in the late 19th and 20th centuries. The literature from this era began to challenge the social and workplace ideals long held as truths. This was also where the interconnectedness of management science began as thinkers from multiple intellectual disciplines contributed works that were pieces of the genesis of management science. Henry Towne, engineer and entrepreneur first began to bridge this

gap by citing the inherent relationship between the functions of the mechanical engineer and the manager. He illustrated this symbiosis as, "[for] the reason that his functions…include the executive duties of organizing and superintending the operations of industrial establishments, and of directing the labor of the artisans whose organized efforts yield the fruition of his work" (Towne, 1886, p. 1). Towne (1886) pressed on to extol the importance of not just recognizing the crossover between the functions of the engineer and manager, but to advocate for the specific study of management "affecting the successful conduct of most… of the greatest industrial establishments, and the *management of works* has become a matter of such great and far-reaching importance as perhaps to justify its classification also as one of the modern arts" (Towne, 1886, p. 2). Towne (1886) would prove to be a significant influence on Frederick Taylor (1911) and his preeminent role in the development of management science through their mutual affiliation with the American Society of Mechanical Engineers.

The first grouping examined in the study of management is often referred to as the classical school of management theory. While greatly associated with the scholars of the era, there were some overarching themes, and they explain this close association with their creators as they continue to have that symbiosis with them today. More importantly, many of the tenets from this period form the backbone of current theories. This is perhaps most evident with evidence-based, scientific management theory.

Although scientific management as a distinct theory or school of thought was obsolete by the 1930s, most of its themes are still important parts of industrial engineering and management today. These include "analysis; synthesis; logic; rationality; empiricism; work ethic; efficiency and elimination of waste; standardization of best

practices; disdain for tradition preserved merely for its own sake or to protect the social status of particular workers" (Falah, 2015, p. 55).

Towne (1886) undoubtedly had an important influence on Taylor's (1911) theories, but Frederick Taylor (1911) stood out as a catalyst for the scientific management movement and one of the stalwarts of the classical movement. While others made contributions to this new endeavour, Frederick Taylor, through his books and articles, was deemed the Father of scientific management, also known as Taylorism. Taylor's (1911) work was also associated with both the Efficiency Movement of the early 20th century and the American Progressive era in politics. Taylor (1911) thought of scientific management as a viable solution to maximize productivity by creating efficiencies in workflows as "a determinant effort in some way to change the system of management, so that the interests of the workmen and the management should become the same" (Taylor, 1911, p. 52). These applications had uses that were transferrable to any organization, including educational leadership.

Taylor (1991) saw four tenets of scientific management that dealt with the duties "assumed by the management." These included

- knowledge-gathering and organization of such;
- the selection and development of the workman;
- combining knowledge and the work; and
- a more balanced sharing of work between management and workers (pp. 40-42)

These principles began to create a new paradigm for the construction and separation of duties in a manager and managed structure. The manager would cease to simply be an overlord who made sure work was done, but rather an integral piece of the construction of the workflow, from knowledge dissemination to practical applications of how that knowledge could benefit the workflow for greater and more efficient productivity. The manager's duty thus became to take any amount of guesswork away from process development in order to have "every element in the work of every man in your establishment, sooner or later, becomes the subject of exact, precise scientific investigation and knowledge to replace the old" (p. 44). Even in this early management literature, applications to the educational environment were evident.

A significant departure, and often juxtaposed to Taylor (1911), was the work of Frank and Lillian Gilbreth (Caramela, 2018), with their motion studies that had both an efficiency focus and a focus on improving the process for the workers. However, even with the perceived weaknesses of Taylorism, there are those that feel his impact is still felt today because of the adoption of his framework for process improvement. In a piece on W. E. Deming's lasting influence, Holt (1993) stated

> If one had to name the single biggest influence on American education during this century, a strong candidate would be not John Dewey but Frederick Winslow Taylor, the father of 'scientific management.' Exactly the same conceptual apparatus animates recent national documents on educational futures. The Taylor doctrine may yet dominate the next century as well. (p. 382)

Henri Fayol was a French engineer and mining entrepreneur who founded what is widely regarded as the administrative school of thought of management. Born with the same underpinnings as Taylorism, Fayol sought to make more efficient work processes and the workflow of information and labor throughout the entire organization. While Fayol developed theory regarding all aspects of organizational operations, he specifically saw management as singular as "while other functions bring into play materials and machines, the managerial function operates only on personnel" (Fayol, 1949, p. 19).

Fayol (1949) is most closely identified with his 14 principles of management. These 14 principles introduced concepts as guidelines for managerial processes, not absolutes. Fayol (1949) pointed out that "for preference I will adopt the term principles whilst dissociating it from any suggestion of rigidity, for there is nothing rigid or absolute in management affairs, it is all a question of proportion" (p. 19). Fayol (1949) is among the most important of the early management theorists, especially in terms of education. Many of Fayol's (1949) 14 principles in today's education environment continue to have relevance for revaluation, much in the vein of Fayol's (1949) own focus on proportion and adaptability. Prevalent throughout districts are the use and continual analyzation of principles such as unity of direction (mission/vision statements), centralization and decentralization, the scalar chain, equity, and the stability of personnel. *Esprit de corps* (Fayol, 1949, p. 40) as a concept has perhaps never been more important in the functioning of schools as in an environment of turbulence in terms of funding and function. Fayol (1949) may be one of the most relevant of the classical theorists in terms of practical application today. Wren and Bedeian (2009) pointed out Fayol's (1949) relevance: "For all intents and purposes, he was a strategist before that term became

popular. The familiar ring of Fayol's (1949) ideas suggests how thoroughly they have penetrated modern managerial thinking…but also because of the continuing validity of his work" (p. 227).

The influence of these and other classical management theorists was far reaching and affected educational leadership thought throughout the 1920s and 1930s. A great deal of this theoretical movement came from the Teacher's College at Columbia University. So great was the influence of the scholarly output, it was referred to as the "temple of Educational Administration in the Pre-World War II era" and, from 1904-1934, over half of all dissertations completed on topics related to educational administration were conducted there" (Campbell, Fleming, Newell, & Bennion, 1987, p. 180). Students from the college, such as Edward Cubberly and George Strayer, compounded the influence of the college by becoming prominent textbook writers in the field promoting "administrative goals and functions are consistent with principles of scientific management, in that they reveal an overarching concern with protocol and procedure, and a penchant for efficiency, control, and effectiveness" (Brooks & Miles, 2008, p. 101). This shift is best described by Strayer, Englehardt, and Ellsbree (as cited in Brooks & Miles):

> The spiritual element of the principalship became less important, and the conception of schools as businesses with the principal as an executive became more popular. Business values and rhetoric gained acceptance within school systems, and as leaders of the schools, principals became business managers responsible for devising standardized methods of pupil

accounting and introducing sound business administration practices in budgeting, planning, maintenance, and finance. (p. 102)

Max Weber (1947) added to the collective understanding of management theory by developing his Bureaucratic Theory of management. While often grouped with the classicists in term of management theory, his social science premise and strict guidelines of bureaucratic management, along with his ominous comments about bureaucratic management, somewhat obscure the lines between a scientific approach and a social science approach. The premise of the theory was that, "…western civilization was shifting from "wertrational" (or value oriented) thinking, affective action, and traditional action (action derived from past precedent) to "zweckational" (or technocratic) thinking (Olum, 2004, p. 15). Weber (1947) proselytized about the overly mechanistic danger that this could engender as "civilization was changing to seek technically optimal results at the expense of emotional or humanistic content" (p. 15). Weber (1947) set forth parameters that created the model bureaucracy. Olum (2004) summarized these tenants as, "fixed authority areas, a well-defined hierarchy, management based on written records, training for each individual, official activity taking priority over other activities and that management of a given organization follows stable, knowable rules" (p. 15).

A great deal of Weber's (1947) sources of authority and Bureaucratic Theory are apparent in schools today (p. 329). Schools' penchant for paperwork, authority by virtue of federal or state entities, and adherence to codified practices all can be related, in part, to Weber's (1947) bureaucratic designs. However, Weber (1947) often cautioned that bureaucracy in and of itself posed dangers to both individuals and the body corporate. Weber's (1947) cautionary statements posed queries:

> the great question is, therefore, not how we can promote and hasten it, but what can we oppose to this machinery in order to keep a portion of mankind free from this parceling-out of the soul, from this supreme mastery of the bureaucratic way of life…. It is horrible to think that the world could one day be filled with nothing but those little cogs, little men clinging to little jobs and striving toward bigger ones. (as cited in Elwell, 1996)

Weber warned that within the mechanistic aspects of evidence-based or standardized practices, the danger lay in letting individuality and spontaneity ebb, and letting jobs become little more than a means to ascending to a different one.

Rise of the Behavioral Sciences and Other Scientific Management

The post-World War II era would see the maturation of educational administration take a turn toward the development of a scientific and theoretical basis of its own. The study of educational administration and management went from more simply mirroring what was going on in the industrial and business world to the advancement of a more pure school administration science or body of knowledge. As a response to both the classical and the human relations' theorists, the behavioral sciences approach or the theory explosion was born. Brooks and Miles (2008) pointed to Newlon's (1934) precognition in deducing what would come next in educational administration theory development. Campbell et al., (1987) also described the impending and almost binary development of theory and managerial movements. Perhaps they did so in separate, but not necessarily, equal manner as

> Newlon implicitly predicted what was to become the intellectual thrust of one of the most influential post-war movements in educational administration when he noted 'look to the emerging social sciences, not to the physical sciences, for its methods of inquiry.' (p. 178)

Forces wishing to legitimize the field by further developing the theory movement emerged (Campbell et al., 1987). Newlon (1934), a Columbia University professor, would prove influential to this next stage and looming theory explosion as he predicted in his book, *Educational Administration as Social Policy,* that "the role of administrators was actually as developers and implementers of educational policy rather than site-based authorities" (Brooks & Miles, 2008, p. 3). The development and implementation of policy took educational administrators out of strictly enacting scientific management or human relations doctrines and into the world of scholarly study and toward a more activist role.

During this time there was a multitude of social factors surfacing in the development of educational administration and management theories. A number of structural and organizational issues influenced educational leadership during the early post-war years:

> a proliferation of administrator training courses were now being offered at colleges; society became more consolidated; the United States' influence on the world stage was growing; technology was making exponential leaps; and schools themselves became more congested and more multifaceted. (Pulliam & Van Patten, 1995)

This theory movement would be dominated by the social sciences approach. This was also a time when the prominent thrust was to find a unifying theory that would apply to the practice of educational administration. Like physics' quest is to find a unifying theory to unite quantum mechanics with Einstein's relativity, so the field of educational administration went about finding a singular social science basis by which to train and apply theory to practice. As Joseph Murphy (1995) stated, "the quest began for a science of administration" (pp. 64-65). The focus of educational administration training went away from learning from a practitioner's experience, whether in education or an associated managerial experience, toward the ultimate supremacy of knowledge induced from behavioral science theory. Sergiovanni (1991) cautioned about this perceived overreliance on social science theory as opposed to a more pragmatic blend:

> The behavioral sciences movement led to a view of administration as an applied science within which theory and research are directly and linearly linked to professional practice [and in which] the former always determine the latter, and thus knowledge is superordinate to the principal and designed to prescribe practice. (p. 4)

This dependency on behavioral science spurned less of a constructivist approach, while avoiding the prescribed notions of management science, or the leftover thought of the prescriptive period. In reality, this course of thought only promoted the notion of another rigid method in the theory movement, not unlike what critics stridently claimed as the downfall of scientific management's influence on educational administration.

Theory Movement and Logical Positivism

Educational administration scholars were influenced by logical positivism or logical empiricism. In the quest for a dominant or unifying theory, English (2003) posited that it "took the theory movement for the *pos* [placement, positioning] to fully take hold of the mind of professors and practitioners as science incorporated" (p. 80). While scientific management had provided the hard science aspects to the field in using terms as measurement, time, and motion, it was largely viewed as "…the science of educational administration connected to the development of Ford's assembly line" (Greenfield & Ribbons, 1993, p. 193). The notion that the scientific management approach had merit but left a great deal out of the administration equation, and was promulgated by the human relations advocates, mirrored the outlook of many educational administration scholars at the inception of the theory movement.

The tumult surrounding the theory movement and positivism would have a lasting impact on the field and the age-old disputed distinctions between leadership and management. Epistemological arguments against the theory movement would become a collective voice from some scholars in the field, proclaiming the theory movement an overwhelming failure. The logical positivist critical eye was exemplified by Griffiths (1982) as "I…was thoroughly disgusted with what passed as serious research and serious thought…It seemed to me that the logical positivist approach was the proper antidote for self-serving testimonials, the pseudo theories… plain nonsense that constituted the field of educational administration" (as cited in Culbertson, 1988, p. 16).

Lakatos (1999) similarly "criticized such approaches as 'regressive' because they produce no breakthroughs or 'novel facts' which were not part of the original premise…if science were really inductivist, there would be no such thing" (p. 97). This also speaks to

the long-standing notion within and outside the field of educational administration that the body of research is lacking, and that lends itself to no unifying theory or defined field. If the research is questionable, from its epistemological basis, then the basis upon which a field of study hinges is not anchored. Lakatos (1999) continued to even more vehemently describe this to Paul Feyerabend in their correspondence to one another: "You deny any possibility of producing any theory of appraisal whatsoever. Your only piece of advice is: do your own thing. This is your only code of intellectual honesty" (p. 14).

The end of the theory movement and positivism would see a similar fate as the educational administration theories and movements before it, a prolonged, anticlimactic, dissolution. Like scientific management, the theory movement and resultant logical positivism movement still have a great influence over the field. In reference to Taylor's (1911) and scientific management's lasting impact, author Jeremy Rifkin (1997) advanced that "Frederick Taylor's zealous determination to make efficiency the prime temporal value of our century has had untold consequences for civilization" (Rifkin, 1997). The remnants of logical positivism are seen throughout the preparation programs of educational administration departments as well as in the reliance on "survey and questionnaires in doctoral research…firmly entrenched in this form of correspondence as long as the researcher accepts the perceptions of those surveyed as 'the way it is'" (Cherryholmes, 1988, p. 85). The emphasis on the demise of logical positivism or the theory movement, as well as on the previous epoch's focus of scientific management, is important because of an overwhelming historical trend within the perceived field. Cherryholmes (1988) stated that "to show that one attempt after another to provide foundational accounts for educational thought and practice cannot sustain a close reading.

The results point to a critical pragmatism" (p. 13). This critical pragmatism continues to marginalize groups and exist in an indistinct manner. Educational administration concepts or theoretical underpinnings do not die or fade away; they just continue to exist within a "quandary of classic labyrinthine proportions" (English, 2003. p. 92). This quasi-existence is due to the fact that educational administration has struggled with its own identity and with its own legitimacy as a didactic endeavor.

Paradigm Wars…Post-Modernism, Big Tents, and Hegemonic Modernists

Educational Administration is a field in permanent adolescence, implicit within its identity development the diametrically opposed forces of resolute maturation and childlike indignation. Murphy (2002) theorized that educational administration had really developed as "historically, this approach has two epistemological axes: discipline based (or technical) knowledge and practice-based knowledge, axes that are regularly portrayed as being under considerable tension" (p. 178). Into the 1970s and 1980s, much of what passed for educational administration programs were still rooted in the behavioral sciences and the approach of the theory movement era. Perhaps, most importantly, the scholarly analysis of the field itself, or the idea that there should be a field at all, have become the components of the next age of development of educational administration. Several prominent authors have given this new age a name. Among these are "a new age of ferment…the dialectic age…postmodernism, etc…" (Murphy, 1999; Donmoyer, Imber, & Scheurich, 1995; English, 2003).

This current era is defined by the oppositional forces of those who would see educational administration become a more legitimized, and 'scientific' field, versus those

who would do away with the idea of a field at all, or, as Donmoyer (1999) stated, so called "big tent politics" that houses all views (p. 31). At this era's root was an epistemological argument that went back before this age and may have remained a distinct point of controversy for some time. The knowledge-based purveyors, or "hegemonic modernists" (English, 2003, p. 219) continued to push that there was a great value proposition in developing and defining a knowledge base for the science of educational administration, an anathema for those in opposition to a base at all. In opposition to those scholars, there are those who believe a knowledge base is essential for improvement to preparation programs and the field in general. While the examination of this has been in process throughout this review's historical examination, a further appraisal of these oppositional forces is important to this literature review because management has been marginalized, perhaps even vilified, by many of the preparation programs in educational administration until very recently.

The problem that English (2003) presented surrounding the study of educational administration was if there was a fulcrum or "Archimedian anchor point" for the future (English, 2003, p. 87). Fenwick English (2003) dubbed this conflict the "Paradigm Wars" and posited the war was for "the struggle within educational administration for its epistemological foundations and the development of a position to shape its intellectual and conceptual boundaries" (p. 212).

Scholars have pointed to several reasons for a well-defined and accessible knowledge base that is agreed upon by the field. Scheurich (1995) described the function of a knowledge base as, "the external function of a knowledge base is to prove to those outside the profession that there exists a body of specialized knowledge and skills, the

mastery of which confers special status on its practitioners" (pp. 17-18). In his justification of evidence-based practice, a conceptual model for the development of a base, Kowalski (2009), proposed the argument:

> The need to consider EBP (evidence-based practice) is framed by society's demand for greater accountability from professions, the realities of practice in an information-based society, and a proclivity to rely on the theory of legal accountability to improve schools. In the aftermath of the No Child Left Behind Act, critics have portrayed educational administration as a field lacking internal accountability, epistemological consistency, and a focused research agenda. (p. 351)

The desire to have a center or knowledge base for the educational administration field is evident throughout its history as this review has described. However, the formalized knowledge-based call has been recent. Donmoyer et al. (1995) claimed "the impetus to develop a knowledge base in educational administration originated with the National Policy Board for Educational Administration....recommended that the field rethink and clearly articulate its knowledge base" (p. 1). Further, the report not only suggested that a knowledge base be developed, it offered parameters or suggested subject areas that the knowledge base should consist of including,

> seven general categories of knowledge that could be used to frame the discussion: (1) social and cultural influences on schooling; (2) teaching and learning processes and school improvement; (3) organizational theory; (4) methodology of organizational studies and policy analysis; (5)

leadership and management processes and functions; (6) policy studies in politics of education and; (7) moral and ethical dimensions of schooling. (p. 1)

This advanced even further when the University Council for Educational Administration (UCEA), a National Policy Board member organization, furthered examination which led to a set of documents called PRIMIS. PRIMIS was organized around the same categories posed by the National Policy Board and further illuminated the seven subject including papers, readings and bibliographies. Later, the UCEA, in its effort to further institutionalize the study of educational administration, promoted seven more topics of study adjusting the original seven. While this may have provided an impetus, there have been many forays into the development of a knowledge base by many scholarly organizations. For the purposes of this review, it is important to gain an overview of those with the most impact on the field and preparation programs.

Joseph Murphy (1999), a leading scholar in the field of educational administration, penned a seminal paper that stands firmly between those pro and con regarding a formalized knowledge base. As presented to American Educational Research Association, and later published by the UCEA, *The Quest for a Center: Notes on the State of the Profession of Educational Leadership*, by title alone, took a stance. His thesis rested on the fact that the profession needs a center in light of the current age of controversy. Murphy (1999) stated, "We need a new center of gravity for the profession. Indeed, much of work in this period of ferment can be characterized as a search for a much needed, defining core for the profession." (p. 2). He highlighted what would become the ostensible anchors of developing a knowledge base as "There is some

evidence that the new core for the profession may grow from the seeds of school improvement and social justice...For reasons discussed later, school improvement provides a particularly appropriate foundation for school administration" (p. 2). As part of Murphy's (1999) argument for creating that center, he cited two external factors that have influenced the profession of educational administration. Murphy (1999) noted that there was, since the early 1980s, a profound trend towards a more market-driven, Keynesian approach in our society, and it was bleeding into the educational realm. Murphy (1999) discussed the pulling away from the traditional format of heavy government oversight to a market-driven environment "has profound implications for education writ large and for emerging conceptions of schooling and school leadership" (p. 9). These types of market-driven philosophies imbued into the world of educational administration help to usher in a call for management skill in the form of a more business-like approach, but that could be perceived to be in direct contrast with a social justice motivation for a base.

The second external factor affecting the more modern conceptualization of the field was a shift in political and societal fulcrums. Murphy (1999) cited his colleagues' perception of modern society's ills:

> …important sociopolitical trends have begun to emerge: (1) 'a growing sense of personal insecurity' (Dahrendorf, 1995, p. 26), 'unrest in the populace at large' (Liebman & Wuthnow, 1983, p. 3), and a less predictable 'worldlife' (Hawley, 1995, pp. 741-742); (2) 'the destruction of important features of community life' (Dahrendorf, 1995, p. 26); (3) shifts in the boundaries--both real and symbolic--between the state and

> alternative sociopolitical structures (Liebman, 1983a); and (4) an expanding belief that the enhancement of social justice through collective action, especially public action, is unlikely (Whitty, 1984. p 10).

It is inherent in these comments that the center may be necessary to bring back the traditional community of old and to strengthen our democratic roots. While blatant, this did foreshadow Murphy's (1999) call for social justice to be the binding agent for the field of educational administration. Murphy (1999), from these two external forces that he promulgated, set a new stage, albeit in a different era and in a dissimilar way. The same fear of scientific management survives in the form of market-driven ideas, and to some signifies a need for leadership in the mold of social justice foundations. This is further elucidated in Murphy's (1999) description of the changing nature of the school to explain the educational administrator role as "at the managerial level, a change from a bureaucratic operational system to more communal views of schooling" (p. 11).

In building his case towards a binding center, Murphy (1999) posited that the governance structure must be changed, and stated, "Critiques of extant governance systems center on two topics: (1) frustration with the government-professional monopoly and (2) critical analyses of the basic governance infrastructure…bureaucracy" (p. 12). Important in Murphy's (1999) call for a knowledge base is the movement away from the educational manager or elite bureaucrat. He counted himself among a group of those analyzing governance change as observing a "…demise of schooling as a sheltered democratic monopoly heavily controlled by professionals…and in its stead, they forecast the emergence of a system of schooling driven by economic and political forces that substantially increase the saliency of market and democratic dynamics" (p. 12). Murphy

(1999) continued to illuminate several other ideologies concerning school governance change, but they all centered on a more decentralized and populist approach to school governance, where the citizen, as well as teacher, have a larger role in facilitating the school.

Murphy (1999) described the tumult in the field as being based upon the same two distressing factors as the other upheavals in the past. These included "concerns over the two core dimensions of the academy: (1) the intellectual infrastructure supporting the profession, including the research methods used as scaffolding in the construction process, and (2) the methods and procedures used to educate school leaders" (p. 19). When discussing the intellectual base, Murphy (1999) used English's (1997) own words in describing the infrastructure as "the most privileged trophy of all, that defined 'core' which represents the most sacred intellectual ground of all because it represents what the field believes itself to be" (p. 19).

It is important to expand on the issue of the scholarly framework as it is used by those in favor of a more regulated knowledge base and those that oppose a base. Donmoyer et al. (1995) discussed the problem as the epistemological and pragmatic complications with educational administration. The epistemological problems center around issues with knowledge construction, experimental design, and paradigmatic influence and its ultimate effect in the field. For the purposes of this study, it is important to acknowledge this schism within the field, however it is a monolith that requires a great deal of debate. Donmoyer et al. stated that "the epistemological problem and can be stated succinctly: knowledge today is not what it used to be" (p. 3). Social and physical sciences have had to re-conceptualize their notions of knowledge. They continued with,

"conceptions are radically different from the conception encountered by early-twentieth century reformers…nevertheless, it is this early twentieth-century conception that has served as a model for those intent on bolstering the professional status of various educational fields, including educational administration" (p. 3). The inherent issue that comes from such a different conceptualization of knowledge construction is the resulting change in paradigm creation, and, more importantly, paradigm application. The authors pursued this point and connected it to the other apparent epistemological problem by explaining how the pre-conceptualized paradigm ultimately affects the experimental design employed.

> the paradigm the empirical researcher chooses will the influence the dependent variables employed in a study, the type of validity considered appropriate, aspects of the study design, and, ultimately, the conclusions the study comes to about the relative worth of different forms of curriculum organization. No statistical procedure can mitigate this a priori, paradigmatic influence. No critical experiment can be designed that will provide a final, metaparadigmatic answer. (p. 4)

In a supposed agreement with Murphy's (1999) proposition of a knowledge base, were Hoy and Miskel (1996), authors of the textbook *Educational Administration: Theory, Research, and Practice.* They took a more pragmatic approach towards a justification for a knowledge base that coincided to some degree with the purpose of this study. They fully acknowledged that "the models, theories, and configurations used to describe organization in their book are mere words and pictures on pages, not reality itself" (p. 3). Donmoyer (1999) opined that Hoy and Miskel (1996) "focus on the

heuristic value of social science research and theory" and that they were not trying to create a concrete knowledge base as much as attempting to help frame the problems. The knowledge base is simply "a contrivance to help frame the problematic issues in the field, not the answers themselves" (p. 37). Donmoyer (1999) referred to this as making the "utilitarian case" and "…they make a utilitarian case…the scientific approach provides a way of thinking about events for both theorists and practitioners alike" (p. 37). This recalls the metaparadigmatic approach, where the science could be described as both a model imperative as well as model declarative approach.

Another researcher that took a less prescriptive approach was Stephen Knezevich (1984). He cited the value of social science research and the building of the knowledge base through research as a form of compromise.

> Educational administration may never attain the tightly structured theories characteristic of the 'hard' sciences such as physics; human behavior may be clouded by emotions and is influenced by far more antecedents and stimuli that the behavior of electrons or other inanimate objects. Nonetheless, it is possible to establish on at least a probabilistic basis a set of functional relations between antecedents and consequences in human behavior organizations and elsewhere, this approach enables a reduction in, even if it does not eliminate, the margin of error in administrative decisions. (p. 135)

Knezevich (1984) certainly did not capitulate to positivism and acknowledged the more esoteric nature of educational administration. Donmoyer (1999) argued against this

"reduction in the margin of error" argument by noting this approach, while it would not significantly take into consideration social and cultural contexts, it did supply a rationale for attempting to develop a canonized set of standards, for heightened awareness of potentially problematic situations in the field, particularly from a practitioner's perspective (p. 37). If using certain management practices can be shown to increase student achievement, and can be shown across countries and school systems, reducing the probability of error is a goal that may be viewed as tenable, if not perfect.

A Postmodern Perspective and a Larger Tent

If Murphy (1999) was a polarizing figure for a knowledge base, then Fenwick English (2003) would be his counterpart. Perhaps no other author wrote with such disdain for the continued pursuit for a knowledge base and its problems. English (2003) attempted to make the esoteric nature of the anti-knowledge base/post-modern argument clearer by listing the basic tenants of the knowledge-based debate:

> In order to make what may appear as a fairly ethereal matter more tangible, it should be remembered that the current hegemonic modernistic frame undergirds:

- the legitimacy of an academic field of study at the university;
- the manifestation of that legitimacy is a creation and maintenance of a knowledge base which identifies the boundaries of exclusivity and privilege in the university and larger society;

- the knowledge base represents the political power of those charged with maintaining it via teaching, research, and licensure. The creation of that political power is incorporated into Focualt's (1980) apparatus of interlocking agencies with a vested interest in perpetuating their own hegemony. (p. 132)

The premise that hegemonic modernism is simply a self-perpetuating construct designed to keep those professors in their current position is a tenet of the anti-knowledge base movement. This calls back into question the epistemological problem.

Donmoyer et al. (1995) concurred with this premise and pointed out that "when we legitimate certain knowledge- when we make it part of an official knowledge base, for instance- we are, in essence, serving the interests of some individuals and groups and thwarting the interests and concerns of others" (p. 6). The authors also illuminated the epistemological fallibility implicit with the development of a base or any intellectual "paradigm" (p. 4). As they discussed the changing notion of knowledge in the 20th century, they decidedly admitted that the nature of knowledge is skewed by the bias, experience, and conceptualization of the individual. While this flew in the face of the more hegemonic modernist conception, the authors admitted that the facilitation of the development of any professional canon comes with that inherent assumption of influence by those that created it, or:

> to put the matter another way there is a growing realization that what we know is always dependent on paradigms in that the paradigms we employ

> are not so much determined by these data as by the determiners of what these data mean and often what these data are. (Donmoyer et al., p. 3)

Other authors, such as Janet Littrell and William Foster (1995), spoke to the idea that a knowledge base for educational administration is nothing but a construct of entrenched academicians and management gurus. Perhaps no other work, at least from an epistemological basis, counteracted so boldly the premise of a professional canon. Littrell and Foster (1995) channeled philosopher Allistair MacIntyre's (1984) version of Cronbach's unpredictability-of-human- phenomena argument and concluded:

> If a social science cannot approach the avenues of law-like generalization demanded of other sciences, then its status as a science is considerably undermined, and 'the salient fact about those [social] sciences is the absence of the discovery of any law-like generalization whatsoever.' (McIntyre 1984, p. 89)

This means, in essence, that the overlay that management and administrative theorists put on their theory, can indeed provide meaningful predictive generalizations about human behavior and organization, consists of a basically false assumption, one that only shows up the power and status of university professors, highly paid consultants, and other so-called "imagers" of managerial expertise (p. 35).

Littrell and Foster (1995) did not rest with the political feasibility of the knowledge base argument and railed against this as they suggested:

> Why, then, do we continue to believe in the myth of managerial expertise, despite evidence to the contrary? Perhaps we believe the myth because we

> have few or no other meaning systems to sustain us. Bureaucracy demands that we acquiesce to the idea of expertise, as well as to the idea that we can in fact control events to our liking. (p. 37)

Littrell and Foster (1995) continued to batter social science's attempt at a knowledge base by being unapologetic in a cumulative summary of administrative science. The authors stated their opinion as "it is to suggest that they perhaps labor under conditions of false consciousness, although they do in fact believe in the power of social science" (p. 36).

Such blatant condescension could perhaps be better stated as the post-modernists should forgive the logical positivists, as they are ignorant of a greater truth. This would intone that those on the side of a knowledge base remain ignorant of the epistemological pliability and paradigmatic falsehoods created by modernistic social science experimental definitions and methods: a stance that many of the anti-knowledge base purveyors would support.

Exclusionary Practices that Derail a Knowledge Base

In Scheurich's (1995) attempt to better frame the knowledge base debate, he assumed a decidedly robust stance against the concept. Scheurich (1995) examined the epistemological backdrop for the debate and the resultant theoretical factions that had arisen due to that backdrop. He also claimed that, "these kinds of fundamental disagreements make it difficult to understand how we can assume that education administration could reach a consensus on a body of knowledge, around which the training of new administrators should be standardized" (p. 21).

The epistemological debate is so skewed that there is not enough room for an eclectic or big tent view, and that "such a level of paradigmatic opposition would, in my opinion, argue against the practical level of integration supported by some authors" (Scheurich, 1995, p. 21). The argument that having a knowledge base that is even integrative is still an anathema to those opposed to the knowledge base, due to the proclamation that one could exist at all. This base would only serve to polarize, and, Scheurich (1995) stated, "to conclude that there is already such a body of knowledge privileges, intentionally or not, the positivistic position at the considerable expense of marginalizing the emergent alternatives of interpretivism and critical theory, among other perspectives" (p. 21). This integrative approach was brought forth by Scheurich (1995) and was something to be considered at another point in this review. This pragmatic approach is not acceptable by anti-knowledge base theorists, even if desirable. This would condone that an eclectic body of knowledge could exist encompassing a pluralistic set of approaches, whether or not they were complimentary.

Scheurich (1995) best illustrated this with his proposition of a feminist paradigm as it relates to educational administration. While he pointed out that a critical theorist "might be able to survive within the Board's seven areas, it would be neither an honest survival nor a comfortable one" (p. 22). In regard to feminism, he went beyond that notion to state that feminism cannot exist in congruence with a knowledge base. The relationship is doomed "not just for demographics, but also because, in my opinion, it fundamentally destroys the possibility of a knowledge base" (p. 22). He not only discussed the "gender stratification" within public school leadership, but also among the professorship in universities (p. 22). Scheurich (1995) pointed to Shakeshaft's (1987)

work *Women in Educational Administration* as an influential piece that went beyond the demographic argument by stating,

> The underlying assumption of research in educational administration is that the experience of males and females are the same, and that research on males is appropriate for generalizing to the female experience in developing theories of administration, researchers didn't look at the context in general and, therefore, are unable to document how the world was different for women. (p. 148)

Shakeshaft (1987), however, almost demonstrably showed that contrary to feminism as a counter to a knowledge base, it may only be a piece of the knowledge base yet to be included as it had not suitably been researched. Shakeshaft's (1999) concept of Stage Four pointed out that feminism could be a piece of the knowledge base by studying women, specifically as women interact with educational administration, as their own paradigm. Shakeshaft (1999) wrote of six stages concerning research on women in education.

> The stages were (a) absence of women documented, (b) search for women who have been or are administrators, (c) women as disadvantaged or subordinate, (d) women studied on their own terms, (e) women as challenge to theory, (f) transformation of theory. At Stage Four, women are finally examined on their own terms and the female world is documented. (p. 6)

As with evidence-based management skills, the issue lies more with what has not yet been done appropriately in terms of the absence of any research or research conducted within the wrong epistemological framework. Shakeshaft's (1999) Stage 6 represented a more all-encompassing time as "at this level, we can understand women's and men's experiences together. At this level, we will hopefully be able to produce an inclusive vision of human experience based on differences and diversity, rather than on sameness and generalizations" (p. 115).

In the introduction to their work representing the multiple perspectives on the knowledge base consideration, Donmoyer et al. (1995) illuminated their thoughts on the political nature of establishing a professional canon. As an introduction to a book asserting to represent numerous viewpoints on a knowledge base, their feeling of the politicization of the field was apparent.

> One implication of this realization is that when we legitimate certain knowledge--when we make it part of an official knowledge base, for instance--we are, in essence, serving the interests of some individuals and groups including the interests and concerns of others. To state the matter more boldly: We are engaging in a political act…at a more fundamental level, it calls into question the viability of the very notion of professionalism within an applied, value-oriented field such as educational administration. (p. 6)

This again beckons the epistemological argument that knowledge creation is fundamentally different depending on through which prism it is shone. That conceptual

argument infers that if nothing can be legitimized in the field, then there is no purpose for anything more than coursework on epistemology and social science. Subsequently, if decision-making or legitimizing any knowledge of any kind is thus a political act, in a negative sense, then decision-making becomes an inconsequential pursuit. Preparation for educational administration would be a contextual and value-driven, inquiry-based approach at every setting that educational administrators participate in, with presumably only an epistemologically unsound and politically inspired general knowledge base as transmittable.

Utilitarianism Unbound, Otherists, and Other Potential Solutions

A longitudinal examination of the literature on the subject of educational administration seems to always point to a group in search of grounding. Whether it is a search for an epistemological foundation or codified guiding commandments, a controversy often exists. The answers potentially lie somewhere in between extremes. Portrayed in much of the literature are epistemological extremists claiming that nothing is to be believed except in context, and in contrast to those that believe everything can be codified. As previously considered in the pro-knowledge base review, utilitarianism as an approach in the context of educational administration, has potentially some promise.

Donmoyer (1999) referred to the current dilemma as "contemporary short stories…seldom have neat and tidy, much less happy, endings (p. 36). He asked any interested parties to look at exactly what the dispute has sown and what further dissention may bring:

> Neither perpetuating our big tent way of operating or dismissing the whole knowledge base concept because it is a myth put forth by self-serving academics represent very satisfying conclusions to the tale that has been told here. If we accept the Imber, Littrell and Foster conclusion that the knowledge base notion is nothing more than a self-serving myth, for example, we are in effect taking back to the time when brute power was the only way to resolve educational dispute. (p. 36)

He proceeded to argue that the search for a knowledge base had the most noble of intentions, if not the most pragmatic and comprehensive of implementations. Other authors specifically cite that this was an attempt to do the exact opposite of perpetuate a politically motivated canon. In its' purest conception, a knowledge base with evidence-based practices, such as transferrable management skills, is exactly what de-politicizes the educational leadership environment.

Consequently, many accept that research will not absolutely determine best practices in educational administration as epistemological questions continue to confound the basis by which research is constructed. According to Donmoyer (1999), there are the "inevitable political dimensions of knowledge. The way we frame our research questions and the designs were used to construct our studies do indeed reinforce certain values rather than others and…serve the interests of some while also disadvantaging some" (p. 36). Donmoyer (1999) and others warned of this politicization perpetuated even in the seemingly more pluralistic environment of big-tent accommodation. This could potentially lead to the development of a further quagmire, with the only alternative to

appeal to and rely on being that self-sustaining scholarly community, or answers coming via a "brute force" approach (p. 36).

Bridges (1982) warned that even though the field was putting on a façade of results-driven research, there was the decided lack of real outcomes. His position addressed the lack of statistical and research design knowledge of practitioners, partially due to the relative ignorance of the epistemological divide inherent in the profession, even after advanced degrees and training. He stated, "Although researchers apparently show a greater interest in outcomes than was the case in the earlier period, they continue their excessive reliance on survey designs, questionnaires of dubious reliability and validity, and relatively simplistic types of statistical analysis" (p. 25). This overreliance on either unsophisticated or hackneyed leads to further problems of "these researchers persist in treating research problems in an ad hoc rather than a programmatic fashion. Despite the rather loose definition of theory that was used in classifying a sample of research, most of it proved to be atheoretical" (p. 25). With the basis of research either ill-conceived or contrived from ignorance or influence, "the research seems to have little or no practical utility (p. 25). When the morass is fabricated, it is sustained by a culture where "we almost guarantee that research will be used selectively as a political weapon as opposed to a tool to help resolve educational disputes" (p. 36). In a profession dominated by this blanket thought process, evidence-based management skill gets lost as it has no progenitor aside from the Taylorists long deposed by the theory movement. An obvious divergence exists when those responsible for the research that drives the preparation of educational administrators are not in congruence with what is best for the

profession, but rather driven by unwritten academic rules dictated by tenure and self-sustainability.

As with Bridges'(1982) warning, Donmoyer (1999) also alluded to the power of compromise, or necessity, over political action in the form of utility:

> Thus it seems appropriate to search for a different sort of ending to the story that has just been told, an ending that might encourage us to confront our differences and to try to resolve them intellectually…we need an ending which will encourage us to try to find the best solution rather than simply the most politically expedient one. (p. 37)

Other authors have also supported the utilitarian tactic. Donmoyer (1999) mentioned that "Robinson's (1994, 1998) problem based [*sic*] methodology, a methodology that involves researchers deliberating with practitioners and policy-makers about how local problems should be defined is ultimately a utilitarian justification" (p. 38). The practical or utility focus of this approach is not completely freed from the epistemological argument, however.

While Robinson's (1994, 1998) works may be viewed as problematic for those at odds on the epistemological axis, no authors' work may support the utilitarian view more than Evers' and Lakomski's (2014) writings. There are several ripostes throughout the literature that deride their utilitarian or "naturalistic coherentism" approach and includes "how to deal with the evaluation of theories (of, say, leadership) where there is a demand that a theory needs to be context relevant, but also comprehensive" (Evers & Lakomski, 2014, p. 402). However, authors such as Press (2014), challenged both the entire post-

modernist ideal, and also the exclusivity of theoretical approaches. Indeed, those in opposition go so far as to deride many of the past approaches as limited and perhaps elitist:

> as controversy over positivistic understanding of knowledge development expanded, interpretive and postmodernist perspectives became more prominent. Evers and Lakomski (1993) believed the acceptance of alternative paradigms had resulted in numerous different epistemological positions with distinctive assumptions…In post-modernist paradigms there is no distinction between fiction and nonfiction, failures were not filtered out, and random experiences were described (Evers and [*sic*] Lakomski, 2000). Evers and Lakomski (2000) proposed that human behavior is not random; therefore, the contribution to science from postmodern paradigms was minimal. (Press, p. 123)

Press (2014) presented a compelling argument for their development of a theory of coherentism. As Evers and Lakomski (1991) moved toward a new description of science, or at least one more fitting of educational administration with values-driven forces, as well as those that could be quantified with a more empirical approach. The grounding in a natural science approach only set a foundation or represented the inner part of a "dynamic web of knowledge" that branched out into the organizational and administrative theory that is developing or yet to be developed (Press, 2014, p. 124). Evers' and Lakomski's (1991, 1996, 2000, 2014) theory of coherentism is one of "shared concepts and justifications, meaning and truth are brought into a productive relation with one another through 'touchstone' - which denies a distinction between rationality and

content; good and problem solving; and ethical and empirical claims. Touchstone is defined" (Press, 2014, p. 233). This coherence works in conjunction with empirical evidence as a way of comprehensively solving problems that are significantly nuanced, such as administrative leadership best practices, including evidence-based managerial practices.

Donmoyer (1999) described this criteria in a different, more specific way by discussing Evers' and Lakomski's (1996) coherentism argument as "how else…could they justify their 'additional, superempirical' criteria, consistency, simplicity, comprehensiveness, unity of explanation, learnability and fecundity-which they propose to justify a theory's worth" (p. 38). He later questioned Evers and Lakomski (1996) for using naturalistic coherentism and asked if the study of educational administration "require the balancing of a variety, even contradictory theories…and the different values they serve" (p. 39). Evers and Lakomski (1996) may be attempting to do just that, and to answer Donmoyer's (1999) question of whether coherentism is a sufficient or pragmatic grounding for the field is contradictory, acknowledging that later in his piece. The idea of coherentism is such that there is only grounding (physical/empirical), and that many other pieces (values/relations) are a part of the expanding web of knowledge development. Grounding in this context is neither complete nor fully matured, but rather anchor points to develop an ever strengthening and dynamic model for progress.

Daniel Griffiths (1995), a prolific writer on the subject of educational administration, is widely associated with scientific and empirically-driven processes throughout the literature. He has been referred to as a researcher who applied "cognitive science framework, a conceptual monist, and modernist" (English, 2003; Willower &

Forsyth, 1999). For this literature review, it is precisely because of those references that it is necessary to include his piece on theoretical pluralism in the field of educational administration. Griffiths (1995) stated unequivocally that his premise is not full of pretense by stating, "my argument is simple and straightforward: organizations…are complex phenomena and should be studied from a number of points of view and the most advantageous way of going at this is to use a number of theoretical approaches" (p. 301). Griffiths (1995) promoted this pluralism by delineating strong definitional differences between paradigms and theories and how both of those are applied to an educational administration study. He explained that "multi-paradigmatic research simply houses theories into artificial structures, and that this in turn causes the theory creation to be the goal and second, that all theories are considered to be equally useful for purposes of research" (p. 301). His ultimate purpose for this was to move from theory creation to a problem-solving process, a position that aligns greatly with the inclusion of evidence-based management practices in the canon. When Griffiths (1995) discussed the differences between positivists and post-positivists, he came to the conclusion that the dividing line between them provides the most eloquent reason for theoretical pluralism. The next section of his piece echoed the utilitarian call of Evers and Lakomski (1991, 1993), in that there should be a selection criterion for theoretical application. Perhaps this piece's most powerful and simple premise is the make-up of research teams and faculties of educational administration as proposed by Gioia and Pietre (1990): these groups should be composed of "devotees of different paradigms" (pp. 598-599). Griffiths (1995) differed with them slightly stating, "substitute theoretical pluralism for multiparadigm awareness" (p. 308). This would provide a much stronger and

comprehensive approach to the training of educational administrators in preparation programs and strengthen the field. Either argument of awareness or devotion strengthens the inclusion of evidence-based practices beyond the scope of the theory movement and its solely contextual social-science approach.

Throughout the examined literature on the study of educational administration, there are many instances of exclusion and inclusion, ranging from basic premise to fine detail. Little agreement exists on the broader points of educational administration like the epistemological basis, the overlap or intermixing approaches to the study of educational administration of each era, the level of influence of self-preservation from academia, preparation for administrators, and most importantly, where the field needs to go. One argument that spans all representatives in the literature is the need to progress as a field as opposed to stagnation in a cloud of philosophical and scholarly brinkmanship. Willower and Forsyth (1999) presented a brief history of the study of educational administration that paints an honest picture of a field in disagreement, but not in total disarray. They chose to look at the topic thematically, with an emphasis on unifying elements and extant diversity. The authors claimed those unifying elements to be, "a melioristic commitment to the improvement of education, as reflected over time by substantial scholarship on democratic and participative administration…a continuing reliance on logic and evidence…even during a period rife with relativistic criticisms of standards of many kinds" (p. 20). The reliance on logic and evidence continues to make a case for management science having a seat at the educational administration table, but one of inclusivity, not one of divisiveness.

Similar pleas for cooperation and a more gestalt approach are widespread through throughout literature from all sides of the educational administration profession. Often these appeals are seen at the end of scholarly articles, when perhaps sentiment is an appeal to their intellectual opponents and their more collaborative natures are demonstrated. The argument for utilitarianism and diversity in thought is displayed by Clapper (1995) as she stated, "we can no longer afford to ignore the need for discussion, sustained critical thought, and self-interrogation of our work" (p. 296). A great deal of the profession's internal questioning must include the lack of management knowledge of administrators.

Donmoyer's (1995) discussion of utilitarianism perhaps best signified the desire to exit the morass of philosophical debate, and that is not acceptable if students and stakeholders are not the beneficiaries of expedient thought. He conceded that he, like many other scholars, have brought up more questions than answers, and none of them without significant nuance. However, this is the crux of this research, the indication that there can be both evidence-based practices with management and allowance for a contextual perspective, elements of naturalistic coherentism (Evers & Lakomski, 2000). Donmoyer (1995) stated:

> Utilitarianism does not avoid the epistemological differences difficulties associated with attempts to talk across paradigms and perspectives, the critics will undoubtedly say, and, at least on some abstract, theoretical level, they will be right. The alternative ending I have proposed is what I refer to as a Kris Kristofferson type of solution, i.e. a 'Help Me Make It Through the Night' kind of response to a problem. (p. 39)

In this passage, Donmoyer (1995) displayed the intellectual and institutional bravery that will be necessary to progress a dynamic and varied field. While other researchers name it compromise and have done so in a negative light, a more optimistic vantage would be compromise that begets progress.

Necessity of the Evidence-Based Management Function In Educational Administration,

Management Science, the Accountability Movement, and Social Justice

Stacey Childress, Richard Lemore, and Allen Grossman (2005) encapsulated the questions and obstacles to effectively running public schools in light of management science in *Promoting a Management Revolution in Public Education* (2005). Their preface stated:

> How often has it been said that public education in the United States should be run more like a business? …The problem is that while public school districts have a myriad of managerial, leadership and organizational concerns, they are not businesses…the way they acquire capital, their mandate to serve all students (customers) regardless of capabilities or desires, and their accountability to a multiplicity of public and private stakeholders, who often have conflicting interests, are but a few examples. School districts today face unique challenges that make them more difficult to lead and manage than virtually any other enterprise in our country. (p. 1)

In the authors' opening remarks, they immediately addressed a pervasive attitude towards public education that if there was more emulation of business elements engaged in by educational leadership, certainly students would perform better, and schools would run more efficiently and with less cost. However, the alluring nature of this faith-in-business practice does not consider what practitioners already know. There are elements of the business world that translate and others that do not.

This is an environment unlike any other, with social, bureaucratic, and sociological factors combining for a perfect storm for leadership. The temptation of the business element often has a sour subtext for those who promote a more tolerance-based or social-justice focus for leadership, as is often found in schools. This stigma often carries over to any managerial practices that tend to teeter on the boundary of public and private management techniques. Within the field and outside, there persists an overly simplistic view of management science in the school system that is too often disassociated with student performance. Childress et al. (2005) addressed the lack of management practices and the misconception as "management, in this loosely –coupled system, insofar as it exists at all, primarily concerns itself with structural, logistical, and operational issues…rather than the strategic issues having to do with the overall performance of the organization" (p. 5).

Several questions surface as a byproduct of this statement. The educational world, too often, let private managerial concepts serve their "life cycle" only to see privately-proven management conceptions fail in public schools (Peck & Reitzug, 2012, p. 349). These management conceptions "receive broad but fleeting" support and professional development in the public sector, only to be construed as failures (p. 347).

School systems face multiple issues that perpetuate this system. Accountability has become a catalyst for a resurgence of management science. This has not been the case as "even as pressure for performance-based accountability increases, the development of managerial capacity public school systems does not occur as a 'natural' response" (Childress et al., 2005, p. 5). The development of management capacity continues to be an issue and schools have been slow and somewhat defiant in their response because of perceived and actual differences from the environments where management science is naturally viewed as an agent for performance improvement, e.g., the private sector. This sluggish development of strictly management best practice in schools is due to several contributing factors, among them the lack of "intellectual resources…and that there is no body of knowledge specific to this sector" (p. 5). The premise that there should be a set of skills and knowledge that transcends only local school systems is severely retarded by those factors, but more importantly because there is not a history of educational leaders properly equipped with both an understanding of and empirical evidence supporting the skills and knowledge of evidence-based management. This has been problematic due to the epistemological incompatibilities and disdain for a utilitarian approach as "a body of educational management knowledge does not exist because there has been no logical constituency to develop it" (p. 5).

There are some modern scholars who agree with the premise that both the preparation of leaders and their day-to-day existence should be more closely related to scientific management, even if not in the vein of the turn-of-the-century iteration. However, the dichotomy that exists within the field is greater than at the turn-of-the-century, and the focus on social justice as a motivating force of educational leadership is

the other magnetic pole, or at least the perceived opposite. With the advent of the postmodern movement in the field, many social justice lenses, such as feminism and racial equity, have been applied to the educational leadership standard. This research will focus more on the neo-scientific management-movement side of that contrast, but cannot leave the social justice lens out completely, nor is that the intent. Several times throughout this research the opposite will be more evident, and management practices will allow for a closer focus on promoting social justice within the education framework.

Eacott (2011) provided insight into the dichotomous world of American educational leadership by illustrating a similar pattern unfolding in the Australian system. Eacott (2011) discussed two prominent educational movements, the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) and the Rudd/Gillard Federal Labor government that displayed the contrasting movements, much as in American social justice and accountability thrusts. The former promotes "equity and excellence" and states that "this goal is couched in the language of both social (equity) and economic (excellence) reform" (p. 46). The latter focuses on a "productivity agenda" and policy reforms that "directly measure educational outcomes in numbers. Data are collected centrally through a national testing regime, where results are publicly available" (p. 46). The parallels are apparent to the system in Pennsylvania that exist with the SPP and its dualistic focus on factors directly attributable to both social factors and direct test scores. This is problematic as the "ongoing tension in the policy agenda of Australian education between social and economic foci plays out in the daily practice of school leaders" (p. 46). This creates a condition of "inherent managerialism" and shifts "the focus of school leadership and management to be more responsive to client demand

and external judgement (p. 46). The structure of federal, state and local policies pulling at the leadership and management loyalties of administrators has created a "context full of dilemmas and paradoxes…the either/or choice is somewhat of a false dilemma." (p. 47). This environment places leaders in a tug-of-war between a "performative culture" and a more socially framed equity agenda (p. 47).

Brooks and Miles (2008) framed this argument as they posed two questions for scholars. The first of these questions was "are social justice and scientific management mutually exclusive concepts?" In answering their own question, they highlighted that many researchers have shown, "an emphasis on technocratic rationality and outcome measurements may seem completely incongruent to issues of equity, and to be sure, many researchers have argued this point at great length" (p. 109). For example, they pointed out testing and data collections as two ways that systems have used to close the gap between historically underperforming students and their more accomplished peers. However, the authors also pointed out that many researchers feel that this over-reliance on rationality produces precisely the sterile environment that excludes a social justice stimulating leadership focus, and that "exploring this tension is difficult and controversial work but extremely relevant and necessary in a maturing high accountability policy environment" (p. 109).

The authors' second question was "what lessons can we learn from the first wave of scientific management that are still relevant today?" (p. 110). They also quoted English (2003), who claimed that a scientific management approach "creates a demarcation line, bestowing legitimacy on those who do their work within it while discrediting all that which came before as false or trivial" (p. 73). This seems to be a

puzzling effort to ask the question as the researchers went on to point out that the social and cultural context for educational leadership is vastly different than at the turn-of-the-century's industrial state that America was becoming. The critique by English (2003), while not antiquated, certainly has a different context today and for precisely the ideas set forth by Brooks and Miles (2008). The socio-cultural context, and countless pieces of egalitarian legislation, laws, and legal opinion since the industrial age, would certainly ensure a richer environment for social justice. Their research questions are extremely valued, but only if answered within the milieu they would now have to exist in and that is an entirely different world. Social justice and management theory are only mutually exclusive when either side of the debate views them as such and carries that out within their work and research.

A deeper examination of this dichotomy shows that the thought of the past was more akin to English's (2003) "line of demarcation" (p. 73). Particularly disturbing, within the accountability movement, is the premise that accountability must be developed outside of the organism, or as Kowalski (2009) warned, "reliance on external accountability in the absence of internal accountability is unlikely to improve schools or provide social authority for educational administration" (p. 351). More synergy exists combining external and internal sources of accountability, as opposed to separation between scientific management and social justice. Indeed, scientific management should be viewed as an equalizer, a champion of social justice through efficiencies and transparent action in the distribution and use of scarce resources in school systems. Educational leaders may agree that:

> in a time where demographic trends indicate unprecedented and increasing ethnic diversity, and educators have a heightened sensitivity towards meeting the needs of all students, educational leaders must strive to understand issues from multiple perspectives and craft a leadership pedagogy sensitive to individual and subgroup differences. The idea of creating such a line of legitimization that separates and favor some at the expense of others seems unacceptable. (Brooks & Miles, 2008, p. 109)

The aforementioned line of separation resonates more as a foregone conclusion than a possibility in the context of using scientific management. The necessity of using evidence-based management practices is most importantly to deny this type of closed thinking of those seeking a strictly social justice framework driven administrative practice. Social justice proponents seem to protest too much in lieu of using scientific management data as part of the whole schema in administrative practice, including accountability in the form of these practices to inform a social justice perspective.

Karpinski and Lugg (2006, p. 287) argued that the early history of educational administration drew heavily from hierarchical and simplistic business models that obscured the rich diversity of public schools in the early 20th Century. Concepts like the promotion of standardization and regimentation of grade levels, teaching materials, curriculum, and curriculum-tracking were precisely what Brooks and Miles (2008) characterized as a "first wave of scientific management" (pp. 101-102). Therefore, it is reasonable to posit that evidence-based constructs using management practices goes beyond Brooks' and Miles' (2008, p. 109) "heightened sensitivity" and are a necessity to maximize and distribute resources to benefit all. As social justice continues to be refined

in the context of schooling, so does management-based practices. The current investigation only provides a snapshot of management practices but precipitates a continual monitoring of those practices. The difference between the first era of scientific management and the present is that the vestiges of several other eras remain, some that have received varying nomenclatures, and where there were "cultural and political shifts during the eras of educational administration…as the field evolved in response to greater social movements" (Gaetano, Normore, & Brooks, 2009, p. 6). If anything highlights the marriage of social justice and scientific management, it is the accountability movement as many may describe as the current era. There is no need to look beyond the measure of the SPP in Pennsylvania to see the union of hard science and social justice in the form of the metric of closing the achievement gap for historically underperforming students. Best practice management practices in the form of teacher retention, punishing poor performers, setting targets and goals in the lens of sub-group performance (race, social economic, gender, etc.), proves that this era can show a potent combination of management practices used to inform and improve operations through a dynamic social lens.

Brooks and Miles (2008) also offered several questions that remain unanswered. They further instigate a fissure between scientific management and social justice in the suggestion "will social justice be washed away by a second wave of scientific management?" (p. 111). Ironically, the question posed right before that is precisely what is needed to begin a courtship between scientific management and social justice in leadership. They asked, "are there signature pedagogies, sets of skills, or certain competencies an educational leader should, could, or must exhibit…what will constitute

this protean knowledge base" (p. 111). These questions are the same ones that this research deliberates. There are competencies and sets of skills in the practice of management proficiencies that would enable the more efficient and productive administration of educational organizations, thus less protean. These evidence-based management competencies do not hold back any particular social justice agenda, but rather enable them in a more equitable and flourishing environment. It is simply disruptive and disadvantageous to view management skills and social justice perspectives as anything but essential to the training and continuing education of administrators. Perhaps more perplexing is when this exclusivity as opposed to synergy forms the basis for future research and lines of thought.

One of the primary reasons that the identification and study of management practices is important to the educational profession is to have an empirical basis by which to look at what best practices work to increase student achievement and for schools to run more efficiently. This empirical basis would be an attempt at developing consistency in a world where "there are major disparities in the quality of education within and between countries" (Office of Economic Cooperation and Development [OECD] as quoted by Bloom et al., 2012, p. 1). This consistency is impossible as the educational world exists within a structure that "has been held back by a lack of robust and comparable instruments to systemically measure management practices" (Bloom et al., p. 1). The obvious epistemological arguments of having a knowledge base, and the degree to which it should be dynamic or exist at all, are discussed in the literature review. The argument for this type of study is that it may help to dispel the ferment and build upon a pragmatic as well as theoretical basis for leadership action in education administration. If the

profession wishes to discover the nature of knowledge in the educational leadership environment, then practitioners have to attempt to discern and comprehend it from several vantages, including empiricism, within a socially aware perspective.

Evidence-Based Management and Applying It to Educational Leadership

The need for evidence-based practices, or as applied to educational leadership, evidence-based management, is apparent as the field needs to define knowledge through multiple lenses as well as maintain accountability from a legal perspective. Whereas some social researchers may approach the study of educational leadership through a social justice lens, evidence-based practitioners may contend that many of the social justice lenses could yet be researched using older research paradigms, such as those practiced during the theory movement. There is debate over evidence-based practices from an accountability lens.

Adams and Kirst (1999) discussed this issue as "a weak conceptualization of accountability exacerbates the problem, limiting the efficiency of performance-based accountability systems" (p. 480). However, the authors also offered that the accountability has utility in that it has helped with "equity in resource distribution…as well as progress on desegregation" (p. 481). Accountability has served as a lens that goes well beyond student performance but has to serve "site-specific goals as well as accountability designs that better align public expectations and school standards, accountability and classroom practice, and responsibility and resources" (p. 486). This gathering of forces leads back to the utilitarian approach in that knowledge development is both universal and idiomatic.

Hallinger and Heck (2005) contended that "a reluctance to evaluate the worth of contrasting conceptual and methodological approaches according to an accepted set of scholarly criteria leaves researches, policy-makers, and practitioners to fall back upon individual judgments of what is useful and valid knowledge" (p. 229). In this, the authors are building to a rational conclusion of "a lack of empirical rigor in the field continues to impact the development of future generations of researchers" (p. 229). A system in which we continually look at locally designed and dogmatic research will lead to the same types of answers and those that are most advantageous to native researchers. Authors Hallinger and Heck (2005), and Alexander (2006) contended that there was a logical supposition that scholars at least consider the utilitarian approach and value epistemological arguments from both sides of the knowledge-based world. However, the accountability movement, in the form of No Child Left Behind (NCLB, 2001), leads some authors to believe the law has eradicated this convenient agreement to disagree. Though some authors (e.g., Maxwell, 2004; Patton, 2008) believed that the legislation requires deeper understanding of various methodologies, other writers (e.g., Lather, 2004) argued that the legislation promotes a positivist view of science and is yet another effort to impose a narrow definition of acceptable research and evidence on the education profession (as cited in Kowalski, 2009, p. 352).

While some researchers categorize this as a form of negative forced empiricism, others believe that the evidence-based approach is long overdue. It is somewhat presumptuous to contend that this is a myopic view and is unfair when one looks at the scope of what data the accountability movement takes into consideration. By name and

premise alone, NCLB (2001) was intended, at least in the spirit of the law, to be a harbinger of social justice to come.

Researchers Kowlaski (2009) and Murphy (1999; 2002) argue the point that the lack of any ability to come to epistemological détente, and no knowledge-based agreement at even a rudimentary level, holds the profession back by never addressing what works in multiple contexts and at a greater rate of success. Evidence-based practices have gained a foothold in medicine and beyond. Pfeiffer and Sutton (2006) proposed that many researchers in different fields have put a great deal of effort into "addressing the knowing-doing gap" (p. 670). They explained evidence-based management in their piece by describing Dr. David Sacket's evidence-based medicine as "the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of patients" (p. 1). The authors then touted the general public's naiveté in terms of how decisions are made by medical professionals. The description of such is similar to what many would describe as to how decisions are made in educational institutions across the country. Pfeiffer and Sutton (2006) described this process as "obsolete knowledge gained in school, long-standing but never proven traditions, patterns gleaned from experience, the methods they believe in and are most skilled in applying, and information from hordes of vendors with products and services to sell" (p. 1). Educational leaders have been mired in dogma, making contextual decisions in veneration of the most tried and true of educational laments, *this is how we have always done it*. Vendor influence is a powerful force within the field as the companies sponsor a great deal of professional development and continually create products that appeal to indigenous needs.

In Jones' (2016) handbook *Evidence-Based Practice*, he addressed several misconceptions about school systems and their use of evidence in multiple contexts. In outlining one of those misconceptions, he deemed as "each school is unique, so the usefulness of scientific evidence is limited", and attempted to outline the inherent contextual bias held by so many schools in believing that their problems can only be dealt with from within. In direct contrast to evidence-based practice, he stated that "one objection that practitioners have to using research evidence is the belief that their school or classroom is unique, suggesting that research findings will simply not apply" (p. 20). He suggested that Lowenstein (2006) channeled Drucker (1980) in that he explained that Drucker (1980) viewed "most management issues are repetitions of familiar problems cloaked in the guise of uniqueness" (p. 17). Jones (2016) believed that this was a common theme among schools and that they truly "tend to neither exactly alike nor unique, but somewhere in between…evidence-based practitioners need to be flexible enough to take any such similar-yet-different qualities into account" (p. 20). This explanation of the use of evidence-based management practices in the school climate resonates clearly of the need for the development of a subset of, and a knowledge base of transferable, situational skills for the educational leader. Combined with the observance of contextual differences, it could be argued this is the utilitarian approach in another guise.

Evidence-Based Management, Exclusivity, and the Uniqueness Paradox

Throughout this review of literature on evidence-based management, return on investment in education, and the components of the WMS, businesses and bureaucracies display an organizational phenomena coined as the "uniqueness paradox" (Martin,

Feldman, Hatch, & Sitkin, 1983, p. 438). This concept has application to both the epistemological argument and the more practical application of evidence-based management practices. The authors put forth the idea that "a culture's claim to uniqueness is expressed through cultural manifestations that are not in fact unique" (p. 441). One type of manifestation are the stories that exemplify that uniqueness of a specific culture and act as a catalyst for the meme of a unifying culture against the rest of the world. Depending on the positive or negative origin for the story from that culture, these can have decidedly different effects. These expressions build on basic psychological premises of humans' natural conceptualizations that see themselves as unique beings in the world. Extrapolate this conceptualization to an employment setting in human societies and notes of tribalism become evident within the culture of organizations. This notion signifies the need for the utilitarian approach and for the actualization of more evidence-based managerial applications in all schools.

Martin et al. (1983) were attempting to "explore the paradoxical nature of claims to uniqueness in organizational cultures and begin to collect the rudiments of a common mythology" (p. 439). The authors used the story as the means by which to describe and convey the paradox. Perhaps no human endeavor more commonly and with such zeal creates a workplace mythos than schools. Both positive and negative stories are highlighted, and the genesis from which the story originates is of the utmost importance. The authors cited "in spite of having common scriptal elements, the tone of the two versions of each story has been quite dissimilar" (p. 445). Often the contrary nature of the relationship between employee and employer, much like a great deal of parable was man versus a confounding element such as nature or the gods, so too are school environs

likely to create mythmaking. Easily discernable in some school cultures, especially those with long histories of labor issues, is the divide between administration and instructional staff. There may not be any justifiable evidence to bolster the negative relationship other than misinterpreted history and lingering animosity. In bold contrast, is the unsubstantiated spirit that exists in districts that often display this under the moniker of school pride. Undetectable in achievement data or organizational efficiencies, there is a communal fervor for the district that belies literal accomplishment. Regardless of the positive or negative origin, both can serve as a block to progress in terms of sharing and adopting evidence-based practices. "The uniqueness paradox can interfere with transfer of research findings across settings- unless dispelled by better education and experience with evidence-based practice" (Sackett et al., 2000, as cited in Rousseau, 2006, p. 262).

Schools may also be more a victim to distorted organizational stories and culture due to their overtly public organizational identity. Increasingly, in the media age, this is becoming manifest, and two outcomes are born of this communication. The first is that the scrutiny on school districts has increased with social media and online discourse. According to the Webmaster Internet site CEO, Bonnie Leedy (2018), "media rationale (and advertising dollars) is [*sic*] that we humans are attracted to the most sensationalist stories, and they would be right…unfortunately for educators, many news and opinion outlets are far more interested in telling salacious stories" (p. 9). The lack of facts, and the ease with which they can be accessed, creates a precarious position as social media proclivities seemingly points to the negative depiction of schools. The second outcome is that this more overt discourse sometimes has educators in a more defensive posture than in the past. The result is that this is not merely a dispassionate inquiry. Stakes are high

as “Reputations and self-esteem are on the line…there is considerable evidence of a self-enhancing bias” (Martin et al., 1983, p. 449). The authors discussed the self-enhancing stories created to dispel obstacles that are unavoidable to any human endeavor. They contended that, “in a society in which there is a strong belief that one can and should control one’s own fate, such potentially uncontrollable obstacles can be discomforting…negative versions [of these stories] express the difficulties posed by a lack of control” (p. 449). This could lead to blaming external forces in schools with lower socioeconomic situations, such as parental attitudes and poverty-related factors. The reverse could be true with higher socioeconomic schools attributing their success to their practice as opposed to an engaged populace that emphasizes education in the home. Both are potential examples of the uniqueness paradox that can cripple an educational leader’s ability use evidence-based practice in the face of such deeply held beliefs and bias. Awareness of these different types of bias, and the ability to discern data to inform what practices truly are evidence-based, should be the drivers of systemic improvement. With either type of story, “these attributions endow the institution with uniqueness, enabling employees to identify with a benevolent organization or to distance themselves from a less desirable organization” (p. 452). Unfortunately, fighting positive bias can be a slippery slope as the leader can be perceived as negative or foreign to a school system’s history and self-created narrative. In contrast, improvement efforts can be seen as superfluous or overdone if the context is negative and the narrative is organizationally self-defeating. Notably, with the nature of schools supremely compartmentalized through grade level differences (elementary vs. high school instructor preconceptions), building

separations, academic departments, etc., both types of stories may exist within one larger environment, all under the auspices of one leader.

The literature exhibits claims of organizations claiming their exceptionality, whether it is due to geography, engrained culture, socioeconomic status, or any combination of either third-party assigned or self-assigned assumptions about a school. Ubiquitous throughout the pro-contextual vein of literature regarding school leadership are mentions of systems' thinking, contingency theory, and other organizational science theories. Raynor (2013) illustrated this in the school leadership vein, if not with some vitriol, in his discussion of "the emerging science of complexity theory" (p. 3). Complexity theory helps to explain the specific differences between organizations and deal with items that cannot be generalized. "No management manual can deal with real-life problems as slickly as the ways in which the gurus talk so theoretically and delightfully about them. Even those who believe the rhetoric can be undermined by reality" (p. 2). A palpable sense of disdain for those management manuals is part of the contextual thought that often holds back school systems from adopting best practices. Raynor (2013) used the reasoning of complexity theory to undervalue potentially universal principles. However, he eschews them as a malignant type of cultural exhortation that could come with an acceptance of managerial evidence-based practices. The argument becomes demonizing as he set forth his idea that "in this complex world, although there may be some similarities, each school has unique set of circumstances in its context in these circumstances, prescriptions for leadership that apply to one school may well not apply to another" (p. 4). Raynor (2013) wounded the utilitarian approach without actually killing it.

While this contextual vein of thought refers to centrally-dictated initiatives, it certainly declares the distinctive nature of each school context, and why so-called prescribed solutions will not work. Management practices may not always be a state-driven dictate, but they certainly could be construed as prescribed. There is no denying the unique culture of each school system, however, this is pure condemnation of any type of evidence-based best practice. This repudiates evidence-based practices from being replicated in multiple settings, regardless of controls used within a given study or survey. If the context of work is just a set of confounding variables for which there are no controls, then this uncompromising argument would repudiate any form of shared practice in all aspects of education. This does point to school leaders' lack of understanding regarding research, evidence construction, and the ability of statisticians to control for at least to some degree, those confounding variables.

Equal in fervor was Goddard's (2003) work regarding educational leadership in the postmodern era. His manuscript described leadership and different approaches to leadership that a principal can use as tools in a postmodern educational world. The premise outlined the same idea as adopting management best practices for leaders insomuch as the descriptions of leadership approaches are meant to build the leader's overall repertoire. Also apparent is that anything less than a totally committed situational approach is not as valuable as, for example, a more utilitarian approach, with the acceptance of evidence-based principals not being as valuable as contextual ideals. He cited several authors supporting this approach such as, "Hales (1993), Kelley (2000), and McGregor (Chapter 8 this volume) and others have stressed the importance of context in

influencing the decision- making and learning processes that occur within an organization such as a school" (p. 14).

While Goddard (2003) did illustrate several leadership styles, all with some compelling qualities, he certainly elucidated that all of these tools are situational. This does not specifically condemn universal management practices, as most authors of this disposition believe that at least some items are transferrable to different environments. However, his position does devalue evidence-based practices as they may be seen to fly in the face of reproducibility. Management science is given less than its just due as an equally important component to leading schools as situational leadership. As he introduced his explication of leadership styles he stated, "Here follows a description of 14 styles, identified from the literature…neither exhaustive nor prescriptive, merely illustrative. One might argue that that situational leadership is the only 'true' leadership style and that others are simply examples of this in action" (p. 14).

In addition to undervaluing universally applying evidence-based practices, Goddard (2003) also oversimplified the role of management and used an outmoded conceptualization of management more akin to the educational leader versus educational manager argument of past years. His description of management described leadership and management in the traditional roles as mutually exclusive. The portrayal from Goddard's (2003) piece of managerial leadership stated,

> The managerial leader focuses on the maintenance of a system. She or he puts great effort into planning and organizing the day-to-day operations of a school. Budgets are carefully constructed and rigorously monitored,

> resources are located and allocated, subordinates are coordinated and controlled, strategic and tactical plans are designed, prioritized and implemented. Drawing on the writings of business and public administration (e.g., Hales 1993; Simon, 1960), such as techno-rational or scientific approach has been embraced by educational administrators since the middle of the 20th century. (p. 15)

Several of these statements significantly take an archaic and overly broad view of management science as applied to education, and the WMS instrument for education would illustrate greater complexity and applicability. To suggest that the management piece of leadership is so mundane as to work with budgets and determine day-to-day tasks is to not have the depth of understanding of the craft elements of the profession necessary to determine elements for a principal's catalog of leadership resources. This problem exists throughout the literature and is exemplified by an over reliance on contextual understanding and an absolution from managerial evidence-based practices, due mostly to the lack of understanding and undertraining within the field regarding management science. Hierarchical or bureaucratic structures need only be an anathema if they exist in a world where management evidence-based practices and situational leadership are mutually exclusive, with co-existence marginalized in schools.

Evidence-Based Practice as an Organizational Catalyst and Improvement Tool

Closing the knowing-doing gap is a significant issue for practitioners and is defined somewhat through the details and the misconceptions regarding evidence-based practice. Education is uniquely insular and overwhelmingly accepting of business

management concepts, however, there is a decided difference between the uses of evidence-based practices to academic purposes and its application to management functions. Hess (2009) described the process and potential problem of knowledge or evidence construction as a procedural one in terms of the relative value of randomized field tests for evidence-based practices in education.

In education, curriculum and pedagogical interventions can be investigated through randomized field trials, with results that can serve as the basis for prescriptive practice. Even in these cases, however, there is a tendency for educators to be cavalier about the elements and execution of research-based practice. When medical research finds a certain drug regimen to be effective, doctors do not casually tinker with the formula, yet, in areas like reading instruction, districts routinely alter the sequencing elements of a curriculum, while still touting their practices as research-based (Hess, 2009, p. 140)

This is also true with school-based management, with these data-driven and evidence-based practices continually examining student performance as opposed to organizational health and efficiency. Two problems exist that make creating a management science-knowledge base important in the collection of and establishment of evidence-based practice. According to Hess (2009), "when it comes to policy, officials must make tough decisions about governance, management, and compensation that cannot be examined under controlled conditions and for which it is difficult to glean conclusive evidence" (p. 14). This difficulty is compounded by the lack of enthusiasm to collect data regarding management practices. Management should oversee all employees

within a system and their specific functions, not just those with direct contact with student learning. Hess (2009) stated,

> Just as it is more important to judge the quality army chefs on the on the quality of their kitchens and cuisines rather than on the outcome of combat operations, so to it is more sensible to focus on how well district employees perform their prescribed tasks than on less direct measures of job performance. (p.14)

The collection of said data is only a starting point. Educational leadership is tasked far beyond only supervising the educational professionals within a system. This extension only further elucidates the need for basic evidence-based management skills outside the realm of strictly education.

Gatta (n.d.) echoed the overreliance on performance data and translated this directly into the school environment where goal-setting has little uniformity aside from state and national achievement scores being the logical consequence of all systems. Beginning with the wrong end in mind leads to having a misguided purpose as "The fundamental purpose of setting school improvement goals is to assess the effectiveness of improvement efforts. The utility of the school improvement process rests on the inferences one can draw from meeting a goal" (Gatta, n.d.). The chasing of continually higher scores has drawn schools into a trap of setting the wrong type of goals, and that leads to a lack of effective outcomes regardless of goal achievement. Schools often are focused on the outcome in terms of student achievement data as opposed to a more operational improvement type goal that leads to "information as to the effectiveness of

improvement efforts" (Gatta, n.d.). When goals are not focused on the means, the improvement process itself as opposed to the end, there is a great deal that is left to chance and is, in essence, "an arbitrary goal that is unrelated to school performance and not evidence-based" (Gatta, n.d.). The test score proficiency conundrum led to the entire value-added approach that spurred the different incarnations of value-added assessment in states. While it is generally accepted that student growth as examined through a value-added approach provides greater insight than strict proficiency ratings, most schools will still set goals through the lens of achievement and improving scores by a percentage. This methodology can be paralleled with schools that consistently mine and analyze student-data performance but fail to examine and modify instructor practice. Schools ignore an evidence-based management approach that would focus on systems' decisions and management practices for improvement.

Evidence-Based Management, Evidence, and the Knowing-Doing Gap

The debate over what constitutes evidence is central to the development of evidence-based practices and scholars have routinely disagreed. The debate includes that reality construction varies, the probative value of evidence varies, and that there are competing research philosophies (Willower, 1998; Slavin, 2004; Jones, 2016). While these may be contending approaches, the pursuit of empirically-driven study to turn into effective practice is still prevalent throughout education research. This empiricism, while not epistemologically perfect, still offers a path toward less reliance on only what individuals have experienced in their singular environment. As Hoy (1996) submitted, "they have value; most notably, they attenuate proclivities to base decisions entirely on unproven tactics, personal values, or impulses" (p. 366). In particular, with management

practices, Pfeiffer and Sutton (2006) submitted that "managers still find themselves parched for reliable guidance" (p. 66). In discussing with managers the lack of study of management tools, one senior consultant told them that is was "odd that you could get good information of products such as toothpaste…but almost no information that companies were spending millions of dollars to implement." With a limited number of attempts at tools to measure good management practices, it stands to reason that there will be debate over how knowledge is constructed. The authors argued that we are in a constant state of "subjective assessment" of the relative value of programs (p. 66).

Rousseau (2006) described her greatest hope in working with management science and business as a profession that "through research and education, we can promote effective organizations where managers make well-informed, less arbitrary, and more reflective decisions" (p. 257). However, she also felt this task had not been completed because "research findings don't appear to have transferred well into the workplace" (p. 257). This unattained goal is perpetuated through an innate tribalism that allows managers to rely on "personal experience" apart from "more systemic knowledge" (p. 257). However, there is danger in that phraseology as systemic knowledge, like any other knowledge can be quickly changed with intent to fit the environment, people, or larger school community. Rousseau's (2006) definition and general elucidation of evidence-based practice are perhaps most suitable to the educational environment. She asserted that the main attributes of evidence-based practice include:

- learning about cause-effect connections in professional practices;

isolating the variations that measurably affect desired outcomes;

• creating a culture of evidence-based decision making and research participation;

• using information-sharing communities to reduce overuse, underuse, and misuse of specific practices;

• building decision supports to promote practices the evidence validates, along with techniques and artifacts that make the decision easier to execute or perform (e.g., checklists, protocols, or standing orders); and

• having individual, organizational, and institutional factors promote access to knowledge and its use (pp. 259-260)

These propositions can be paralleled with potentially missing elements in school management and school communications. Schools often lack the internal consistency and capacity, in both knowledge and infrastructure, to track and measure data. Schools also often lack the external reach to bring in best practice from other districts or actors, and seldom have practices in place to track educational return on investment. In their piece on the application of return on investment analyzation to the education realm, Frank and Hovey (2014) stated that "planning happens in departmental siloes, often without an opportunity for the academic and finance departments to work together" (p. 2). These siloes are ubiquitous in schools and extend beyond the academic and finance bubbles. Depending on the size and make-up of the district, these territorial separations can occur at the grade- and building-level as well, muting the communal possibilities for educational improvement. In addition to these inter- and intra-departmental and grade-level disputes, there are also temporal elements that are not considered, or districts are

unable to consider, because of fabricated timelines of fiscal accountability levied by the state. This lack of managerial best practice approach is also prevalent as it "is not uncommon for schools to be required to submit their schedules and staffing plans in April while school improvement planning happens in May or August" (p. 2). These common antecedents to planning and budgeting are in direct contradiction to Rousseau's (2006) definition of evidence-based management, yet they perpetuate year after year in school systems, with no abeyance in sight.

While still more prescribed and perhaps perceivably more insensitive than a postmodern answer, the new empiricism certainly does not evoke a sense of the scientific management of old. There are contextual arguments that work at a school level that are strictly cultural or contextual in nature. Pfeiffer and Sutton (2006) proffered that, "managers seeking the best evidence also face a more vexing problem…companies vary so wildly in size, form, and age…it is far riskier in business to presume that a proven "cure" developed in one place will be effective elsewhere" (p. 2). Evidence-based managerial practice does not dictate that an entire knowledge base must be constructed and followed as canon, but rather that there are evidence-based takeaways in managerial best practice that all school administrators can benefit from, regardless of their environment. While evidence-based practices have been embraced in other fields, education's scientific-management based bias hinges upon those aforementioned decision-making obstacles akin to being stuck in the mire. Contextualizing management-based practices to the profession is another matter regarding individualizing every school. While there are certain degrees of distinctiveness, practitioners must consider the concepts' utility to a more general setting. As Kowalski (2009) contended, this has been

difficult “in part because across professions practitioners hold dissimilar views of evidence and rationality” (p. 355). The epistemological debate has been described throughout this outline, and Kowalski (2009) would contend that this is precisely the reason the “analysis of these divergent perspectives exposes why it is necessary to define evidence-based practices and determine its merit contextually to each profession” (p. 355).

This piece of the epistemological argument, in regard to the difficulties of evidence construction and interpretation, is charted by Rousseau (2006) as she claimed that evidence-based management “principles are credible only where the evidence is clear, and research findings can be tough for both researchers and practitioners to interpret” (p. 256). This argument exemplifies the theory-practice gap as researchers and practitioners not only disagree on evidence interpretation, but also how to most effectively gain evidence. This has long presented the problematic element of the epistemological argument in terms of what can be generalized and what is contextual. As Rousseau (2006) described “practices that capitalize on a principle’s insights must suit the setting --, who is to say that the particular performance indicators the executive director uses are pertinent to all units” (p. 256). Rousseau (2006) was supportive of the utilitarian approach as proponents of evidence- based management that, while not perfect, there is a utility brought to each and every individual milieu, that even among imperfection presents larger benefits.

Contextualizing can aid in making empirically-backed practices more fitting, but not at the expense of the evidence-based practice. Pfeiffer and Sutton (2006) offered the

blending of the knowing–doing gap in their comparison of doctors and managers as practitioners of a craft.

> As with medicine, management is and will likely always be a craft that can be learned only through practice and experience, in conjunction with focused data collection. Yet we believe that managers (like doctors) can practice their craft more effectively if they are routinely guided by the best logic and evidence—and if they relentlessly seek new knowledge and insight, from both inside and outside their companies, to keep updating their assumptions, knowledge, and skills. (p. 2)

Education is like medicine in that there must be a constant inflow of information from research throughout the education community. Just as in medicine, however, the best practice of one organization must also be able to assimilate into the philosophical grounding of the organization.

McNulty (2014) discussed the idea of next practices and best practices as co-existing forces within the educational improvement world. In most cases, these simplistic yet complex terms may not deal with direct management skill as discussed in this review, but the application to this research in terms of the knowing-doing gap, and to the overall epistemological argument in terms of those that are utilitarian resolute, are undeniable. McNulty (2014) contended that schools have been their own worst enemy as "using best practices exclusively as a mode for innovation contradicts what schools really should be doing. Education leaders insist that they want their schools to be innovative, yet teachers are required to use limited best practice strategies" (p. 3). He contended that education

leaders have developed an overreliance, perhaps even a crutch, in seeking these data to back every decision or attempted approach. McNulty (2014) defended the place of data and empirical evidence in the school, but also contended that "in order for schools to truly be transformed into something different, educators have to think differently….Being able to introduce novel ideas means considering and implementing something so new that it has not been proven to work" (p. 4). His argument simplified the knowing-doing gap by simply proposing that we must look outside, and yet innovate within. Innovation occurs as melding of external forces merge with internal creativity, and a command of the educational environment decisions are made within. Knowledge and evidence creation are born of development of organizational norms and internal innovation coming together to develop the doing and decrease the gap. McNulty (2014) also described an environment of risk. While evidence-based practices provide a foundation for improvement, risk is a fundamental aspect of creativity. He stated, "leadership centered on next practices is developing a culture that not only has standardization (best practices), but also accepts and delves into uncertainty (next practices). For this to happen, leaders have to balance traditional skills with a penchant for innovation" (p. 12). Evidence-based practices help to lessen the risk of implementation failure by standardizing so many common mistakes found in previous executions.

Rousseau's (2006) form of the knowing-doing gap was the "research-practice gap", in which she cited several reasons for this being the reality of management practice today. Rousseau (2006) found some mutual purchase with the premise of the WMS as she stated, "there is unexplained wide variation in managerial practice patterns (e.g., how [or if] goals are set, selection decisions made, rewards allocated, or training investments

determined) and, worse, persistent use of practices known to be largely ineffective" (p. 258).

These observations are similar to the premise of the WMS, especially when looking at the specific components in common to both of the wide variation in management practices, goal-setting, and rewards/compensation. These common issues stoke the question of why they continually exist within schools. Kitson, Harvey, and McCormack (1998) helped to describe the 'why' by attempting to determine the 'how' in the form of an implementation framework for evidence-based practices. Determining how goals are set and what managerial practices are used goes back to the question of context as much as set practice. The researchers described context as "an understanding of the forces at work which give the physical environment a character and feel" (p. 152). The authors further broke this down into component parts as "an understanding of the prevailing culture, the nature of human relationships as summarized through leadership roles, and the approach to monitoring systems—that is, measurement" (p. 152). Within this description, there is a support of a mixed approach to evidence-based management implementation, as evidence in a vacuum is simply unusable information. Without an understanding of the fundamental ethos of an organization, then considering evidence in light of that setting, closing the research-practice gap is impossible. The development of expectations, clear roles for workers and leaders, and established monitoring in terms of what is being measured and judged are necessities for effective application of data.

Perhaps the best rejoinder for the use of evidence-based management practices in schools comes from the healthcare research field. Isaac and Franceschi (2008) described power relationships and examined the clinician and academician association. In this

piece, they described the "hierarchical discourse" of healthcare research models and the modernist versus post-modernist perspectives. Of particular interest is the discussion of the examination of the muddle that the epistemology has become. The authors stated, "This blurring of modernist and postmodern practices does not sustain an emancipatory movement; however, the goal of this discussion is to open the dialogue within the boundaries of epistemologies. The complexity of healthcare cultivates repeated failure" (p. 5). In this discussion, healthcare can be easily replaced by educational leadership as the focus. The nuances of educational leadership, including environment, subjects, and other variables, lend themselves to repeated failure. Evidence-based management practices as applied to the field of educational leadership cannot continue to suffer from the knowing-doing gap or from epistemological polarizations that can be honored within the solution. The field must remain dynamic, with a constant influx of knowledge fed by evidence-based practice and practitioner knowledge, with a consistent synergy of regeneration between the two. "Evidence to practice and practice to evidence redefines EBM as a circular integration of best research evidence, clinical expertise, and patient values. Resistance to the hierarchical discourse broadens medical knowledge and produces mixture and collaboration rather than opposition" (p. 5). The authors' argument summarized what can be thought of as consistently improving practice, perhaps not necessarily best, as best will always remain to be defined.

Chapter 3

Methodology

Overview and Research Questions

This study investigated the evidence-based management practices of principals in Pennsylvania public schools. These data used in this study were acquired from the WMS education instrument, originally, a self-assessment survey instrument designed to measure management practices. Specifically, the WMS education instrument has been abbreviated for schools to be able to swiftly benchmark their organization in terms of management practices (benchmark your school, n.d.). The methodology used investigated the following research questions:

1. What evidence-based management practices are used by Pennsylvania public school administrators?

2. What is the relationship between the size (student population) of the school district and the evidence-based management practices used by Pennsylvania public school administrators?

3. What is the relationship between the use of evidence-based management practices and tenure in position and gender by Pennsylvania public school administrators?

4. What is the relationship between the use of evidence-based management practices by assistant principals and building/head principals?

5. What is the relationship between the use of evidence-based management practices and leadership vision, strategies, and accountability of building principals by Pennsylvania public school administrators?

Also included in this chapter are descriptions of participants, information about the instrument used for data collection, and data collection. The analysis of these data and methodology of the study are explained. Validity and reliability of the original instrument were explored as the instrument used is a truncated version of the WMS for education from 2009.

Participants

Participants in this study were building principals in public schools throughout the state of Pennsylvania. Participants were required to hold administrative licensure in the state of Pennsylvania and be either an assistant or building principal. Principal participants were required to have at least one year of experience in their current position for them to have knowledge of building processes and management practices. Principal participants had to be assigned to oversee at least one independent building in their district. Potential participants numbered in the hundreds throughout the state including elementary and secondary school principals.

Instrumentation

The WMS Benchmark Your School Survey was employed for this research. This was derived from the original WMS instrument developed for schools, which, in turn,

was developed as part of several industry and sector-specific versions of the original survey intended for industrial firms. The benchmarking survey uses the same general construct as the original survey the authors described: "to construct our management index, we average across 20 basic management practice measures in four areas of management: operations, monitoring, target setting, and people" (Bloom et al., 2005, p. 647). The difference is that the original school instrument was developed to measure practices relevant to the educational administration field. These differences are carried over to the school benchmarking survey, except that the benchmarking survey employs a five-point Likert scale with responses ranging from the absence of knowledge or practice to a robust system or implementation for each management practice.

Validity and Reliability

The question of survey validity was directly connected to the selection of management practices. How to quantify management practices as an issue dates to the inception of the survey and the work conducted by Bloom and Van Reenen (2007) in conjunction with John Dowdy and Stephen Dorgan of McKinsey Partners to develop management best practices. The authors of the survey also refused to accept monetary awards from management consultancy firms to alleviate prejudice (Bloom et al., 2005, p. 2). Measuring management requires codifying the concept of good and bad management into a measure applicable to different firms within the manufacturing sector. The researchers used an interview-based management practice evaluation tool that defines and scores from 1 (worst practice) to 5 (best practice) across 18 of the key management practices that appear to matter to industrial firms based on McKinsey's expertise in working with thousands of companies across several decades (Bloom et al., p. 2).

McKinsey's expertise was developed from the tenets of lean manufacturing from firms such as Honda and Toyota Motors. The final best practices for the original manufacturing survey were developed by the authors as they "analyzed how companies implemented selected practices –focusing on proven approaches used by top-performing companies in numerous sectors all around the world" (Dorgan, Dowdy, & Rippin, 2006, p. 2). As the surveys were given in subsequent industries, adaptations were made to construct the educational instrument. The survey is given in other sectors such as healthcare, retail, and manufacturing, with the same general goal of determining if management practices matter to organizational effectiveness.

Information was used from an amalgam of the management company's expertise, but in order to gain the best data for econometric design, the survey was not based solely on their expertise. The authors acknowledged this: "There is scope for legitimate disagreement over whether all of these measures really constitute "good practice" (Bloom et al., 2005, p. 19). In order to have some sense of generalizability, the authors examined the survey content from another vantage. The authors described this as, "an important way to examine the externality validity of the measures is to examine whether they are correlated with data on firm performance constructed from company accounts and the stock market" (p. 19).

The survey had four general categories with best practice subheadings, and these translated into follow-up questions. Bloom et al. (2005) stated, "to ensure comparability across sectors, we retained most of the questions included in our previous studies of organisations in other sectors, with modifications to reflect the school context" (p. 650). Among those modifications were four broad categories as similar to three in the original

manufacturing inception. The categories and subsidiary best practice pieces are as follows for the educational survey instrument:

Operations

- Standardisation of instructional planning processes: school uses meaningful processes that allow pupils to learn over time;
- Personalisation of instruction and learning: school incorporates teaching methods that ensure all pupils can master the learning objectives;
- Data-driven planning and pupil transitions: school uses assessment and easily available data to verify learning outcomes at critical stages; and
- Adopting educational best practices: school incorporates and shares teaching best practices and pupil strategies across classrooms accordingly

Monitoring

- Continuous improvement: school implements processes towards continuous improvement and encourages lessons to be captured and documented;
- Performance tracking: school performance is regularly tracked with useful metrics;
- Performance review: school performance is reviewed with appropriate metrics;

- Performance dialogue: school performance is discussed with appropriate content, depth, and communicated to teachers; and
- Consequence management: mechanisms exist to follow-up on performance issues

Target-setting

- Target balance: school covers a sufficiently broad set of targets at the school,
- department and individual levels;
- Target interconnection: school establishes well-aligned targets across all levels;
- Time horizon of targets: there is a rational approach to planning and setting targets;
- Target stretch: school sets targets with the appropriate level of difficulty; and
- Clarity and comparability of targets: school sets understandable targets and openly communicates and compares school, department, and individual performance

People management

- Rewarding high performers: school implements a systematic approach to identifying good and bad performance, rewarding teachers proportionately;
- Fixing poor performers: school deals with underperformers promptly;
- Promoting high performers: school promotes employees based on job performance;
- Managing talent: school nurtures and develops teaching and leadership talent;
- Retaining talent: school attempts to retain employees with high performance; and
- Creating a distinctive employee value proposition: school has a thought-through approach to attract employees (Bloom et al., p. 650)

These selections represent an overview or survey best practices, not the entirety of the questions themselves. The complete survey is found in Appendix B. The adapted Benchmark Your School Survey with additional add-on questions is found in Appendix A. The statistical approach is straight forward and addresses the differences with scaling. They explained their strategy:

> Since the scaling may vary across questions in the econometric estimations, we convert the scores (from the 1 to 5 scale) to z-scores by normalizing by question to mean zero and standard deviation one. In our main econometric specifications, we take the unweighted average across

> all z-scores [*sic*] as our primary measure of managerial practices. (Bloom, & Van Reenen, 2007, p. 19)

The authors also pointed out a response rate of 41%, which is similar to other response rates to the survey in other segments in which it has been given.

The WMS for education survey used several reliability methods to insure data quality and response rates. The interviewers went through an intensive "one-week training to ensure consistency across countries." This also included the trainees listening to a minimum of 25 interviews and "double-scoring" to ensure consistent interpretation of responses A double-blind interview technique was used that meant that "principals did not know that their answers were being measured against a scoring grid" and interviewers were completely unaware of a school's previous performance (Bloom et al., 2015, pp. 8-9).

In addition to the WMS Benchmark Your School survey, participants were asked to complete open-ended questions for research question five as an extension of the benchmark survey. Open-ended questions were derived from the original WMS survey and they considered the role of visionary leadership and school leaders' accountability. This research looked at the covariates of gender, size of school, tenure in position, differences in evidence-based practices between assistants and building/head principals, and leadership vision. Open-ended questions for the level of autonomy the school leader is able to exercise as well as to what degree the leadership vision is articulated were included due to findings from the original school management survey and the localized effects unique to Pennsylvania public schools. The authors discussed this as part of their

focus on two measures that assisted in determining the variance in management practices, principal accountability and leadership (principal strategy). The authors described this as, "governance - the degree to which the principal is accountable to institutional stakeholders such as school external boards: and second, leadership – the degree to which the principal communicates a well-articulated strategy for the school over the next five years" (Bloom et al., 2015, p. 671). Open-ended questions were adapted from the original education instrument and were used to develop these data from the Benchmark Your School instrument.

The strength of the WMS's reliability and validity measures creates a survey that has a great deal of generalizability in multiple professions and across countries. This survey research, however, would have limited generalizability beyond Pennsylvania public schools due to the current sampling frame. All participants were current principals in Pennsylvania public schools, and thus have a unique environment due to state-level laws and mandates, as well as accountability metrics such as testing, attendance, and socioeconomic markers. Additionally, the survey data would not be applicable to parochial and private schools, even within Pennsylvania, due to the differences in accountability metrics in those schools, as well as the different structures for autonomy and accountability.

Data Collection Methods and Tools

This mixed-methods study utilized data exclusively from the responses to the Benchmark Your School modified instrument. Once Youngstown State University (YSU) Instructional Review Board (IRB) approval was granted, the survey was disseminated to principals of Pennsylvania public schools via Survey Monkey via unit list

serves of principals. These data were exported to SPSS for analysis. A voluntary sample of Pennsylvania public school principals received the survey electronically. Research questions and survey items were examined using Pearson's zero-order correlational analysis and descriptive statistical analysis methods. The full correlational analyses is provided in Appendix D. Basic descriptive statistical analysis was used to report the role, gender, and highest academic degree of respondents. Other basic descriptive statistics analyses included supervisory data such as tenure in position, the number of students supervised, and number of staff supervised by participants. Open-ended responses were analyzed to discover themes. Quantitative and qualitative data were synthesized for a complete analysis of the participants' feedback and in order to address the proposed research questions. A blueprint analysis of the open-ended questions is included as Appendix C.

Survey Questions Six through 25

For survey items six through 25, the forced-choice questions, Pearson's zero order correlational analysis was conducted. Factors were aggregated using the four sub-headings designed to measure general management usage, operations, performance monitoring, talent management, and target setting. A Pearson's zero-order correlational analysis established that questions six through 25 correlated with each of the factors and are labeled and ordered as such in the survey. Chronbach's alpha was used to establish the reliability of participant responses and stability of the four factors as a measure of the concept of evidence-based management (Field, 2009).

Research Questions One through Four

Basic descriptive statistics were conducted for research question one to explore the mean, standard deviation, skewness, and kurtosis of the four management factors (operations, performance, target, and talent). One way analysis of variance (ANOVA) was conducted on research questions two through four. ANOVA was conducted on the four evidence-based management factors to explore differences across the various school population/size categories, different tenures in participants' administrative position and participants' gender, and between assistant and building/head principals. Levene's test was used to establish the tenability of these analyses, based on the homogeneity of variance across factors, for each question.

Summary

Chapter three described the specifics of the methodology and procedures used for this research study. The use of the WMS Benchmark Your School survey and additional open-ended narrative response questions within a mixed-methods research design designated the intention of the research: to examine the use of evidence-based practices by principals and to describe the potential relationships with several covariates present in Pennsylvania public schools. Chapter one provided an overview and key terms for the research study. Chapter two described the history of management in school administration, evidence-based management practice precursors and development, and the context and epistemological debate concerning a knowledge base in education. The research design remained faithful to the original instrument while emphasizing particular data relevant to the geographic research area. Data were collected via electronic means and analyzed using varied statistical methods most appropriate for describing potential relationships regarding the use of evidence-based management practices.

Chapter 4 will describe the outcomes and examination of data collected through the designated methodology.

Chapter 4

Data Analysis

Data Analysis overview

This chapter describes the results and statistical findings of the study. Features of this chapter include a description of the respondents, frequencies, descriptive statistics, narrative results, and example responses. School systems display a variance in the quality of education, and the lack of evidence-based management skill practice and knowledge may be a contributing factor. In addition, the "understanding the role of management is schools…has been held back by a lack of robust and comparable instruments to systematically measure management practices, and thus, a lack of good data" (Bloom et al., 2015, 648). The primary purpose of this study was to describe and explore the use and comprehension of evidence-based management skills in administrators in western Pennsylvania. The study was structured using a modified survey from Bloom et al., Benchmark Your School (benchmark your school, n.d.).

The survey research explored four general categories; operations, performance monitoring, talent management, and target-setting. The study further examined open response questions that were included to provide richer data in terms of two other subjects shown to have an effect on management scores across schools, autonomy, and accountability. The study employed a non-experimental, mixed-methods design. Data were gathered through surveys completed by head and assistant principals using Survey Monkey. The survey concentrated on the categories of management and used a Likert scale design to provide options of ruse of management skills for each participant. This chapter describes the results and statistical findings of the study.

Research Questions

1. What evidence-based management practices are used by Pennsylvania public school administrators?
2. What is the relationship between the size (student population) of the school district and the evidence-based management practices used by Pennsylvania public school administrators?
3. What is the relationship between the use of evidence-based management practices and tenure in position and gender by Pennsylvania public school administrators?
4. What is the relationship between the use of evidence-based management practices by assistant principals and building/head principals?
5. What is the relationship between the use of evidence-based management practices and leadership vision, strategies, and accountability of building principals by Pennsylvania public school administrators?

Description of Sampling

The participants in this study were principals (head and assistant) from the western half of Pennsylvania. A detailed description of participants is included in Chapter three. Of the 308 surveys distributed to principals regarding their perceptions of evidence-based management skills use in public schools, 68 surveys were returned, representing a 23% rate on returned surveys. Descriptive statistics were used to describe the responses from the demographic items for administrators. A frequency table was generated for all items and is included as Table 1.

Descriptive Statistics

Descriptive analysis examines the responses to the world management survey. A total of 68 school administrators responded to the survey's five-week period. Thirteen respondents were deleted from the analysis because they were central office administrators. The role of the remaining 55 respondents is presented in Table 1.

Table 1

Role of Respondent

Role	Frequency	Percent
Principal	43	78.2
Assistant principal	12	21.8

As indicated in Table 1, most respondents self-reported as principals.

Table 2 presents the distribution of gender.

Table 2

Gender of Participants

Gender	Frequency	Percent
Male	41	74.5
Female	14	25.5

As indicated in Table 2, most respondents self-reported as males. 74.5% reported as male and

25.5% reported as female.

Table 3 provides the distribution of highest academic degrees reported.

Table 3

Highest Academic Degree

Highest Degree	Frequency	Percent
Doctorate	9	16.4
Masters	46	83.6

Overwhelmingly, master's degrees outnumber earned doctoral degrees.

Table 4 provides the participant responses on years in current positions.

Table 4

Tenure in Position

Tenure	Frequency	Percent
0-4 years	15	27.3
5-8 years	13	23.6
9-11 years	10	18.2
12 and up	17	30.9

As indicated above, the greatest number of respondents reported being in their current positions 12 or more years. The mean years in current position is 7.97 (SD= 5.21).

The size of the student population is presented in Table 5.

Table 5

Number of Students

Number of Student	Frequency	Percent
0-430 students	14	25.5
431-600 students	16	29.1

601-720 students	11	20
721 and up	13	23.6

As indicated above, the greatest number of respondents reported a student population between

431-600. However, the mean number of students is 915 (SD= 986.92).

The size of the staff is reported in Table 6.

Table 6

Number of Staff

Staff	Frequency	Percent
0-55 staff	17	30.9
56-75 staff	13	23.6
76-115 staff	12	21.8
116 and up	13	23.6

As indicated above, the greatest number of respondents reported 0-55 staff. However, the mean

number of staff who work at the school is 113 (SD= 120.05).

Preliminary Data Analysis

Pearson's zero-order correlational analysis was conducted on items six through 25 and indicated positive significant relationships between and among most items ($p< .05$). Review of analysis indicates that items 20 and 22 had weak correlations with the number of items. The full correlational analyses is provided in Appendix D. Items six through 25, as they appeared in the online survey, are included in Appendix A. The following summarizes the four management sub-topics as they appeared in the original survey that were used to aggregate these data for statistical analysis.

Operations Management

Operations Management is all about how effectively modern management techniques have been introduced into a company: why were these modern processes introduced, how long have these practices been in place, how are other departments of the company, outside your own, involved in implementing these processes?

Performance Monitoring

Performance Monitoring defines how well your performance-monitoring system informs you and your employees' day-to-day operations: how processes and attitudes are screened, how meaningful your metrics are in relation to how frequently they are measured and reviewed, to what degree the detection of different levels of process-based performance leads to adequate and consequential process.

Target-setting

Target-setting is indicative of how tightly your targets are linked to the company's wider objectives: are your targets covering a sufficiently broad set of metrics, how strongly are your short- and long-term targets connected, and how well are they cascaded down and clarified to your workers?

Talent Management

Talent Management is about how you manage your people: to what degree is people management emphasized within your company, how careful are your hiring policies, how closely are pay and promotions linked to the ability and effort of your employees, how do you deal with under-performers, and how do you retain your best-performers? (Benchmark your school, n.d.)

In preparation for statistical analyses, items were averaged together based on the identified survey developer's specification. Prior to aggregating items, analysis of reliability estimates for the suggested factors were computed. These results are presented in Table 7.

Table 7

Reliability Estimates of Factors

Factor	n	α
Operations	2	**0.57**
Performance	5	0.79
Target	5	0.87
Talent	7	0.84

As indicated above, the reliability estimates for performance, targets, and talent are considered within acceptable ranges (Field, 2009). Operations is slightly lower due to the inclusion of only two items.

Research Question 1

What evidence-based management practices are used by Pennsylvania public school administrators?

The basic descriptive statistics for the four management factors was computed and presented in Table 8

Basic Descriptive Statistics for Management Factors

Factor	Mean	Sd	Skewness	Kurtosis
Operations	3.60	0.86	-0.74	0.38
Performance	3.69	0.69	-0.39	-0.22
Target	3.45	0.83	-0.60	1.08
Talent	3.02	0.82	0.07	-0.75

Based on the means for each of the factors, participants indicated a moderate application of evidence-based management skills.

Research Question 2

What is the relationship between the size (student population) of the school district and the evidence-based management practices used by Pennsylvania public school administrators?

ANOVA was conducted on the four evidence-based management factors across the different student population/size categories. Levene's Test of homogeneity of variance was tenable across all factors. The results of the analysis are presented in Table 9.

Table 9

ANOVA Analysis of School Population/Size Categories

Factors	Sum of Squares	df	Mean Square	F	Sig.
Operations	4.71	3	1.57	2.18	0.099
Performance	0.16	3	0.05	0.11	0.956
Target	1.38	3	0.46	0.64	0.595
Talent	1.15	3	0.38	0.55	0.651

Based on the ANOVA analyses, there are no reported differences across evidence-based management practices for different sizes of schools.

Research Question 3

What is the relationship between the use of evidence-based management practices and tenure in position and gender by Pennsylvania public school administrators?

ANOVA was conducted on the four evidence-based management factors across gender. Levene's Test of homogeneity of variance was tenable across all factors. The results of the analysis are presented in Table 10.

Table 10

ANOVA Analysis of Gender

Factors	Sum of Squares	df	Mean Square	F	Sig.
Operations	0.204	1	0.204	0.272	0.604
Performance	0.007	1	0.007	0.014	0.907
Target	0.005	1	0.005	0.008	0.931
Talent	0.145	1	0.145	0.215	0.645

Based on the ANOVA analyses, there are no reported differences across evidence-based management practices across gender.

ANOVA was conducted on the four evidence-based management factors across tenure of position. Levene's Test of homogeneity of variance was tenable across all factors. The results of the analysis are presented in Table 11.

Table 11

ANOVA Analysis of Position Tenure

	Sum of Squares	df	Mean Square	F	Sig.
Operations	1.492	3	0.497	0.726	0.541
Performance	0.896	3	0.299	0.583	0.629
Target	0.924	3	0.308	0.403	0.751
Talent	0.893	3	0.298	0.4	0.754

Based on the ANOVA analyses, there are no reported differences across evidence-based management practices for different tenure in position.

Research Question 4

What is the relationship between the use of evidence-based management practices by assistant principals and building/head principals?

ANOVA was conducted on the four evidence-based management factors across tenure of position. Levene's Test of homogeneity of variance was tenable across all factors. The results of the analysis are presented in Table 12.

Table 12

ANOVA Analysis by Role

	Sum of Squares	df	Mean Square	F	Sig.
Operations	0.012	1	0.012	0.018	0.895
Performance	0.129	1	0.129	0.255	0.616
Target	0.139	1	0.139	0.185	0.669
Talent	4.554	1	4.554	7.033	**0.011**

As indicated above, the evidence-based management skill talent management indicates significant differences exist in the responses of principals relative to assistant principals. The other three evidence-based management skills revealed no significant differences.

Table 13 provides the evidence for the significant finding.

Table 13

Descriptive Statistics of Talent Management by Role

Role	n	Mean	Sd
Principal	43	3.2384	0.86637
Assistant principal	12	2.5417	0.50377

As indicated above, the assistant principals display a self-reported lower level of evidence-based management skill in talent management. It is noteworthy that assistant principals self-reported homogeneous responses in relation to talent management.

Research Question 5

What is the relationship between the use of evidence-based management practices and leadership vision, strategies, and accountability of building principals by Pennsylvania public school administrators?

Narrative response questions. At the conclusion of the forced-choice format questions were three open-ended response questions that were aligned with the research question: "What is the relationship between the use of evidence-based management practices and leadership vision, strategies, and accountability of building principals by Pennsylvania public school administrators?"

As discussed in the methodology section, these questions were adapted from the original World Management Survey for schools (Bloom et al., 2015). The questions were intended to provide a richer exploration into the issues of principal accountability and autonomy, as these were two factors that described some of the variance in the differences in management practices between schools and school systems. The authors described this as, "governance - the degree to which the principal is accountable to institutional stakeholders" and "leadership – the degree to which the principal communicates a well-articulated strategy for the school over the next five years" (Bloom et al., p. 671). The open-ended questions consisted of three open-response items:

Regarding the schools' vision for the next five years, do teachers and staff know and understand the vision?

How are individual school leaders held responsible for the delivery of targets, fiscally, and for student achievement?

How are school leaders' and teachers' roles and responsibilities of the school defined and are they linked to student performance?

The leadership vision question was meant to explore themes of vision and strategy, target interconnectivity, clarity and comparability of targets, and target-setting. The school leaders' responsibility question was intended to explore themes of clearly defined accountability, autonomy of decision-making, and operations. The question regarding role responsibility examined clearly defined accountability, performance monitoring, and operations (Bloom et al., 2015). A more detailed breakdown of the narrative response questions and their relationship to the research question is included in Appendix C, Blueprint Analysis of Open-Ended Questions.

Leadership vision question. "Regarding the schools' vision for the next five years, do teachers and staff know and understand the vision?"

Themes that were presented in this question ranged from no established vision to very detailed explanations of established visions. Forty-seven of 55 survey respondents answered the narrative response questions for an 85% return rate. Positive and negative responses were both presented, with a varied assortment between the opposing answers. Positive responses presented some common similarities in regard to a clearly articulated vision, organizational structure, impetus for the vision, and collaboration. Negative responses presented themes of no articulated vision (short and long term), principal and teacher disassociation from vision construction, and no defined implementation or understanding of the vision.

A clear theme throughout the positive responses was structured organizational practices related to vision. These responses included descriptions of aligned strategic plans, clearly articulated and promoted vision statements, profiles of graduates, and school goals. For example, one respondent stated, "*we have just recently recreated our Mission, Vision, Collective Commitments and goals for LMHS*." Another respondent indicated that "*The vision, through the profile of a graduate, is clearly defined now. In the five years I've been here, it is the first time it has been defined*." Another participant stated, "*Yes, through a strategic plan that has been and continues to be reviewed with the staff on an annual basis*."

Other presentations throughout the positive responses were clearly articulated visons, with or in the absence of an organizational structure. These included mission statements, personalized learning, college and career readiness, and school-wide positive behavioral support programs. One participant stated that "*Yes. We are focused on learning, specifically finding ways to personalize the learning experience*." A participant also stated, "*The vision is the basis for all our decision in each building. The teachers know the vision and also make instructional decision based on our vision.*"

Positive responses regarding collaboration and the impetus for the vision included varied forms of collaborative vison: setting and discourse related to the vision, between people and also in regard to how it is propagated. These responses included annual review of goals/vision with staff, teachers/leaders engaged in establishment of the vision, consistent dialogue concerning the vision, and the school-wide positive behavioral support program. One respondent stated "*We continuously discuss putting students first and best practice. We talk about assessing the individual needs of the students and using data to drive instruction. The same voice is used throughout the administration*." Another participant indicated "*The teacher leaders are included in the process of developing the vision and are likely bought into that vision. Although the vision is shared with the entire staff it is unclear how many of the staff believe in that vision*."

Negative responses to the leadership vision contained the theme of no articulated vision. These responses included answers involving no vision expressed at all, unsure if it exists, the superintendent knows but no one is knowledgeable or agrees, it is year-to-year and not long-term, and it exists but teachers do not understand. One respondent commented that "*There is no real vision expressed from the top; therefore, there is nothing for teachers and staff to know and follow*." Another respondent stated "*The teachers and staff know the vision but as for understanding and applying it I don't believe so. Unfortunately, more and more the staff are becoming disengaged from the community they work in and only come to work for a paycheck*."

Another theme from the negative responses was stakeholder disassociation from the vision or vision construction. These responses included disagreement among the administrative team and the superintendent, it is created and given to teachers without participation, teachers are only made aware and do not fully understand the vision, and it is not a part of daily or periodic discourse. One participant stated "*I am not sure - it does not appear to be. The superintendent has a strong vision, but the assistant superintendent and elementary principals work against him*." Negative responses regarding no defined implementation or understanding included issues such as, it is not applied on a daily or yearly basis, limited amounts of teachers actually demonstrate the vision, and there is no clear path to achieving the vision. A participant indicated "*It is established and communicated but I do not believe that teachers and staff are intimately involved with it. It is unfortunately not a daily conversation. More of a monthly reminder that appears in various meetings and conversations. I think it is understood but not overly visible*." Another respondent stated "*I think they understand the basic expectations, many in writing or addressed annually. I think they feel overall that our long-term vision could be more specifically addressed*."

Role definition and link to performance question. "How are school leaders' and teachers' roles and responsibilities of the school defined and are they linked to student performance?"

Narrative answers again presented a contrast in the responses. There was more than a binary yes or no to the responses as they included positive answers that roles and responsibilities were defined and linked, negative answers that they roles are not defined and not linked to student performance, and answers that included defined roles but no link to student performance. Forty-three of 55 survey respondents answered the narrative response questions for a 78% response rate.

Positive answers presented themes of clearly defined roles and precise linkages to student achievement. Included among the responses concerning clearly defined roles were examples of job descriptions, student learning objectives for teachers, staff goals, teacher evaluation system, and induction programs. Positive answers defining precise linkages to student performance included data teams (accountable to state testing and benchmark exams), job descriptions, teacher evaluation system, policy and procedures, and professional learning communities. One respondent indicated that "*Everything that is done on every level is linked to student performance. Teacher roles and responsibilities are defined with informative assessment measures and leaders are charged with defining expectations and ensuring that these goals/standards/and roles are met or exceeded.*" Another participant indicated that "*All staff is held accountable via evaluation practices. All administration and professionals staff roles are linked to student achievement."* Another respondent stated

> *Each administrator evaluates staff, divided almost equally in to 3 groups. Staff is divided by department with department heads. The head principal meets with all teachers about their specific data and shares out with the other principals. As a result, we know targeted student performance areas and staff goals and can monitor those throughout the year as we evaluate and have other interactions with staff. Student performance should be closely monitor based on data of all kinds and targeted performance areas are reassessed annually and again as needed. Teachers, however, discuss*

data analysis more with the head principal due to the other daily responsibilities of the assistant principals.

Negative answers presented themes of undefined roles and responsibilities and no clear link to student performance. Two questions were answered as the surveyed administrator was unsure if these conditions existed at all. Themes presented throughout the negative responses on role definition included they did not exist at all, roles were not clearly defined, no role definition other than tradition, and that roles are established but not codified. Among the responses that doubted roles and responsibilities and linkages, participants responded, "*Unsure*", "*I am not sure*", and "*This area needs improvement.*"

A participant stated that "*There is not a clear role definition other than doing what we've traditionally done."* Another respondent commented that "*They are not well defined in writing. They are established*."

Negative responses regarding linkages to student performance included themes of they did not exist at all, loose, or not clearly defined linkages linked only through state mandated evaluation, or no negative consequence for lack of student achievement. One administrator stated

I believe our roles are clearly defined. Everyone understands what they are responsible for. The problem is that we have a very loose link to student performance. Many people that find themselves not performing well are not taking care of business outside of the classroom, i.e., late to work, not following policy and procedures; insubordinate; poor professional interactions; poor student and parent interactions.

Another respondent indicated that "*Teacher roles are not directly linked. Administrator roles are loosely linked to student performance. This is an area that could be improved in my school district if the board would be supportive of doing so.*"

Several answers were mixed in their assessment of this question. Some themes presented were that roles were defined but no clear linkages to student performance, student performance is a focus but no clear path between the vision and student performance exists, and these areas have expectations but not direct links. For example, one administrator stated

> *Roles and responsibilities are well defined, but not necessarily linked to student performance. The emphasis is on student learning, and teachers and leaders become the facilitators of learning. And learning is for everyone involved throughout the educational process, from students to teachers to administration to parents and community*.

Another participant indicated that while roles were defined, the link to student performance was a more extensive definition, as they stated

> *All roles and responsibilities are centered around doing what is best for our students. Test scores are not our primary focus whatsoever. We want our students to feel safe, be prepared for life after high school, look forward to coming to school every day and be respectful, productive citizens.*

Other varied answers included accountability measures but no defined roles as participants stated, "*PVASS growth and the teacher evaluation system*", "*Through SLOs*", "Evaluations" and "*Inconsistent.*" Further discussion of these somewhat discordant responses will be included in Chapter 5.

Individual school leaders' accountability. "How are individual school leaders held responsible for the delivery of targets, fiscally, and for student achievement?"

Data for this narrative response question present similarly to the role definition and performance question. Respondents answered with simple answers conveying a positive or negative response, but also gave short responses that did not fully answer the

question. Variation again existed with positive, negative, and a mixed-answer approach by the respondents. Of special notice is the degree that principals placed the three categories together, or that only mentioned academic accountability in terms of the entire scope of accountability that the question more directly was attempting to explore. Also of note is the prevalence throughout the principals' answers conveying the theme of using test scores synonymously with accountability. The question clearly denotes that three types of accountability within the question structure. Forty-five of 55 survey respondents answered the narrative response questions for an 82% response rate.

Positive answers included themes that denoted accountability such as formal processes and measures for the categories of delivery of targets, fiscal, and student achievement accountability, formal evaluation and meeting structures that denoted accountability, financial bonuses tied to accountability, and accountability built upon state measures. One participant noted that "*Each administrator is evaluated by the Superintendent on delivery of specific targets, fiscal responsibility, and student achievement. All administrators receive a bonus based on how well they completed each of these three items*." Another respondent indicated that "*A revised budgetary process has been established and each leader must thoroughly define their budgetary needs. Student achievement is reviewed based on state measurements and district selected assessments.*" An administrator also stated that

> *Basically we are held accountable through our evaluation system, including our SLO and NTPE, and yearly meetings with an administrator in charge of our evaluations. We also meet monthly to address concerns, achievement, fiscal issues, etc. to assure things are being tackled and handled as needed and in a timely manner*.

Another participant stated, "*Each building administrator develops goals for the year involving student achievement and the tools to improve student achievement (including professional development for staff and data analysis).*"

Positive responses also commonly contained some informal method of communication, and not always consistently hierarchical. These informal methods sometimes consisted of periodic administrative team and individual meetings. Notably, the theme of self-accountability is rarely mentioned throughout the positive responses. For example, one participant stated

> *Basically we are held accountable through our evaluation system, including our SLO and NTPE, and yearly meetings with an administrator in charge of our evaluations. We also meet monthly to address concerns, achievement, fiscal issues, etc. to assure things are being tackled and handled as needed and in a timely manner.*

A second participant, mentioning both self-accountability and meeting-based accountability stated "*Everyone takes pride in their own work. We put in long hours, participate in many meetings, meet with staff, students, and parents. No one is harder on the administrators than the administrators.*"

Negative responses again ranged from informal accountability to none at all. More complex themes present in the narratives including the lack of accountability in evaluation processes, loosely coupled systems and no clear process for accountability, and other items take precedence in terms of accountability over those denoted in the questions. Noticeably, negative responses also contained using accountability to reduce a yearly increase as opposed to an incentive. A participant administrator indicated "*They aren't officially held accountable*." Another respondent noted "*We do not have a clear process*." An administrator noted that "*There is nothing informal in place, aside from an evaluation system, which does very little to hold people accountable*." Another respondent stated "*It's a very loose accountability system. Our Act 93 lists some student achievement goals, but those a very hard to quantify into a fair accountability system.*" Another example provided by a respondent stated, "*Targets outside of test scores are not clearly defined at this time.*" One participant stated that "*Any accountability is ad hoc*

and inconsistent. We're constantly pushed to have higher levels of achievement, but there is no support for the implementation of new programs or ideas. We're told to do more with less." Another administrator indicated "*There is Board pressure to continuously increase scores. However, this is a vague priority, definitely far behind athletics in overall importance*." Another participant stated that

> *There are clear targets, but the school board does not support using fiscal compensation as a tool to drive student achievement for teachers. They do use this with administrators but not as an incentive but rather a reduced annual raise if targets are not met*.

Another respondent stated "*The District really does not recognize such improvement in meeting targets. We may hear "Good Job!" or "You really need to look at that area again." That's about it. Never any recognition from the Board!*"

Summary

This study investigated the use of evidence-based management skills in school administrators in western Pennsylvania. The study included 68 respondents, with 13 removed due to the participant self-reporting as a district-level administrator. Data were collected and analyzed to report on the research questions. Descriptive statistics, one-way ANOVAs, and Pearson's zero-order correlational analysis were conducted to examine significant relationships between and among items. The frequency data indicated that most of the respondents were male, principals, and held master's degrees as opposed to earned doctorates. Frequency data also presented that the mean number of years in the participant's current position was 7.97 years, the mean number of students under the participant's supervision was 915, and the mean number of staff supervised by the participant was 113. Items 20 and 22 had weak correlations with the number of items. Data indicated that based on the means for each of the factors, participants indicated a moderate application of evidence-based management skills. However, data presented that the evidence-based management skill talent management indicates significant

differences exist in the responses of principals relative to assistant principals. The other three evidence-based management skills revealed no significant differences. Assistant principals self-reported homogeneous responses in relation to talent management. Open-ended questions were intended to provide a deeper exploration into the issues of administrator accountability and autonomy. Narrative responses provided a larger range of responses and displayed variation between simply positive and negative responses to more articulated explanations. Chapter 5 will present a discussion of these findings as well as implications and recommendations for future research.

Chapter 5

Discussion

Discussion

The primary purpose of this research was to examine the use and knowledge of evidence-based management skills of educational administrators in western Pennsylvania. The research methods used were both qualitative and quantitative. The quantitative research consisted of a forced-choice format survey derived from the World Management Survey, and then modified as the Benchmark your school survey (Bloom et al., 2015; benchmark your school, n.d.). The quantitative survey section focused on demographic and descriptive data. The demographic data collected consisted of the covariates of gender, size of school, and tenure in position. Participant data also included differences in evidence-based practices between assistants and building/head principals as well as on four categories of evidence-based management: performance monitoring, targets, talent management, and operations. Descriptions of each category were included prior to the forced-choice format to endeavor to clarify what was meant by each of the four sub-topics. The qualitative questions focused on accountability and autonomy. Open-ended questions for the level of autonomy the school leader is able to exercise as well as to what degree the leadership vision is articulated were included due to findings from the original school management survey and to examine the localized effects unique to Pennsylvania public schools.

This research was conducted to describe and explore the evidence-based management practices used by administrators and to explore the levels of accountability

and autonomy in school systems. The intention for this research was to provide data to better inform systems' leaders, governing bodies, and university programs in the practice and comprehension of evidence-based management skills used by administrators. These data may be used to guide university programs and professional development in key evidence-based management skills that could potentially create more school administration environments where best practice is informed by research supported evidence but is also responsive to culture and context. In addition, these data suggest that it is necessary to explore the inclusion of evidence-based management into the debated knowledge base, in whatever fragmented incarnation it may currently take. Similarly, the theory-practice gap and implications for evidence-based management as tool for transformational practice and social justice merit a greater focus by university preparation programs and practitioners alike. This chapter includes a summary and discussion of what these data implicate, an exploration of themes uncovered in the review of literature and informed by these data, limitations of the study, and recommendations for future research.

The survey was sent out to western Pennsylvania intermediate units via list serves to eight counties, 56 school districts, and approximately 308 principals. Return rate on the research survey was approximately 23%. Thirteen surveys were removed from the responses as they were completed by central office administrators, not principals.

Summary

The demographic responses showed that a majority of the respondents were males: 41 males to 14 females. The role of the participants was 43 principals and 12

assistant principals. Thirteen surveys were not used as the respondents were central office personnel. The highest academic degree achieved presented 46 masters degrees and nine doctorate degrees. The mean years in the participants' current position was 7.97 (SD= 5.21), with an equitably distributed number of responses ranging from four years and under, and to 12 years and greater. The mean number of students in the respondents' schools was 915 (SD= 986.92) and showed a fairly even distribution over the size of schools ranging from 430 students and below, to 721 students and greater. Accordingly, the number of staff members was also fairly evenly distributed with 30.9% of respondents' schools having 50 or fewer staff members and 23.6% of respondents having 116 staff members or greater. The mean number of staff members was 113 (SD= 120.05). Descriptive statistics indicated that these data represented a combination of small and large schools, which, in turn, displayed like student populations and staff counts. These data on role and tenure in position are not equitably distributed and present a much greater population of males and building/head principals. An analysis of reliability estimates was computed based upon the four management factors. Reliability estimates for the four management factors were within acceptable ranges, with operations presenting slightly lower due to the smaller number of items. The following research questions were presented for statistical analysis.

Research Questions

1. What evidence-based management practices are used by Pennsylvania public school administrators?

2. What is the relationship between the size (student population) of the school district and the evidence-based management practices used by Pennsylvania public school administrators?

3. What is the relationship between the use of evidence-based management practices and tenure in position and gender by Pennsylvania public school administrators?

4. What is the relationship between the use of evidence-based management practices by assistant principals and building/head principals?

5. What is the relationship between the use of evidence-based management practices and leadership vision, strategies, and accountability of building principals by Pennsylvania public school administrators?

Research Question One

Pearson's zero-order correlational analysis was run on items six through 25, the forced-choice format items relating to each of the four management factors. This data indicated positive significant relationships between and among most items ($p<.05$). Reliability estimates of factors were computed and were considered within acceptable ranges (Field, 2009). For research question one, basic descriptive statistics were computed and analyzed and indicated a moderate level of application [operations, (M= 3.6), performance, (M= 3.69), target, (M= 3.45), and talent, (M= 3.02)] for each of the management factors. These figures may be indicative of the overall depth of

understanding of evidence-based management skills or about the design of the survey itself.

Research Questions Two and Three

ANOVA was conducted for research questions two through four. Based upon ANOVA analysis of research questions two and three, there were no reported differences across evidence-based practices for different sizes of schools or for the gender of respondents. For both research questions, Levene's Test of homogeneity of variance was conducted and proved tenable across all factors.

Research Question Four

ANOVA was also conducted on participant responses on research question four regarding evidence-based management use by principals and assistant principals. Levene's Test of homogeneity of variance was tenable across all factors. Three of the four management factors showed no significant differences. Talent management showed significant differences as assistant principals self-reported lower levels of evidence-based management skills than principals. Homogenous results were also self-reported by assistant principals.

Research Question Five

The open-ended questions regarding autonomy and accountability will be discussed in terms of participants' narrative responses.

Interpretation of Results

The results from research question one suggest a moderate application of evidence-based management skills across all four factors. The quantitative format allows only for forced-choice responses, and that may be interpreted in two ways. The first way would simply be that school administrators apply management skills in moderation. There is no overabundance of evidence-based management being employed by administrators, nor is there a total dearth of use. However, another interpretation is open as well; participants do not fully understand the depth of use of evidence-based management skills. This is exemplified when responses from both the forced-choice format and the narrative responses are viewed in unison. In the nuance of definition, there is a great deal to be gleaned from the study. For instance, performance monitoring as a managerial factor showed moderate application. Bloom et al. (2015) described performance monitoring as:

- Continuous improvement: school implements processes toward continuous improvement and encourages lessons to be captured and documented;
- Performance tracking: school performance is regularly tracked with useful metrics;
- Performance review: school performance is reviewed with appropriate metrics;
- Performance dialogue: school performance is discussed with appropriate content, depth, and communication to teachers; and

- Consequence management: mechanisms exist to follow-up on performance issues. (p. 650)

The forced-choice format would present that many of these activities are occurring. However, in many of the narrative responses, the level to which they are being performed would not meet the same metrics as proposed by the World Management Survey for schools (Bloom et al., 2015). For example, in the narrative responses there is no mention of lessons being captured and documented. Capturing lesson design best practice and promulgating to others who teach the same subject is a metric that is both evidence-informed and contextually mindful. Performance dialogue is another area that would contrast with a moderate application designation. Many of the narrative responses listed yearly discussions with administrators or evaluations through the Danielson model. There are few references to pre-, mid-, and post-discussions with teachers or administrators, which would allude to a more complex and systematic dialogue schema. The survey itself assumes some level of understanding to what each of the four factors of management are, and, also implicit within that understanding, would be application frequency and depth. The dichotomy of responses suggests that some administrators possess a rudimentary understanding of evidence-based management at best. This potential comprehension factor is discussed in this chapter within the context section.

Research questions two and three may have also presented no significant differences due to an indeterminate understating of evidence-based management skills. The potentially rudimentary understanding may come directly from underdeveloped integrative frameworks, or no integrative frameworks at all. All of the management

factors have metrics and measurement as key factors of application. School systems measure many items like test performance and student attrition rates, but rarely measure factors relating to managerial performance. In some cases, "development of models and conceptualizations have progressed more rapidly than the measurement of key variables and processes" (Flamholtz, Das, & Tsui, 1985, p. 37). The research would suggest not only that, potentially, the wrong performance indicators are measured, but that there is also little empirical evidence to indicate the depth of application.

The inferred findings from the research that suggest some of the respondents may have had limited exposure to evidence-based management could also be due to the "order effect" of the questions (Questionnaire design, n.d., Question Order Section). Viewing the narrative responses left many references to accountability as purely student performance measures or portrayed them as a yearly evaluation instrument. Accountability is a term that has varied meanings, and it has it been interpreted as test scores in terms of the accountability movement within education. Asking open-ended questions regarding accountability may have assisted in this misunderstanding. According to Pew Research, "If closed-ended questions that relate to the topic are placed before the open-ended question, respondents are much more likely to mention concepts or considerations raised in those earlier questions when responding to the open-ended question" (Questionnaire design, n.d., Question Order Section). This potential limitation to the study is explicitly important as it may explain the differences in responses between the moderation of the forced-choice questions and the sometimes less positive or detailed responses in the narratives. If open-ended questions containing concepts that were more

directly related to the management factor indicators were asked first, this may have provided a more determinant measurement of administrator understanding and use.

Research question four found significant differences between principals and assistant principals in the use of evidence-based management skills regarding talent management. This potentially suggests that many assistant principals do not engage the teaching staff in the same way as the principal engages them. This may be determined by the leadership responsibilities and how they are delegated. Some schools use a more traditional style where the principal does the observations and performance monitoring, and the assistant concentrates on student discipline and operations. However, this may also indicate that, in greater numbers, assistant principals do not have the management skills to work directly with talent management, and that they are largely learned on the job. This would point to the preparation system of school administrators and lack of management-based coursework offered to prospective administrators.

Research Question Five - Narrative Responses

All narrative research questions suggest themes of either strong systems and controls or extremely loose or non-existent management structures. Direct quotations discuss systems that are either tightly coupled or loosely coupled systems in terms of the management of the school. Loose and tight coupling in organizational thought has been the point of much debate, much like a positivism versus post modernism argument, or the evidence-based versus context argument. Firestone (2015) discussed proponents of loose coupling in that "These authors were usually agnostic about whether loose coupling was a problem or a solution" (p. 48). However, this research attempts to explore that there are

some systems within a school that can operate as tightly coupled systems (management factors), and others that can operate in a more loosely coupled fashion within that structure. Firestone (2015) pointed to the problem of pragmatic integrative frameworks as he stated, "workplace and climate studies identify the tighter couplings in the forms of beliefs and collaborative interactions that can facilitate student learning. However, they provide limited guidance on how to create those conditions" (p. 50). Aside from the obvious "no" or other succinct negative responses, several responses call for a clearer shared vision, clearer accountability, and defined links to student performance, or one that is actually understood and implemented. In a tightly coupled environment for management, these messages and processes would be more extant, and could transform to more loosely coupled systems in grade-level and classroom implementations.

Positive responses regarding the leadership vision question were presented in Chapter 4, and they provide a level of clarity that is more easily described. Positive responses described strong target interconnectivity, comparability, and strategy (Bloom et al., 2015). A theme that arose within the negative responses for the leadership vison question was the superintendent or central administration as the sole vision-setter(s) for the district. This was a very significant piece to the responses. The question itself did not designate where the vision originates from, and there was a decided difference in the manner in which administrators responded with either themselves as a vision-setter or visions derived completely from a central authority. The authoritarian theme also displayed quotes that described a divisive relationship within the administrative team or between the administration and teachers. In school systems without set roles and responsibilities, there seems to be a problem that overlaps with the second research

question in terms of where the responsibility lies to actually establish a vision. The conditions described present neither a shared vision nor a long-term vision. Neutral responses, those that agreed with having a vision as, for example, year to year, describe a condition of a short-term but no real long-term vision. Many of the positive responses noted collaboration as a piece to developing a strong vision. However, negative responses noted marked disassociation with the process and spirit of a vision if one actually existed. The fact that many administrative respondents were unsure if a vision existed justifies the reasoning for this research. As an administrator, setting a unifying vision and making it a collaborative endeavor are shared tenets with both management and leadership thought. This points out an issue with not just vision-setting, but also with another survey topic, performance monitoring. The effectiveness of a school system is compromised by a lack of vision, but also, if a vision exists, and no concise steps are taken to ensure the comprehension and buy-in of staff members.

The question regarding role definition and linkages to student performance displayed some consistent themes, some of which are due to Pennsylvania state code. Role definition responses regarded mostly the concrete and written roles, with some ranging to simply citing tradition and non-codified roles. Many responses included the inherent linkages to student performance through the evaluation system for teachers and principals that allows for a specific percentage of student scores and student learning objectives. Beyond those linkages, the commonalities ended. Present in the responses were “unsure” or “I’m not sure” responses, which is untenable for an administrator in a school. Perhaps as detrimental were responses that displayed affirmation, but with narratives that did not directly describe precise linkages. Responses to this question

immediately reported themes that test scores and accountability were not the primary concern of the district, but rather the whole child. The question itself never cited test scores as the means of gauging student performance, yet many respondents went directly to that assumption in their narratives. This is common throughout this research question and the other open-ended narratives. Accountability has become tantamount to test scores in schools in Pennsylvania. Edwards (2016), from the introduction to the Quality Counts report published by Education Week, stated, "the very term 'accountability' is synonymous with testing--especially mandated, federally driven assessments like those enshrined in the now-defunct No Child Left Behind Act and its successor, the Every Student Succeeds Act" (p. 1). The study suggests this misnomer has negative effects on the vantage of principals as they consider linkages with students' performance, as many references to accountability directly tie to state measures as opposed to a school's established vision for student success, of which scores may only be a small part. According to Edwards (2016), "pressure mounts for schools and districts to include a variety of non-academic factors, such as school climate, in the accountability equation" (p. 1). Instead of accountability being viewed as multifaceted, it is viewed as singularly focused on testing. Evidence-based management has been viewed in that same mechanistic mold as testing and has been regarded as a conspirator in the negative aspects of the accountability movement.

The question regarding school leaders' accountability also presented a great variance in responses. Positive responses displayed clear accountability pathways, with positive and negative consequences for the attainment or lack thereof of specific targets. Fiscal targets were reported to be reviewed by both monetary measures and with detailed

descriptions of needs to higher administration. However, many of the responses to this question described a system of informal measures towards accountability. For instance, one participant stated, "Everyone takes pride in their own work. We put in long hours, participate in many meetings, meet with staff, students, and parents. No one is harder on the administrators than the administrators." While any good system of accountability or evaluation should have a self-evaluation piece, having a system where administration is mostly accountability to themselves, and, by proxy, to stakeholders, still creates an insular system. How do best practices or evidence-based lessons, strategies, or management permeate the system in this type of accountability environment? Many of the accountability responses described systems with no accountability at all, or at least ones that are ad hoc and inconsistent. Responses also included several refrains that suggested a want for a more formalized structure, such as "we are constantly pushed to have higher levels of achievement, but there is no support for the implementation of new programs or ideas." The narrative data for this question suggest strongly that many of the schools have no formalized system of accountability or frameworks to support or build towards success, or for the achievement of a common vision or established goals.

Variety in the response data across research questions suggested that several generalizations could be made to spurn future research in the field, perhaps especially in the form of action research. The first would be the inclusion of evidence-based management skills to the administrator knowledge base. Responses included, in all of the questions, the presence of vision, roles, and accountability measures. However, the responses suggested that in many schools there is a problem with the implementation of these management/leadership responsibilities. A solid goal or vision statement is not

useful if staff does not comprehend nor have clearly established pathways for responsibilities or follow-through. These data also suggested that within the field, there is no common vernacular for establishing implementation frameworks, and that action planning is something that is sometimes considered to be a byproduct or natural progression of the planning itself. Performance monitoring is often considered to be only about the individual, and not the program. Program monitoring is also commonly thought to be about the individual, and there are limited references to the monitoring of program implementation.

Some responses presented a questionable understanding of the management topics presented, and that could be evidenced by consistent neutral responding. This potential limitation is discussed in the limitations section but has purchase here. These data suggested that administrators do not have a strong grasp of the most rudimentary of management topics. Preparation must begin to incorporate evidence-based management into the vernacular for school leadership in order to glean the potential benefits of management science. Increasing the understanding by developing a vocabulary of evidence-based management skills will only serve to increase the instruments at educational leaders' disposal to run an efficient and successful school.

Throughout this research and literature review, integrative frameworks have been mentioned as part of evidence-based management. Fernandez (2005), described a leadership integrative framework as one in which, "integrative frameworks incorporate leadership skills, traits, behaviors, and styles and situational variables in a single theoretical model to explain a leader's influence on performance" (p. 1). Management, through work similar to the World Management Survey for schools (Bloom et al., 2015),

has begun to test and synthesize data regarding management for use in particular public sectors, much in the manner that Fernandez (2010) described as

> the study of leadership [that] has been characterized by disparate clusters of theories, approaches and models, each focusing on different pieces of the leadership puzzle, with few efforts at synthesis and integration. More recently, however, leadership scholars have begun to develop and test integrated leadership models that synthesize existing knowledge. (p. 1)

This research suggests that the field of educational administration needs to do the same with management skills. Evidence-based management provides the integrative framework through which to synthesize data to bring management knowledge and skills from mere knowledge to best-practice in a theory of action.

Context of Findings

Mixed-methods research is becoming more commonly employed to capture the "thematic and statistical" (Jogulu & Pansiri, 2011, Abstract) data regarding management as a concept and in practice. The complex environments that schools present are a conducive backdrop to the ability to examine both quantitative and qualitative data. According to Jogulu and Pansiri (2011), "triangulation of research methods strengthens the findings and inferences made for understanding social phenomenon in more depth compared to using a single instrument" (p. 687). The danger that can be encountered in terms of generalizability with research conducted within a social setting, especially one as highly charged emotionally as schools, would be to not capture the essence of participant response with quantitative data alone. While "validity and reliability are

predominantly derived from quantitative research" (p. 687), qualitative research can help to fill in the gaps upon which quantitative research may not extrapolate. As much of the discussion of this research has been the integrative frameworks, this mixed-methods approach described the consistency between the experiences of participants in relation to their social settings and life course, which are statistically described in questionnaires, is matched with their subjective interpretations and explanations of those experiences. (p. 689)

The research presented was enriched through participant responses describing their unique experiences and enabled a much more in-depth description in terms of positive and negative responses. Accordingly, neutral responses also suggest the lack of knowledge, or lack of integrative experience, with evidence-based management.

Findings of this research are difficult to contextualize as educational administration data "has [*sic*] been held back by a lack of robust and comparable instruments to systematically measure management practices and, thus, a lack of good data" (Bloom et al., 2015). This research does align with many of the findings of the original World Management Survey for Schools, in that a great deal of variance is found in the responses on autonomy and accountability. The original survey used student performance metrics to develop their study, and that has less applicability to exploratory and descriptive research. However, this research does have the same intention, on a much smaller scale, to begin to explore the necessity of creating evidence-based management frameworks and delve into the viability of inclusion into the knowledge base for educational administrators. The authors stated, "The key purpose of this article is to develop an international management index for schools and present descriptive

evidence on management quality and education outcomes across schools of different types within and across countries" (p. 647). This research hopefully serves as a precursor to a better understanding to the need for a "management index" for Pennsylvania school administrators.

Other contextual research would include a potential enhancement or extension to the current data. Lemos and Scur (2016) worked on developing an instrument that expands upon the original World Management Survey for Schools (Bloom et al., 2015). Their research is focused on determining "where exactly along the process of setting their management structures are they failing" (Lemos & Scur, 2016, abstract). Their research provided, in greater depth, the uses of evidence-based management skill as they attempt to use "three new processes to systematically measure the strength of each management area in the World Management Survey: (1) process implementation, (2) process usage, (3) process monitoring" (p. 1). This research is especially important in light of some of the suggestions arising from this research study. Problems not only lie with a lack of understanding of evidence-based management skills, but, even when there is some level of comprehension, systems still fail. The authors do this part by breaking down the processes regarding the management practices. To do this, they "identify three key processes that are captured to measure the strength of each management practice." They list:

1. Process implementation: formulating, adopting and putting into effect management practices;
2. Process usage: carrying out and using management practices frequently and efficiently; and

3. Process monitoring: monitoring the appropriateness and efficient use of management practices (p. 8)

This framework could be used to explore the narrative responses with more depth, especially in terms of those participants who answered positively yet had not clear implementation framework. This modified WMS (benchmark your school, n.d.) research suggests that participant understanding of evidence-based management is moderate at best, and when coupled with narrative responses, that understanding falls into greater question. Using a framework like the "expanded tool" would allow for greater depth of understanding the efficacy of processes claimed to be in use (Lemos & Scur, 2016, p. 1). For example, when examining "performance tracking" at a school, the interviewer would examine

1. Types of parameters used for tracking (such as student marks, attendance regularity, behaviour, teacher absenteeism, enrolment rates, dropout rates, teacher professional development, budgets, etc.);
2. Tracking frequency (such as once a year, twice a year, bi-monthly, etc.); and
3. To whom and how the tracking is communicated (such as heads of departments, teachers, parents, students, and through meetings, newsletters, boards, etc.);

The combined responses to this practice are scored against a grid which goes from 1 - defined as 'Measures tracked do not indicate directly if overall objectives are being met. Tracking is an ad-hoc process (certain processes aren't tracked at all)' up to 5 - defined as 'Performance is

continuously tracked and communicated, both formally and informally, to all staff using a range of visual management tools.' (p. 8)

This level of specificity would allow for greater understanding of principal understanding and use of evidence-based management and alleviate, to a degree, neutral responding caused by a participant's lack of knowledge of the management factor. The expanded tool could be used as a follow-up to current exploratory research and help to provide clarity. Just as with the original World Management Survey for Schools (Bloom et al., 2015), for most researchers in a microcosm such as western Pennsylvania, there may have to be modifications in application of the tool. However, even in smaller contexts and with lesser research budgets and resources, there could be many potential applications and modifications to further our conceptualizations regarding evidence-based management use.

Limitations – General Limitations and Validity

Limitations, in terms of the instrument, are varied and multifaceted. The first is the length of time the survey was given to administrators. The end of the school year in May and June are busy times for administrators with end-of-the-year activities, and this may have caused stress and some level of vacillation in completing the survey. The size of the sample also creates an issue in terms of representing the population of western Pennsylvania principals. Other issues effecting generalizability such as the unequal responses of principals and assistant principals, and male and female administrators may not mirror actual proportions. Another limitation that is consistently mounting is the amount of digital surveys that administrators are asked to complete. Principals now have

surveys sent to them by the district, by the state, and from a federal level, as well as from researchers and firms asking for their expertise. This overwhelming amount of surveys, compounded by the already prodigious demands of the job, may have effected response rates.

These data were collected using the WMS Benchmark your School instrument and originally conceptualized from the WMS for school instrument (benchmark your school, n.d.; Bloom et al., 2015). An explanation of validity and question construction from the original WMS (2007), which was used to construct the school instrument, was introduced and described in the instrumentation section of the methodology chapter. Within the survey design, there were concerns of translation validity beyond just face and content validity. In describing survey research design, Trochim and Donnelly (2007) asked the question "can survey respondents be expected to know about the issue?" (p. 122). In this area, the concern would be if the survey was able to effectively operationalize the evidence-based management practices. The questions, however detailed, have phrases that may have had different or multiple meanings for respondents, such as "root cause" (benchmark your school, n.d.). In determining the level of depth of review conversations in the original incarnation of the survey, the survey uses the term "root causes" (benchmark your school, n.d.). This phrase has a superficial meaning in casual conversation, but root-cause analysis may be a structured problem-solving approach that involves a great deal more depth and process. In this question, and with other undetermined terms, the validity of the survey design could be questioned.

The questions used for this study were derived directly from the online survey and extended open-ended questions from the authors' piece on management in schools

(benchmark your school, n.d.; Bloom et al., 2014). While the questions and design were based on the original WMS for schools instrument (Bloom et al.), the execution of this research survey varied from the original school study. This research used the online benchmark your school (n.d.) and open- ended questions derived from the original study to examine autonomy and accountability as they relate to management practices. This research adapted that survey to use Survey Monkey as the method of data collection. The original implementation of the survey included a double-blind interview technique; that was implemented by hired, trained, and monitored interviewers with some prior business experience. It also included open-ended questions, a scoring grid for interviewers, and interviewers with no prior knowledge of the school's performance (Bloom et al., 2007; Bloom et al.; Bloom et al., 2015).

Key to the discussion of validity of the original survey is measuring management practices. The instrumentation discussion included the work of McKinsey (Dorgan et al., 2006) in determining management best practices. The scoring grid and questions were derived from that research and adapted to meet each environment, such as schools. The survey and scoring were also developed in conjunction with other research in the field as to what constitutes good management practice. In their piece on measuring management practices, Bloom, Genakos, Sadun, and Van Reenen (2011) cited these connections to the literature:

- The emphasis on repeated and persistent organizational processes is very similar in spirit to the literature on static and dynamic routines (Eisenhardt & Martin, 2000; Nelson & Winter, 1982; Winter, 2003; see Becker, 2004, for a review);

- HR practices—and, in particular, the attention to the selection, rewards, and training given to employees—is consistent with the set of best practices emphasized in the literature dedicated to "High Perform ance Work Systems" (i.e., Lengnick-Hall, Lengnick-Hall, Andrade, & Drake, 2009; Lepak, Liao, Chung, & Harden, 2006; Pfeffer,1999a, 1999b; Pfeffer & Veiga, 1999); and
- Bloom and Van Reenen (2010) discussed the links between their work and the more general HRM literature. In terms of methodology, our work shares the same emphasis on data and econometric identification issues discussed in Becker and Huselid (1998) and Huselid and Becker (1996). (p. 15)

The McKinsey research had a particular focus on manufacturing practices with companies like Toyota and Honda, and these are often connected to prescribed management practices. However, the measurement of evidence-based management practices is derived from a much larger examination of existing management and organizational performance literature.

The uniqueness paradox and limitations. Due to the limitations of this study in terms of implementation discussed previously in contrast to the original study design, several factors may introduce bias. The piece in the review of literature introducing the "uniqueness paradox" and context have practical applications to the limitations of the study (Martin et al., 1983, p. 438). Organizational culture has an undeniable effect on the principal in answering the survey questions. The manifestation of those biases may not be overt in the responses to the survey questions. The authors discussed "identification

and distancing" as positive and negative aspects of organizational identification (p. 451). This can have both positive and negative aspects for the manager in terms of their relative strong relationship to organization practices or distancing of themselves from their practices within the organization. This concept extends to their locus of control and their place within the organization, and in positive organizational cultures this manifests as "to the extent difficulties are not surmounted, this is the fault of forces outside of our control…the organization as uniquely good, a sanctuary in an otherwise difficult world" (p. 451). The negative effect would show a manager distancing themselves from managerial practices as "my organization, however, is bad/insane/unjust/incompetent…uniquely bad, uniquely unworthy of its employees" (p. 451). The positive and negative viewpoints may have had effects in terms of response bias as management practices may or may not be present, but the managers' interpretation of the organizational culture could have precluded accurate responses.

Response and non-response bias. Survey research that is designed to learn about the behaviors of practitioners is susceptible to several forms of response bias. The literature review described a profession that has been exposed, if not truly educated, on the subject of evidence-based management. Evidence-based management is particularly nuanced, with aspects of the survey delving into areas that could be satisfied in the minds of participants in the form of a positive response, if, in practice, it is only truly applied at a superficial level. This fundamental disconnect with true understanding and depth and breadth of knowledge, or in this research, what constitutes evidence in each respondent's experience, is a fundamental issue with this survey research. The following, while

perhaps not exhaustive, presents response types that may have been most prevalent that could have introduced bias.

The Pew Research Center describes acquiescence bias in terms of agree or disagree question design "as compared with the better educated and better informed, less educated and less informed respondents have a greater tendency to agree with such statements" (Questionnaire design, n.d.). Acquiescence bias, and the desire to respond to issues in agreement, may have been present as respondents may have been "neutral in desirability…or for issues about which respondents are uncertain" (Baumgartner & Benedict, 2001, p. 145). The uncertainty in this case may have been due to respondents' ability to respond to certain questions on the survey with certainty, or with their personal impression of implementation. For example, determining the use of standardization of instructional practices requires in-depth knowledge of classroom and evaluation practices throughout the curriculum. Differences in principal expertise on content matter or even their individual understanding of an instructional model and its implementation could have introduced response bias. Respondents that did tend to respond with agreement may have done so due to their nature to seek the positive or due to "tendency to accept statements impulsively" (Baumgartner & Benedict, 2001, p. 145). In order to attempt to mitigate acquiescence bias, the survey used a "forced choice format" (Questionnaire design, n.d.). This type of questioning is used as opposed to a simple agree or disagree format. According the Pew Research Center, "Not only does the forced choice format yield a very different result overall from the agree-disagree format, but the pattern of answers among better- and lesser-educated respondents also tends to be very different" (Questionnaire design, n.d.).

Another type of response bias is disacquiescence bias, sometimes referred to as "nay-saying" (Tellis & Chandrasekaran, 2010, p. 4). This is not the antithesis of acquiescence bias as nay-saying "may occur due to a lack of involvement, excessive modesty or reserve, or antagonism to the researcher" (Tellis & Chandrasekaran, 2010, p. 4). There may have been some obvious response bias in the form of a principal that has less autonomy and a greater centralized authority when it comes to management practices. A perceived or real lack of control could lead to negative responses even when management conditions exist and are carried through with fidelity by others in the system. This response bias could have been present in the form of a principal that is overly critical of the system, or if the perception of the use of evidence-based management practices is presented through the responses in an overly-reserved manner, even when the practices are present to a greater degree.

Extreme response style indicates that a respondent had the "tendency to endorse the most extreme response categories regardless of content" (Baumgartner & Benedict, 2001, p. 145). This type of response bias may be caused by dogmatic responses, rigidity, or "less differentiated and poorly developed schemas" (Baumgartner & Benedict, 2001, p. 145). Extreme response in the context of a strictly managerial survey regarding survey leadership may be likely depending on the history and education of the respondent. The review of literature, and in particularly, the discussions of district context and the cyclical nature of scientific and evidence-based management's sometimes maligned presence, may have influenced respondents to take an extreme position if they were weaned on a curriculum of leadership versus management. Overtly negatively developed schemas, in the form of good leadership supersedes and precipitates appropriate management

practices as opposed to interaction, could lead to extreme responding. The converse may be true with a transplant from the private sector or industry in the form of a manufacturing or prescribed managerial background.

Socially desirable responding or social desirability bias is "the tendency of the respondent to present a desirable image of self to others" (Tellis & Chandrasekaran, 2010, p. 4). This type of response bias does not have one basis but may originate from different intentional or unintentional sources. According to Tellis and Chandrasekaran (2010):

> This could be done intentionally to impress the researcher (impression management or the tendency to give a favorable self-description to other). However, this type of responding can also occur unintentionally when respondents honestly perceive themselves to be more innovative than they really are (self-deception or the tendency to give favorably biased but honestly held self-descriptions). (p. 3)

The desire to be seen as both a strong manager and leader in the principalship is a common and deeply rooted belief. Even with the attention given to the initial request for participation in terms of relative anonymity, there could be a strong element of wanting to be perceived as a competent school leader and manager. Cognizance of the full scope of evidence-based management practices would be a socially desirable position for a sitting principal. Principals may also over exaggerate their use of evidence-based management practices in the survey from a self-deceptive description of their practice. For example, when

answering questions regarding treatment of poor performers, the principal may regard discussion with employees as addressing the issue in the place of a more documented or formalized process.

Implications for the Field of Educational Administration and Future Research

Leadership and management – misnomers and an incomplete Venn diagram. The field of educational administration needs to focus on the synergy between evidence-based management and transformational leadership as opposed to the differences, and this synergy is b exemplified by many scholars in the field. (Fullan, 2006; Senge, 1990). Further research in the field of educational administration must be based on the idea that evidence-based management, like leadership paradigms, are in constant flux, contextually cognizant, and transformational in nature (Jones, 2018; Rousseau, 2005, 2014, p. 2005). As mentioned in the review of literature, the idea remains that good leadership begets acceptable management, but that the reverse is not true. According to Hay and Hodgkinson (2006), we may need to "re-conceptualize" our ideas of leadership and management and that "dominant leadership theories may conceptualise leadership in ways which are of limited help to management educators. The theories of transformational leadership (Bass and Avolio, 1994) …represent popular approaches to the conceptualisation of leadership" (p. 3). The binary iteration of transformational and transactional leadership studies "have arguably evolved to be central to the field" (p. 3). The conceptual framework that this binary and somewhat antagonistic relationship promotes is the idea of not only separation, but also of the inherent superiority of leadership (Hay & Hodgkinson, 2006).

In their piece on leadership versus management, Toor and Ofori (2008) displayed the inherent bias towards management that exists throughout the literature. While the synergistic side of the debate is revealed, it is given little agency, and the discussion includes the "etymological development" of the two terms (p. 62). While leadership has had centuries to develop a rich historical context, management is a relatively young concept and this has led to "definitional complexities", but mostly on the leadership side (p. 63). The authors contended that while leadership continues to grow in nuance and breadth, management's definition is in effect agreed upon. The authors also mentioned the "leader-manager" and that at times individuals display aspects of both (p. 68). To their credit, they also cited Mangham and Pye (1991), stating "that leading is not specialized phenomenon and an entirely distinct activity, but simply an aspect, perhaps a highly salient aspect, of managing" (Mangham & Pye, 1991, as cited in Toor & Ofori, 2008). This highly contentious issue has several implications for educational leadership research and preparation. These implications primarily display a field that not only has epistemological discontinuity, but also inherent disagreement of commonly used terms, terms that have vast implications for the design of research, closing the practice-theory gap, and preparing leaders for their roles in schools. While Toor and Ofori (2008) called for greater separation in the study of leadership and management as separate entities, that reality does not exist in vast percentage of schools. Principals are called upon to both lead and manage, and perhaps provide the larger study of leadership and management with one of the best examples of the combined effect of the two working in concert. The environment in education is one that is unique, as the organizational aspects of a school system include students, not customers; teachers, not laborers, and the end result is an

exceptionally complex workplace for any administrator. The approach to the research questions and craft aspects of the leader and manager debate needs to be as well.

Evidence-based management in union with transformational leadership models.

Evidence-based management application has been implemented most commonly in healthcare as a byproduct of the evidence based healthcare movement. This has led to a greater degree of sophistication in the implementation of evidence-based management in practitioner environments. That greater degree of implementation dynamics has also illuminated the strong structural bonds between evidence-based management and transformational leadership. Page (2005) described transformational leadership as "the essential precursor" to establishing a learning organization and a culture of change (p. 2). While management practices serve as a conduit for change, the essential elements necessary to driving change in organizational cultures are transformational and the outcome of these practices, the "achieving the combined purpose", are only possible in a mutually engaging environment (Page, 2005, p. 2). This works synergistically with five essential management functions that "have been found to be consistently associated with successful implementation of change initiatives" (Page, 2005, p. 2). Transformational leadership is the precursor to successful change management, specific management practices are associated with higher levels of achieving organizational goals. The WMS makes the same claim (World Management Survey, n.d.). The claim is not that these management practices exist in a vacuum and that organizational social contracts are purely transactional, but rather that these practices are extension of aptly executed transformational leadership. The practices serve as a functional framework through

which appropriate and to a degree, designed communication and management processes help to communicate the "higher collective purpose" (Page, 2005, p. 2). The communication and execution of the "collective purpose" is not left to grow purely organically, but rather assisted by the exchange of information between manger and worker, open lines that, while dictated by a process, remain open to provide free-flowing discourse. Of the five essential management practices according to Page (2005), several mirror the general precepts of the WMS for education (World Management Survey, n.d.). Future research in this area could include looking at specific management functions in the educational administration environment that help to promote transformational leadership axioms. Common problems of management research and their subsequent use in collaborative organizations have been held back by factors including,

> research … [that]does not consistently address practical management questions, empirical evidence on effective management practices that does exist is difficult to locate, many managers are not trained or experienced in the use of such evidence in making management decisions. (Page, 2005, p. 5)

Research that addresses practical educational administration issues could take the form of quantitative research such as factor analysis to determine the effects of those specific management functions from the WMS for education (World Management Survey, n.d.) on transformational processes, such as using an incarnation of the Multifactor Leadership Questionnaire (Avolio & Bass, 2004). Qualitative research such as case studies could be used to dive deeper into worker perceptions of management processes that increase or

decrease ongoing engagement, or, "involving workers in work design and work flow [*sic*], and mechanisms for feedback, measurement, and redesign" (Page, 2005, p. 11).

Evidence-based management and change theory. The questions of leadership and management often intersect with organizational dynamics, specifically in the area of change theory (Fullan, 2004, 2005, 2008). Fullan's (2004, 2005, 2008) approach also intersects with evidence-based management as he is wholly concerned with not only theories of change leadership, but ones that detail and accentuate action for progress. Fullan's (2004, 2005, 2008) intersection with evidence-based management focused on the enactment of change theory for continuous improvement, and this is reflected in many of his writings after Pfeffer's and Sutton's seminal works on evidence-based management (2000, 2006). He highlighted pieces from their works as pragmatic actions to progress and productive and inclusive change (Fullan, 2004, 2005, 2007, 2008). Several implications for future research are possible by the theoretical boundaries broken by this adherence to shared leadership and support of an evidence-based approach. Fullan's concern was with others that share the view of the organization as a "learning organization" (2007, p. 117). Fullan (2004) addressed this concern, as well as another recurrent theme of looking externally, in his piece regarding sustainable leadership by stating

> to go further we need to develop a new kind of leadership — what I call 'system thinkers in action' …these are leaders who work intensely in their own schools and at the same time connect with and participate in the bigger picture. (p. 1)

This is in contrast to his critique of Senge's (1990) work with the learning organization and the integration of the disciplines as the "fifth discipline" (Senge, 1990). Fullan contended that "as valid as the argument may be, I know of no program of development that has actually developed leaders to become greater, practical systems thinkers" (2004, p. 1). Transformational leadership needs concrete actions to extend beyond theory, and "until we do this we cannot expect the organisation or system to become transformed" (p. 2). Fullan (2004) saw this as a sustainability issue, and sustainability must be linked with "systems thinking" (p. 2). He defined sustainability as the "capacity of a system to engage in the complexities of continuous improvement consistent with deep values of human purpose" (p. 2). Further research in this area needs to be done in the form of examining what evidence-based management practices enhance sustainability, perhaps using the WMS for education (World Management Survey, n.d.), or other evidence-based management models of implementation. This needs to be done through multiple integrative frameworks guiding the research questions. This research may provide answers for Fullan's (2004) query of "whether organisations can provide training and experiences for their leaders that will actually increase their ability to identify and take into account system context. If this can be done it would make it more likely that systems…could be changed" (p. 2).

Fullan (2004, 2005, 2007, 2008) contended that context must change in order for there to be progress. Throughout the review of literature, dispute over the role of context in educational administration was examined. This debate has extremely deep epistemological and ontological roots, with the existence of a knowledge base in educational administration as the main battleground. For the purposes of this study,

context has been referred to rather generically, and it must be pointed out that the research construction concedes that context must be more than an appeal to logos, that there must always be a simultaneous and equally exhausting examination of the effects of social construction or cultural relativism in administrative decision-making. However, there must be some extant appeal to logos, and an application or framework to gain external knowledge as well. Change theory would posit that there are deductive frameworks that are used in social hierarchies that cannot be ignored. This theory is often encountered through examining organizational improvement using both external and internal accountability drivers. School systems experience this through the constant mandate cycle and internally imposed accountability metrics. Fullan discussed this as a "stability" issue in that "no other sector experiences the barrage of externally imposed accountability demands, along with imposed, fragmented innovations" (2008, p. 2). He described that school systems need both "internal to the school" and external measures, and that "no amount of external accountability can succeed in the absence of internal to the school accountability" (p. 2). Frameworks for improvement like the WMS, with a more evolved definition of management and inclusive of the role of internal drivers, help to achieve those dual needs. Fullan (2007) granted that there is an acceptance that there is a powerful role for external drivers, ones that also agree to input from the culture in which they will be employed, to help to provide a situation in which "external accountability becomes more accepted, more transparently available, and more readily used for summative conclusions and judgments" (p. 60). The implications of change theory for research into how evidence-based management can be accepted into schools can be seen to be analogous with Fullan's (2005) definition of sustainability.

The question of context is deeply embedded in that definition, and one that change theory engages head on. Further research in the field must be guided by an integrative framework for developing research questions, and context cannot be king, but rather exist in a more egalitarian environment. Concerning the context argument, Fullan (2005) stated,

> Changing whole systems means changing the entire context within which people work. Researchers are fond of observing that 'context is everything' usually in reference to why a particular innovation succeeded in one situation but not another. Well, if context is everything, we must directly focus on how it can be changed for the better. (p. 4)

Fullan (2005) argued for lateral, vertical, and across-systems capacity building. If we look externally awhile being mindful of context, we can better address adaptive challenges (for where solutions lie outside of our current repertoire) (Heifetz, 2003, as cited in Fullan, 2005).

One way in which school systems can link the dual goals of evidence-based management and context is through research involving the WMS for Education (WMS, n.d.) and the Professional Capital Survey (Fullan, n.d.). The survey includes three forms of professional capital, expounded as,

- Human capital is best defined as the talent of individuals. Schools and systems with high human capital, when combined with high social and decisional capital, not only do better, but also enhance the talent of others;

- Social capital is the collaborative power of the group to continuously get better at deepening student learning by openly and transparently examining, refining, and transforming instructional practice; and
- Decisional capital is defined as the capacity to make increasingly good decisions over time based on professional judgment informed by evidence.

Several of the questions on the survey deal directly with evidentiary processes. Research could again be conducted with a factor analysis examining management practices for the WMS (World Management Survey, n.d.) and the specific questions form the survey that deal with evidentiary and leadership practices. In a mixed methods approach, open-ended questions regarding the accountability and autonomy of the system could be conducted to provide a richer structure for understanding the use of management practices within those conceptual frameworks.

Knowledge base and inclusion, systematic review, and evidence-based model application. A topic of great consideration that the study data further support as a potential issue is the comprehension of evidence-based management skills, particularly, putting those skills into practice. This has been dubbed by many researchers as the "theory-practice gap" or the "knowing-doing" gap and is symptomatic of the ongoing problem of communication between the researcher and the practitioner (Pfeiffer & Sutton, 2006; McNulty, 2014; Rousseau, 2006, 2014). This is a topic of great contention within the educational administration environment, management as a science, and those that promote evidence-based management, and the background of those debates was

reviewed in the review of literature. Based upon data obtained from the survey instrument and background from the review of literature, implications of the research are that there is still a great divide in the comprehension of the conceptual framework of evidence-based management skill, ontological and knowledge divides, the politicizing of evidence-based management, and models and frameworks to carry out evidence-based management. These issues obviously affect the preparation of educational administrators as the practitioner and scholarly substructure differences provide no appeasement for either group. Limitations of the study were outlined in this chapter as well and do provide potential for these data being misrepresented by those participating in the survey. However, there is clearly inconsistency in the interpretation of putting management skills into practice.

The problems of evidence-based management in education are very much the implications of this exploratory research and the problems of educational administrator practice in general. Thomas and Pring (2010) concisely summarized these continuing issues as "These philosophical issues are: first, the nature of 'evidence'; second, the extension of the methods of the natural sciences to understanding of human beings; third, the adoption of a means/end model of educational planning and decision-making" (p. 203). The implications for the knowledge base and epistemological directions yield the conceptualizations for further research. The battle for what comprises educational administration still lies within the epistemological framework. While the study yields data as to the use of evidence-based management concepts, further research needs to be conducted to delve deeper into the motivations for the answers to the evidence-based management questions. Research in this area needs to contribute to a growing and

dynamic knowledge base that propagates the true definition of evidence-based management as:

> EBMgt involves making decisions using the best available, critically appraised evidence from four sources: (1) Is evidence derived from managers' expertise and experience?; (2) Are organizational values and evidence derived from stakeholders' views and concerns?; (3) Are internal organizational evidence and data or metrics from the local context?; and (4) Is evidence derived from scientific research? (Briner & Walsh, 2014, p. 416)

Qualitative research that codes those particular questions into distinctive knowledge, creation theories, or epistemological approaches would serve to better illuminate subjectivity and creation pathways in school systems using tacit knowledge and explicit knowledge frameworks (Nonaka & Takeuchi, 1995). Research using this type framework may outline the basis of knowledge creation as well as attempt to account for the social constructs and the context of school systems. The authors explained these "modes":

> knowledge is created through conversion between tacit and explicit knowledge allows us to postulate four different modes of knowledge conversion: (1) from tacit knowledge to tacit knowledge, (2) from explicit knowledge to explicit knowledge, (3) from tacit knowledge to explicit knowledge, and (4) from explicit knowledge to tacit knowledge. (p. 67)

Looking at evidence-based management use through a lens of knowledge origin would help practitioners to examine the "metaphors, concepts or analogies" employed (Jones, 2018, p. 116). Jones (2018) explained that the process of knowledge collection to employ evidence-based management also "cannot be seen as just a desk-exercise and will involve in engaging in a range of social interactions, from discussion to observation" (p. 117). Studies of this nature will assist in dispensing with the fallacy that evidence-based management is simply an external construct in two ways. The first is making practitioners more aware of the process and importance of knowledge creation, an often overlooked part of principal preparation. The second would be to provide insight on that process so educational administrators have a stronger concept of "aggregating the best available evidence" (p. 117). Practitioners must be careful when legitimizing evidence-based practice with tacit knowledge. Evidence-based management practices ask that practitioners use multiple sources of data to create knowledge, and sources should be an amalgam of external and internal information.

Methodology concerning the collecting of evidence/data that has been supported by the evidence-based management movement is systematic review or research synthesis. Throughout the literature on evidence based management, there is a strong call for transparent and process oriented meta-synthesis of current studies regarding an issue. According to Uman (2011), systematic reviews are defined "as the name implies, typically involve a detailed and comprehensive plan and search strategy derived a priori, with the goal of reducing bias by identifying, appraising, and synthesizing all relevant studies on a particular topic" (p. 57).

This research attempts to explore the use of evidence-based management skill in the ultimate hope to provide data for the inclusion to practitioner training and the understanding and use of evidence-based management principles. However, individual research has limitations and systematic reviews help to marginalize individual bias. Rousseau (2014) lent credence to the knowing–doing gap argument by discussing the issues associated with teaching evidence-based management to better form practitioner knowledge as researchers can support and participate in systematic reviews, including meta-analyses, to identify conclusions the evidence supports…I am repeatedly struck by the usefulness of meta-analyses and systematic reviews for giving non-scholars more ready understanding (and confidence) regarding research findings. (Rousseau, 2014, p. 66)

Systematic reviews in qualitative and meta-analysis in qualitative research provide "practice-oriented research deliberately undertaken to provide scientific knowledge that informs practice" (p. 67).

Another implication from this study and argument for the use of systematic review and meta-analysis are the ways in which research questions are generated, studies are carried out, and conclusions reached. Trochim and Donnelly (2007), in their text on the research knowledge base, pointed to the role of medicine in bringing the increased use of evidence-based practice paradigms to that field due to "tremendous stakes for individuals and society as a whole" (p. 357). The serious implications of how research is turned into practice in an increased accountability laden environment like educational administration has spawned several models of evidence-based practice and management models for

practitioner use. The WMS survey (World Management Survey, n.d.) is a model for practitioner application itself, and is buttressed by several researchers using several iterations in multiple fields. Results would indicate that there is great variance in the understanding and application of evidence-based practice by educational administrators. Other models of evidence-based management, and perhaps more importantly, their use and inclusion into educational administrators' preparation are worthy of exploration for future research and practice. A better understanding begins with knowing the basic parameters of s systematic review, which according to Gough, Oliver, and Thomas (2017) included:

> systematic reviews involve four main activities: clarifying the question being asked; identifying and describing the relevant research (mapping the research); critically appraising the research reports in a systematic manner, bringing together the findings into a coherent statement, known as a synthesis; and establishing what evidence claims can be made from the research. (pp. 2-4)

Educational administrators need to have knowledge of this process to be critical of research and to use synthesized research to inform their practice, always being conscious of the four steps and the possible application to their context. Researchers also point out the growing numbers of researchers and scholarly institutions dedicated to the task of evidence-based practice such as the Campbell Collaboration, Cochrane Collaboration, EPPI-Centre, Harvard Business School, and Case Western Reserve University (Rousseau, 2012; Jones, 2018; Thomas & Pring, 2010). There is also a focus on closing the knowing-doing gap

through the implementation of models. This brings forth many potential implications for practice as well as future research.

Some practitioners may immediately dismiss the supposed constrictive nature of models, however, the emphasis of many evidence-based scholars is to provide models that have principles attached to the context or needs of the school organization. Nutley, Walter, and Davies (2003) provided examples of how evidence-based practice can be adaptable to different environments according to the conceptual framework needed. Among the conceptual frameworks provided are "diffusion of innovation, institutional theory, managing change in organizations, knowledge management, individual learning, and organizational learning" (pp. 135-136). This brings about several research possibilities for schools, particularly in the intersection of the traditionally separated concepts of leadership and management.

Potential inclusions to a knowledge base and standardization. The review of literature examined the discussion of the existence of the knowledge base and possible inclusions to be introduced to the study of educational administration in the form of evidence-based management. A great deal of the discussion surrounding evidence-based management in school systems deals with external data, external accountability, and administrator acceptance of evidence-based practice. Potential drivers of these issues are the esoteric nature of management and that some would embrace that "management in organizations is not a true profession" (Barends et al., 2017, p. 3). This lack of a professional cannon affects the adoption of evidence-based management into preparation for administrators as well their resultant practice. Barends et al. claimed that "the

practice of management in organizations is not regulated, has no agreed-upon code of conduct or required knowledge base, and managers are not required to join a professional association. Objective inclusion criteria are hence not available" (p. 3). This gap in the literature and in many forms of administrator preparation is supported by the variance in narrative responses in this research. The lack of regulation and collection of best practice are obstructions to any level of evidence-based management included in the repertoire of educational administrators.

Based upon the literature and the sometimes conflicting interpretation of management skills exhibited throughout the research, some inclusion of evidence-based management skills or management processes are necessary for the development of well-versed administrators. Organizations that specialize in standardization have been developing the professionalization of the field and the enlargement of some type of knowledge base for educational management. The International Organization for Standardization (ISO), as the name denotes, "creates documents that provide requirements, specifications, guidelines or characteristics that can be used consistently to ensure that materials, products, processes and services are fit for their purpose" (ISO, n.d.). While based predominantly in technical industries, ISO has extended their movement towards standardization into many fields including management in educational organizations (ISO 21001). While a stand-alone system, ISO 21001 (Educational Organization Management System [EOMS]), was constructed using other ISO models that concentrated on evidence-based management principles (ISO, n.d.).

The undertaking of any form of standardization evokes an undeniable sallowness over many university programs and practitioners groups, an anathema in a system that is predicated upon appealing to the heart, stimulating the mind, and emphasizing the personalization of learning. However, the EOMS provides the integrative framework that is necessary to synthesize evidence-based management and the emotive and human elements of educational leadership. The EOMS is predicated upon the following principles:

1. Better alignment of objectives and activities with policy (including mission and vision);
2. Enhanced social responsibility by providing inclusive and equitable quality education for all;
3. More personalized learning and effective response to all learners and particularly to learners with special education needs, distance learners and lifelong learning opportunities;
4. Consistent processes and evaluation tools to demonstrate and increase effectiveness and efficiency;
5. Increased credibility of the organization;
6. A means that enables educational organizations to demonstrate their commitment to effective educational management practices;
7. A culture for organizational improvement;
8. Harmonization of regional, national, open, proprietary, and other standards within an international framework;
9. Widened participation of interested parties; and

10. Stimulation of excellence and innovation. (ISO, n.d.)

The overall goals for the EOMS mirror a gestalt approach rather than a strictly empirically driven standardization methodology. Throughout the EOMS, the culture of the organization and an ethos of social justice and egalitarianism permeate the continuous improvement processes. However, those improvement processes are based upon collaboratively structured methods that have been created by professionals from the management field, educators, and stakeholders in the educational leadership practice. In addition, throughout the EOMS, a common vernacular is developed, enabling a professional dialogue that was difficult previously, assisting in developing a "required knowledge base" and "objective inclusion criteria" (Barends et al., 2017, p. 3). Case study research and other applications, such as the Most Significant Change (MSC) design could be used to examine the EOMS as an intervention or change leadership model (Trochim & Donnelly, 2007, p. 148). The MSC model would be applicable as it "can also be used to summarize change at the conclusion of a program and may include both quantitative and qualitative indicators" (Trochim & Donnelly, 2007, p. 148). The implementation of the EOMS lends itself to a mixed methods design as the potential effects lend themselves to the continued discussion of the "post-positivistic/empiricist/quantitative and constructivist/phenomenological/qualitative positions" (Trochim & Donnelly, 2007, p. 183).

Evidence-based management as a progenitor of social justice. One potential suggestion of this research is that there is limited understanding, and questionable use of

evidence-based management in schools. This holds several wider ranging implications for the use of evidence-based management, specifically within contexts not traditionally thought of as being promoted by enhanced management. Within the literature review, the debate of what role social justice has as a leadership paradigm in schools was explored. This exploration included the innate fears of many in the field of the technical aspects of leadership, or a return of scientific management. However, there is a growing body of research that details the role of evidence-based management being an integral part of enacting social justice in principal leadership. In his study of social justice and educational leadership, Theoharis (2007) contended that social justice in leadership can be attained "by (a) raising student achievement, (b) improving school structures, (c) recentering and enhancing staff capacity, and (d) strengthening school culture and community" (p. 231). Theoharis (2007) then provided several examples of his interviews with principals to specify difficulties and actions taken to improve upon social justice presence in school leadership.

The principal interviews provide insights into the changes made at their particular schools and their effects on social justice leadership. There are many similarities from the WMS (benchmark your school, n.d.) survey components and these particular actions. An overarching theme amongst the principals is their adherence to target-setting in the form of a clear message or belief in social justice that is "tightly linked to the school's wider objectives and how well are they cascaded down and clarified to the teachers" (benchmark your school, n.d.). All principals who had a measure of success began with clear target-setting and a widely understood adherence to social justice. Theoharis (2007) also cited increased achievement as a necessary as he stated, "I start this discussion with

raising student achievement because this is the core of the needed improvements for marginalized students" (p. 232). The original WMS survey research examined the correlations between schools with higher management scores and achievement test data, much in the same way that this study claims student achievement's crucial role in promoting social justice. Another example from the principal interviews that is directly related to tenets of the WMS is the curricular discussion with Principal Natalie. Theoharis (2007) used her statement as an exemplar and provided "Principal Natalie talked about staff attitudes and how the staff were used to having lower expectation about course content, and with a push for broader offerings she also pushed for higher expectations within the courses" (p. 234). The WMS provides structures that call for the school "encouraging and incorporating new teaching practices into the classroom" and asked, "how are these shared across teachers" (Theoharis, 2007, p. 234). Theoharis (2007) provided several more examples of success stories, many of which mirror actions promoted by the WMS. Theoharis' (2007) piece is a model for putting social justice ethos into action, a guide to not only philosophical ideals of social justice, but also a formation of an action plan provided by first-hand example.

The implications from this piece are eminently clear. Evidence-based management principles provide a model for enacting a school's vision. That vision may be collaboratively formed to promote the values of social justice and to combat efforts against equity, or as Theoharis (2007) described, "the resistance they faced to that work" (2007, p. 231). He described the principal's position as one where participants felt resistance to social justice principles, and that "meeting resistance from these sources left the principals feeling isolated, without models of how to do their social justice work, in a

system not designed to support them" (p. 240). This statement provides a cohesive argument for the further development of evidence-based management skills in administrators, as an addition to a set of standards or a knowledge base, and as a moral obligation to those students that are underserved.

Other paradigms for future research and administrator preparation. The WMS for Education (World Management Survey, n.d.) has a great deal of utility for further research in the field of educational administration. The broad range of skills that encompass operational and implementation factors within the survey can serve to illuminate processes or skills that will assist in many facets of school leadership and improvement. In the review of literature, the role of accountability in the development of school leadership was shown to be a contentious topic, albeit a topic that cannot be avoided in today's educational landscape. There is a great deal of research to be conducted in this realm that may help school administrators handle the unyielding march of accountability while also being attentive to the "deep values of human purpose" (Fullan, 2005, p. 2).

State systems such as Pennsylvania's have slowly integrated other factors into their measurement of schools with such measures as the School Performance Profile (PA SPP, p. 1). Several claims are put forth by the Pennsylvania Department of Education (PDE) as to the existence of the SPP accountability measure. In the executive summary from PDE (PA SPP, p. 1) regarding SPP they claim that the SPP is "a resource for LEAs to communicate and compare performance, analyze performance indicators related to achievement, encourage best practice, employ as an analysis tool to inform planning and allocating resources, and compare performance locally and to schools with similar

demographics" (PDE, 2014, p. 1). In comparison to other researchers, Polikoff, McEachin, Wrabel, and Duque (2014) suggested that there are:

> two primary streams of economic theory that support the use of accountability in schools. The first suggests that the incentives created through accountability systems help direct educators' efforts toward those behaviors most important for improving student outcomes and the second argues that the infusion of quality information helps educational consumers (e.g., parents, students) make better choices from among educational options. (p. 46)

This serves to somewhat substantiate PDE's claims as the general alignment of goals suggests that there is a more comprehensive focus than the previously almost exclusively test-score-driven AYP. Pennsylvania and other states' incorporation of data beyond tests "strengthened the construct validity of their accountability systems by using non-test measures and measures of student growth. These changes should capture more of the multidimensional nature of schooling, increasing the alignment between incentives and desired outcomes" (Polikoff et al., p. 51).

Many factors are considered in the SPP composite, and this represented a departure from traditional AYP by taking into account other factors in the amalgam score. These general factors, separate from purely achievement data on PSSA or Keystone exams, included:

Table 1. Pennsylvania's School Performance Profile Indicators

DATA ELEMENT	DETAILS	PERCENT OF TOTAL SPP SCORE*	STANDARDIZED STUDENT TEST SCORES INCLUDED?
Proficiency Indicators of Achievement	Percent scoring proficient or advanced on PSSAs or Keystone Exams in tested subjects; performance on industry standards-based competency assessments; grade 3 reading; and SAT/ACT College Ready Benchmark	40%	Yes
Growth Indicators of Achievement/PVAAS	Meeting state-identified annual academic growth expectations on PSSAs or Keystones in tested subjects for grades 4-8 and 11	40%	Yes
Indicators of Closing the Achievement Gap – based on performance of all students	Percent of required achievement gap closures met in math, reading, science, and writing	5%	Yes
Indicators of Closing the Achievement Gap – based on performance of historically underperforming students	Percent of required gap closures met in math, reading, science, and writing	5%	Yes
Other Academic Indicators	Cohort graduation rate, promotion rate, attendance rate, Advanced Placement/International Baccalaureate or college credit, PSAT/Plan participation	10%	No
Extra Credit for Advanced Achievement	Percent scoring advanced on PSSA in math, reading, science, writing; on industry standards-based competency assessments; percent scoring 3 or higher on an AP exam	Up to 7 additional points	Yes

**SPP is calculated by taking points earned in the five main categories as a percentage of points available (usually 100), then adding points earned in the extra credit category, as applicable. Although the weight for each main category is constant across schools (with a partial exception for CTCs), the weight of some factors within the categories varies between elementary and secondary schools. For example, the "Indicator of Academic Achievement" category includes a measure of 3rd-grade reading proficiency, which does not apply to high schools; the "Other Academic Indicators" section includes availability of Advanced Placement courses, which does not apply to elementary schools.*

(Sludden et al., 2015, p. 3).

Comparisons in the form of exploratory and descriptive research can help to emphasize what evidence-based management skills not only help to improve student performance in the narrow scope of test scores, but also in the other areas that the SPP encompasses, such as growth, attendance, and closing the achievement gap. Exploratory and descriptive research may also bring consistent and factual information about specific

evidence-based management practices that help to promote the goals of social justice to a wider array of administrators. Other commonly used standardized tests used at the national level for collegiate entrance metrics could be researched in a similar way, such as the SATs or ACTs.

Implications for Practice – Obstacles, Frameworks, and Preparation

Many educational leadership scholars advocate for the implementation of evidence-based practice in education (Kowalski, 2009; Kowalski et al., 2009; Jones, 2016, 2018; Slavin, 2002, 2003). While there is agreement by many that evidence-based management has a place in the continuum of educational leadership skills, how evidence-base management is implemented remains a point of contention. Implications from this research show inconsistency in the views and use of management skills. The lack of use of management skills in educational administrators stems from, to a degree, perceived barriers to evidence-based practice (Barends et al., 2017). In their piece on the barriers to evidence-based management's use, Barends et al. contended that "to facilitate its uptake, we need to better understand practitioner attitudes and perceived barriers related to EBP" (p. 1). The researchers posited that "a substantial amount of research suggests that managers do not read academic articles [2–6] or consult the scientific evidence…managers are often not aware of the accumulated scientific evidence available on key issues in their practice" (p. 1-2). The authors discussed the maturation of evidence-based practice in the medical field, and that initial barriers included "unfavorable individual attitudes and social norms espoused by peers often discourage practitioners from adopting practices based on scientific evidence [14– 17]. Practitioner constraints also tend to limit use of EBP because of perceived barriers in their work

settings" (p. 2). The issue of context and knowledge construction was also present in the medical field and is acknowledged as "the problem isn't clinical experience: the problem is that we (physicians) are so unsystematic, intuitive, and with no notion of scientific principles in our accumulation of clinical experience" (Guyatt, 1992, as cited in Barends et al.). There are marked parallels in this discussion to the premise of this research. The researchers used a research tool that "adapted and combined the widely used Barriers to Research Utilization Scale [27] and the McColl Questionnaire [28], since both measures are used in both domains and have sound psychometric properties for assessing attitudes and barriers related to EBP" (p. 3). The following research questions, easily adapted to the educational leadership environment, could better mine barriers particular to the school system environment.

- RQ 1: What evidence sources do managers report consulting in their daily practice?
- RQ 2: What are managers' attitudes towards the relevance and applicability of scientific research findings?
- RQ 3: What are managers' attitudes towards EBP?
- RQ 4: What personal and contextual barriers do managers perceive to the use of scientific research findings?
- RQ 5: Are managers' attitudes towards EBP related to such background factors as ■ age? ■ education? ■ experience? ■ attention given to scientific research in their formal education? ■ experience in conducting scientific research? (p. 3)

In order to better enable practitioners to prepare for and use evidence-based management skill sets, the field must first use exploratory and descriptive research to understand obstacles to implementation. This study could be replicated to convenience samples to determine data regarding specific environments and use larger samples as generalizability would be key to larger-scale efforts such as potential inclusion to the knowledge base for educational administrators and introduction into administration preparation programs. This study also adeptly includes the framework matter and as Kowalski (2009) contended, frameworks help to "define EBP in a manner that integrates empirical evidence, tacit knowledge, and values and then conducts research to determine the concept's effectiveness" (p. 351).

Principal preparation – management underrepresented. One implication from the study and review of literature is that there is a lack of evidence-based management training in principal preparation programs. Scholars have put to the forefront the notion that principal preparation programs are ill-suited to preparing principals for the job itself and are too often governed by university politics and misaligned agendas (Jones, 2018; Hess & Kelly, 2005, 2007; Mendels, 2016). A report from the Wallace Foundation attempted to collect data from "four recent reports, one each by the American Association of Colleges for Teacher Education (AACTE), The School Superintendents Association (AASA), the American Institutes for Research (AIR), and the University Council for Educational Administration (UCEA)" in order to better understand the current state of affairs in principal preparation (Mendels, 2016, p.

4). The study contended that several conditions, or "themes" exist that provide obstacles to proper preparation:

- District leaders are largely dissatisfied with the quality of principal preparation programs, and many universities believe that their programs have room for improvement;
- Strong university-district partnerships are essential to high-quality preparation but are far from universal;
- The course of study at preparation programs does not always reflect principals' real jobs;
- Some university policies and practices can hinder change; and
- States have authority to play a role in improving principal preparation, but many are not using this power as effectively as possible. (Mendels, 2016, p. 5)

These themes provide some insight as to the why the field lacks evidence-based management skills in the preparation programs and by proxy in the administrators themselves. The study contended that while university programs try to create some sense of balance between theory and practice, the lack of practitioners in preparation and education roles is a sever detriment to the field. The theory-practice gap ever widens and the field needs "the development of principals who can demonstrate both management skills and leadership skills needed to lead change and improvement" (Mendels, 2016, p. 10).

Hess and Kelly (2005, 2007) had similar contentions in their work on examining principal preparation through the lens of textbooks used to prepare principals as well as their systematic appraisal of 56 programs and their syllabi. Their overview of the syllabi showed "just 2% of 2,424 course weeks addressed accountability in the context of school management or school improvement and less than 5% included instruction on managing school improvement via data, technology, or empirical research" (2007, p. 269). The scarcity of management skills in these programs is consistently on display by the choices of university professors over what gets taught. The research found that, "of the 50 living most influential management thinkers, as determined by a 2003 survey of management professionals and 36 scholars, just nine were assigned in the 210 courses" and "assigned a total of 29 times out of 1,851 assigned readings" (Hess & Kelly, 2007, p. 269).

Implications from this research study are clear, yet, also somewhat abstract. The previous examples provide some limited discussion of how programs are deficient in teaching management skills in their curriculum and that the theory-practice gap is potentially only widened by traditional principal preparation programs. Reforms are necessary for principal preparation program structure and format in the immediate future. Accountability and governance structures, as displayed in the survey responses and through the review of literature, will continue to play a larger role as the overall context for educational administration is more answerable to external forces and federal, state, and local government oversight. In the educational administration realm, the bridge

between de-humanizing the school administration environment and making it one of multiple perspectives and voices, based on data, is evidence-based management. Further research needs to be done on what university programs are teaching through systematic reviews of the content of syllabi, much in the same fashion as would be done with the literature reviews. Effectiveness of programs must begin to take on some semblance of agreement or definition as opposed to professorial or contextual bias. The beginning of the discussion of this research did not attempt to impose balance, but rather a more integrated framework for the changing dynamic of the skill set of educational administrators. This skill set should be steeped in many facets including management, leadership, epistemologically inclusive, not one that condones or perpetuates a binary environment. Hess and Kelly (2007) displayed the danger of eschewing management as "the omission of these scholars, along with the inattention to serious education management thinkers, raises questions about whether principals are adequately steeped in important thinking and research on management" (p. 269).

Programs like the Public Education Leadership Project (PELP, n.d.) provided a gateway into implications for practice, preparation, and policy (PELP, n.d.). The PELP (n.d.) program is a joint venture between the graduate school of education and the graduate business school at Harvard University. It provides an integrative framework that combines the collective experience and expertise of both schools, and schools of thought to "improve the management and leadership competencies of public school leaders in order to drive greater educational

outcomes…and meet the demands of the new accountability environment" (PELP, n.d.). Perhaps exemplifying the utilitarian approach better than other programs, the PELP (n.d.) program combines evidence-based management practices with the promise "to offer a leadership development program to help leaders from urban school systems drive improved performance by applying proven management concepts to the unique challenges of their districts*"* (PELP, n.d.). The program recognizes the singularity that a district can be, but still aspires to teach transferrable management skills to provide a continuous improvement environment. The PELP program inspires a call to action where both epistemological disagreement is recognized, with all incarnations of the leader-manager paradigm having a voice. In addition to the implications for practice, longitudinal case study research could be conducted to see the results of those that have gone through the program and the effects on individual districts.

Concluding Discussion

The premise of this research is not a cry for equal footing, but rather a plea for some level of enhanced equilibrium, one that acknowledges the field's overreliance on context and strictly leadership-bound paradigms. The research eschews the notion that management is cold, unfeeling, and simply transactional, but rather that, from the practitioner's standpoint, leadership and management work in concert, partners with like goals. The field itself needs a more heterogeneous approach to knowledge development that leads to practitioner engagement. The exemplar could be a model where evidence-based management and leadership positively overlap, yet still maintain and transfer their own distinct

value-added qualities. Based upon survey responses and the literature reviewed, several themes came to the forefront that warrant further exploration as implication for the field and perhaps future research. These items for consideration include those more esoteric in nature and those that warrant further research based upon what was suggested from this study.

Several organizations exist to improve upon the preparation of principals and the field itself. However, many of these organizations still promote the dogmatic preparation and over emphasis on context that prompted this research. The Carnegie Project on the Education Doctorate ([CPED] Carnegie Project, n.d.), is an organization that seeks to improve upon educational administration training, "through a collaborative, authentic process, members of CPED developed a Framework for EdD program design/redesign that supports creating quality, rigorous practitioner preparation while honoring the local context of each member institution" (Carnegie Project, n.d.). Within the "guidelines" for the program, there are several that do follow the rather traditional trajectory common to educational administrator programs as discussed throughout the review of literature (Carnegie Project, n.d.). A principal who stands out claimed that a program that would align with CPED framework "is grounded in and develops a professional knowledge base that integrates both practical and research knowledge, that links theory with systemic and systematic inquiry" (Carnegie Project, n.d.). Several partner universities are listed and include some prestigious academic institutions.

The Educational Leadership program at Texas A&M University, Corpus Christi, provided an example of leadership-centered standard incorporation and provided detail in

their program description. This program, unlike some of the others, provided a synthesis of several leading scholarly groups and what their standards incorporate for educational administration programs. This synthesis includes the following:

> University Council for Educational Administration (UCEA); Council for the Advancement of Standards in Higher Education (CAS); National Council for Accreditation of Teacher Education pertaining to Educational Leadership (NCATE); Interstate School Leaders Licensure Consortium (ISLLC); and the Carnegie Project on the Education Doctorate. Below is a summary of the various approaches to the Ed.D. (Texas A&M University, Corpus Christi, n.d.)

Table 1: Standards from Professional Organizations

Organization	Standards Summary	Focus
UCEA	Degree objective; Content, theory, & practice based knowledge; research methods; internship; comprehensive assessment; dissertation	K-12 for principals and superintendent education
CAS	Knowledge acquisition, integration, construction, and application; cognitive complexity; intrapersonal development; interpersonal competence	Operational standards for student support and program services in colleges and universities
NCATE	Vision for school learning; development of relevant knowledge and theory; articulate vision; use of data and research for planning; community relations;	K-12 for principals, superintendents, curriculum directors, & supervisors
ISLLC	Ability to promote student success; knowledge of principles to promote student and staff development; develop school and district culture; knowledge of best practices associated with measureable outcomes; knowledge for collaboration with all stakeholders; act with integrity, fairness, and engage in ethical practice; and knowledge of how to respond to and influence the political, social, economic, legal, and cultural.	K-12 for principals and superintendent education
CPED	Frame questions of equity, ethics, and social justice to bring about solutions to complex problems of practice; prepare leaders who can construct and apply knowledge to make a positive difference in the lives of individuals, families, organizations, and communities; provide opportunities to develop and demonstrate collaboration and communication skills to work with diverse communities and to build partnerships; provides field-based opportunities to analyze problems of practice and use multiple frames to develop meaningful solutions; grounded in and develop a professional knowledge base that integrates both practical and research knowledge; emphasize the generation, transformation, and use of professional knowledge and practice.	Transform the EdD (referred to as a Professional Practice Doctorate within the Consortium) into the degree of choice for preparing the next generation of practitioner experts and school (K-12) college leaders in education

(Texas A&M University, Corpus Christi, n.d.)

While only one example, there are many references to practice, and what specific pieces from the various standards must be embedded into practice. However, there are few references to systems' change that are actually enacted with detailed management skills to enable that practice. While some programs, standards supplying organizations, and

universities claim to have some epistemic pluralism and practical guidance, standards still decidedly lack reference to systematic reviews and evidence-based practices. This is the same problem of practice that Fullan highlighted in his critique of Senge (1990) in his piece on change theory. While undeniably necessary to address context and the "deep values of human purpose", practical integrative frameworks must be engaged to truly take a systems thinking approach (Fullan, 2004, pp. 1-4)

This claim of inclusionary practices, particularly with evidence-based integrative frameworks that are never quite fulfilled, illuminates the problem of dualism in the field. Many contend there must be an effort towards a professional canon or level of standardization in the field, but the contents of those professional standards are, and should be, constantly under debate as more and better evidence is collected. Kowalski described a war for the soul of educational administration and the discrepancies between groups that want a more stringently guided profession and those that wish to deregulate completely (2004). He touched upon several of the intrinsic fears that this research brings up, while also opposing the potential pitfalls of that some may view about evidence-based management and its use in educational administration. He stated:

> present day anti-professionists, much like their forefathers, appear to view the purpose of public education and the role of school administration narrowly—dispositions nurtured by a proclivity to view public education solely through political and economic lenses. By resurrecting the imprudent idea that "management is management," they demonstrate

either that they are unaware of the history of public education or that they are unaffected by its moral lessons. (p. 103)

Evidence-based management, when applied in a system that is both context and values aware, is a strong enactor that better enables professional standards regarding social justice, equity, and ethics. It develops a scaffolding that works synergistically with those conceptual elements to create a better system overall. Kowalski (2004) also addressed the idea that other professions have faced the outside forces that reduce educational administration's autonomy to apply concepts, mostly due to education administration's inability to settle on a rigorous curriculum or discerning programs. In other fields, "Leaders in these professions, however, took it upon themselves to eradicate detrimental conditions by first developing a defensible national curriculum and then adopting institutional accreditation standards…in an effort to reinstate stringent licensing laws" (Kowalski, 2004, p. 105). Evidence-based management would be a dynamic piece that would be in part translatable and also adaptable. It defends against those who would deregulate the profession to allow those to come straight from law, business, or industry with applied management techniques tested only in manufacturing settings, while also bolstering the knowledge base with evidence-based managerial frameworks specific to the educational milieu. That bolstering effect is shared by reformers as Kowalski (2004) concluded with "given the popular reform strategies of state deregulation and district decentralization, I and other reform-minded colleagues believe that it is far better to strengthen these pillars than to destroy them" (p. 114). There are contributions

to be made from private industry and organizational science in general, but they must always be strengthened by the needs and values of the school system. However, this inclusion of context should be viewed more as a tempering effect, a honing of an already strong framework.

The danger of those who would view the inclusion of evidence-based management as simply an either/or proposition would be to promulgate the idea that context and transferrable skills are dualistic in nature. Thomas and Pring (2010) warned that "recognizing the distinctively practical, context bound and value-laden nature of educational deliberations, many will reject completely the large-scale experimental search for evidence. Thus is created the false dualism between the quantitative and qualitative approaches…which has caused so much damage" (p. 212). In the rejection of positivism there can be found great truths. However, fervent epistemological boundaries aside, there can also be truths found in an evidence-based set of practices. Thomas and Pring (2010) referred to this as the "uniqueness fallacy", the thought that nothing can be transferrable due to the uniqueness of a particular environment (p. 208). This argument can surely be made easily, but not always with evidence. Thomas and Pring (2010) cautioned:

> It is correct to point to the uniqueness of each individual, since he or she is defined partly in terms of the particular way in which the world is seen and appreciated…Similarly, it is correct to point to the uniqueness of each social group or society, reflected in the social rules and expectations which distinguish that group. But although each person or each society might be

unique in some respect, it is not the case that each is unique in every respect. (p. 208)

The search for the most effective methods must be a blend of the context and what can be transferrable. Denying such, especially in educational environments, denies the organizational struggles that all schools face. The use of the context at hand promulgates a system that adheres to a form of cultural relativism, and many dangers lie in that approach, some of which may not be consistent with goals of social justice and equity. The fallacy of distinctiveness also denies the teachers, students, and administrators a collective of knowledge and skills based upon research that could both include education and other fields as well. To deny those potential benefits is to potentially deny the continuous improvement of a school system.

A potential effect of stereotyping evidence-based management skills is to not truly represent what they are; a path to effective and collaborative organizations. Evidence-based management can be practiced with fidelity and yet adapted to the environment. Structuralism in management does not mean that context, social constructs, and human emotion be cast aside, but rather enriched, recognized, and informed through evidence-based management practices. Structure provides, in a Maslow's hierarchy's sense, the safety, security, and clarity of direction that a mentor, parent, pastor, or colleague may furnish. It should be synergy, not separation.

Evers and Lakomski (2012) appealed to a sense of "epistemic humility" and "fallibilism" (p. 71). The authors did a brilliant job in discussing the debate over the foundations of educational administration, and resulting recommendations deal with ideas toward a blend, or a type of "naturalistic coherentism" (p. 71). This blend acknowledges that "finding law-like generalizations for organizational and social life is a forlorn hope. Nevertheless, we don't see the alternative as randomness…there are degrees of pattern, or regularity, in social life that fills a spectrum between randomness and exceptionless generalizations" (p. 71). However, there is value in organizational structures for strong and sustained organizational performance. The authors cited "the first is that appropriate organizational structures and procedures can both constrain leaders acting in error and can correct leader errors. The second concerns the matter of sustainability. Organizational structures…can lead to strong and sustained organizational performance" (p. 71). This research was guided by a sense that this knowledge, while valuable and collected through empirical means, is but one piece to a much more complex tapestry. As Evers and Lakomski (2012) stated, "There should be more science rather than less or none at all. Naturalistic inquiry guided and constrained by coherence considerations…delivers results hand over fist" (p. 72).

The marriage of evidence-based management and any number of more affective, collaborative, or systems leadership structures is a yin/yang relationship. In educational leadership it is acknowledged that management is necessary, but only as byproduct and subordinate operation to transformational,

change, or systems leadership principles. Classifying management as simply transactional (reward and punishment) diminishes management to its connotative definition, and that attribution does not view management as an art and a science. This promulgates the idea that evidence-based management, and management science itself, is nothing more than another regression to the scientific management of turn of the century industrialists, which is an inaccurate and baseless portrayal. Evidence-based management is the maturation of management science, one that is accepting of other epistemological and organizational theories, all the while maintaining a steadfast dedication to using the best evidence we have in the field. It allows for flexibility of thought and action, and educational administration, at its core, is a dynamic and sometimes cryptic process, but one laden with some acknowledged and transferrable skills. Trochim and Donnelly (2007) finished their text on research methods with an idealized description of what the research or "evaluation culture" should entail. The authors asked for a culture that should be "interdisciplinary, truth-seeking, humble, and self-critical" (p. 360). The authors spoke to a strength in truth-seeking and an environment that "stresses accountability and scientific credibility" and protecting against those that "have given up on the ideas of truth and validity" (p. 360). There are many parallels between their idealized "evaluation culture" and a more vibrant and pragmatic educational administration culture (p. 360). If we practice evidence-based management with due humility and recognize it is but one of many powerful tools or epistemic approaches, the field itself can mature and better accomplish the goal of helping all students and staff prosper.

References

Adams, J. E., & Kirst, M. W. (1999). New demands and concepts for educational accountability: Striving for results in an era of excellence. In J. Murphy & K. Seashore Louis (Eds.), *Handbook of research on educational administration: A project of the American educational research association.* San Francisco, CA: Jossey-Bass.

Angrist, J. D., Parag, A. P., & Walters, C. R. (2013). Explaining charter school effectiveness. *American Economic Journal: Applied Economics, 5*(4), 1–27.

Arnold, W. J. (1964, June 6). Famous firsts: Discoveries from looking inward. *Business* Retrieved from https://www.bloomberg.com/business

Avolio, B. J., & Bass, B. M. (2004). *Multifactor leadership questionnaire. Manual and sampler set* (3rd ed.) Redwood City, CA: Mind Garden.

Babbage, C. (1832). *On the economy of machinery and manufactures* (1st ed.). New York, NY: Cambridge Press.

Barends, E., Villanueva, J., Rousseau, D. M., Briner, R. B., Jepsen, D. M., Houghton, E., & Have, S. T. (2017). Managerial attitudes and perceived barriers regarding evidence-based practice: An international survey. *Plos One, 12*. doi:10.1371/journal.pone.0184594

Baum, K., & Krulwich, D. (2016). *The artisan teaching model for instructional leadership: Working together to transform your school.* Alexandria, VA: ASCD.

Baumgartner, H., & Steenkamp, J. (2001). Response styles in marketing research: Across-national investigation. *Journal of Marketing Research, 38*(2), 143−156.

Baumgartner, H., & Steenkamp, J. (2005). Response tendencies in marketing research. In R. Grover & M. Vriens (Eds.), *The handbook of marketing research: Uses, misuses and future advances, 38,* (pp. 143−156). Thousand Oaks, CA: Sage.

Benchmark Your School. (n.d.) *World management survey*. Retrieved from https://worldmanagementsurvey.org/benchmark-your-organization/benchmark-your-school/

Bloom, N., Dorgan, S., Dowdy, J., Rippin, T., & Van Reenen, J. (2005a). *Management practices: The impact on company performance.* Retrieved from http://eprints.lse.ac.uk/4604/1/Management_Practices_the_Impact_on_Company_Performance.pdf

Bloom, N., Dorgan, S., Dowdy, J., Rippin, T., & Van Reenen, J. (2005b). *Management practices across firms and nations*. Retrieved from http://cep.lse.ac.uk/management/

Bloom, N., Dorgan, S., Dowdy, J., & Van Reenen, J. (2007, September). *Management practice and productivity: Why they matter.* Retrieved from http://operations-extranet.mckinsey.com

Bloom, N., Genakos, C., Sadun, R., & Van Reenen, J. (2012). Management practices across firms and countries. *Academy of Management Perspectives, 26*(1), 12–33.

Bloom, N., Lemos, R., Sadun, R., Scur, D., & Van Reenen, J. (2014) The new

empirical economics of management. *Journal of the European Economic Association, 12*(4), 835–876.

Bloom, N., Lemos, R., Sadun, R., & Van Reenen, J. (2012). *Management practices in education: Descriptive evidence.* Paper presented at American Economic Association annual meeting, Chicago, IL.

Bloom, N., Lemos, R., Sadun, R., & Van Reenen, J. (2015). Does management matter in schools? *Economic Journal, Royal Economic Society*, *0*(584), 647-674.

Bloom, N., Sadun, R., & Van Reenen, J. (2012). Does management really work? *Harvard Business Review, 90*(11).

Bloom, N., Sadun, R., & Van Reenen, J. (2016). *Management as a technology* ? (CEP Discussion Paper No. 1433). Retrieved from https://doi.org/10.1063/1.119260

Bloom, N., & Van Reenen, J. (2007). Measuring and explaining management practices across firms and countries. *The Quarterly Journal of Economics*, *122*(4), 1351-1408.

Bridges, E. (1982). Research on the school administrator: The state of the art, 1967-1980. *Educational Administration Quarterly*, *18*, 12-33. doi: 10.1177/0013161X82018003003

Briner, R. B., & Walshe, N. D. (2014). From passively received wisdom to actively constructed knowledge: Teaching systematic review skills as a foundation of evidence-based management. *Academy of Management, Learning and Education*, *13*, 415-432. Retrieved from https://doi.org/10.5465/amle.2013.0222

Brooks, J., & Miles, M T. (2008). From scientific management to social justice…and back again? Pedagogical shifts in the study and practice of educational leadership. In A. H. Normore (Ed.), *Leadership for social justice: Promoting equity and excellence through inquiry and reflective practice* (pp. 99-114). Charlotte, NC: Information Age Publishing.

Brooks, J. S., & Miles, M. (2006). Logic, history, use of. In F. W. English (Ed.), *Sage encyclopedia of educational leadership and administration* (pp. 623-625). Thousand Oaks, CA: Sage.

Burgess, D. (Ed.), & Newton, P. (Ed.). (2015). *Educational administration and leadership: Theoretical foundations*. New York, NY: Routledge. Campbell, R. F., Fleming, T., Newell, L. J., & Bennion, J. W. (1987). *A history of thought and practice in educational administration.* New York, NY: Teachers College Press.

Caramela, S. (2018, February 26). *The management theory of Frank and Lillian Gilbreath.* Retrieved from https://www.business.com/articles/management-theory-of-frank-and-lillian-gilbreth/

Childress, S., Elmore, R., & Grossman, A. (2005). *Promoting a management revolution in public education* (Working Paper, No. 06-004). Boston, MA: Harvard Business School.

Clapper, C. (1995). An otherist post structural perspective of the knowledge base in

educational administration. In R. Donmoyer, M. Imber, & J. J. Scheurich, (Eds.), *The knowledge base in educational administration: Multiple perspectives*. Albany, NY: State University of New York Press.

Culbertson, J. (1988). A century's quest for knowledge base. In N. J. Boyan (Ed.), *Handbook of research on educational administration* (pp. 3-26). New York, NY: Longman.

Culbertson, J. (1995). *Building bridges: UCEA's first two decades*. UCEA: University Park, PA. Deal, P., & Peterson, K. (1994). *The leadership paradox: Balancing logic and artistry in schools*. San Francisco, CA: Jossey-Bass.

Dobbie, W., & Roland, G. F. (2013). Getting beneath the veil of effective schools: Evidence from New York City. *American Economic Journal: Applied Economics 5*(4), 28-60.

Donmoyer, R. (1995). The continuing quest for a knowledge base: 1976-1998. In J. Murphy & K. Seashore Louis (Eds.), *Handbook of research on educational administration: A project of the American educational research association.* San Francisco, CA: Jossey-Bass.

Donmoyer, R., Imber, M., & Scheurich, J. J. (1995). *The knowledge base in educational administration: Multiple perspectives*. Albany, NY: State University of New York Press.

Dorgan, S., Dowdy, J., & Rippin, T. (2006). *The link between productivity and management.* Retrieved from http://www.ucipfg.com/Repositorio/MAP-

EN/Introduction%20to%20Management/Materials/The%20link%20between%20managers%20and%20productivity.pdf

Drucker, P. (1980). *Managing in turbulent times.* New York, NY: Harper Collins.

Drucker, P. F. (1974). *Management: Tasks, responsibilities, practices*. New York, NY: Harper & Row.

Eacott, S. (2011). Preparing 'educational' leaders in managerialist times: An Australian story. Journal of Educational Administration and History, *43*, 43-59. doi: 10.1080/00220620.2010.532865

Edwards, V. B. (Ed.). (2016). Called to account: New directions in school accountability: Quality counts. *Education Week, 35*(16). Retrieved from ERIC database (ED564139).

Elwell, F. (1996). *Verstehen: The sociology of Max Weber.* Retrieved from http://www.faculty.rsu.edu/~felwell/Theorists/Weber/Whome.htm

English, F.W. (2002). The point of the scientificity, the fall of the epistemological dominos, and the end of the field of educational administration. *Studies in Philosophy and Education, 21*(2), 109-136.

English, F.W. (2003). *The postmodern challenge to the theory and practice of educational administration*. Springfield, IL: Charles C. Thomas Publishers.

Erickson, D. A. (1967). The school administrator. *Review of Educational Research, 37*(4), 417–432.

Evers, C. W., & Lakomski, G. (1991). *Knowing educational administration: Contemporary methodological controversies in educational administration research*. Oxford, UK: Pergamon.

Evers, C. W., & Lakomski, G. (1993). Justifying educational administration. *Educational Management and Administration, 2*(3), 140-152.

Evers, C. W., & Lakomski, G. (2000). *Doing educational administration: A theory of administrative practice.* Oxford, UK: Pergamon.

Evers, C. W., & Lakomski, G. (2012). Science, systems, and theoretical alternatives in educational administration. *Journal of Educational Administration, 50*, 57-75. doi:10.1108/09578231211196069

Evers, C. W., & Lakomski, G. (2014). Naturalism and educational administration: New directions. *Educational Philosophy and Theory, 47*, 402-419. doi: 10.1080/00131857.2014.976932

Falah, W. M. (2015). The review of modern management theories. *International Research Journal of Business and Management, 8*(3), 54-57. Retrieved from http://irjbm.org/irjbm2013/feb2015/Paper7.pdf

Fayol, H. (1949). *General and industrial management*. London, England: Pitman.

Fernandez, S. (2005). Developing and testing an integrative framework of public sector leadership: Evidence from the public education arena. *Journal of Public Administration Research and Theory, 15*, 197−217.

Fernandez, S., Cho, Y. J., & Perry, J. L. (2010). Exploring the link between integrated leadership and public-sector performance. *The Leadership Quarterly, 21*, 308-323. doi:10.1016/j.leaqua.2010.01.009

Field, A. P. (2009). *Discovering statistics using SPSS.* London, England: SAGE.

Firestone, W. (2015). Loose coupling: The "condition" and its solutions? *Journal of Organizational Theory in Education, 1*(1). Retrieved from www.organizationaltheoryineducation.com

Flamholtz, E. G., Das, T. K., & Tsui, A. S. (1985). Toward an integrative framework of organizational control. *Accounting, Organizations and Society*, *10*(1), 35-50. Retrieved from https://EconPapers.repec.org/RePEc:eee:aosoci:v:10:y:1985:i:1:p:35-50

Foshay, A. (1991). The curriculum matrix: Transcendence and mathematics. *Journal of Curriculum and Supervision, 6*(4), 277-293.

Fullan, M. (2004). *Leadership and sustainability*. Address presented at Hot Seat, Urban Leadership Community in London, England. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.475.4622&rep=rep1&type=pdf

Fullan, M. (2005). *Leadership and sustainability*. Thousand Oaks, CA: Corwin Press.

Fullan, M. (2007). *The new meaning of educational change* (4th ed.). New York, NY: Teachers College Press.

Fullan, M. (2008). *What's worth fighting for in the principalship* (2nd ed.). New York, NY: Teachers College Press.

Gaetane, J-M., & Normore, A. (2009). Leadership for social justice: Preparing 21st century school leaders for a new social order. *Journal of Research on Leadership Education*, *4*. Retrieved from 10.1177/194277510900400102

Gatta, J. (n.d.). *Goal-setting for school improvement*. Retrieved from https://ecragroup.com/2017/08/08/goal-setting/

Goddard, J. (2003). Leadership in the (post)modern era. In N. Bennett & L. Anderson (Eds.), *British educational leadership, management and administration society: Rethinking educational leadership: Challenging the conventions* (pp. 11-26). doi: 10.4135/9781446216811.n2

Gough, D. (2010). Systematic research synthesis. In D. Gough, *Evidence based practice in education* (pp. 44-62). Maidenhead, UK: Open Univ. Press.

Gough, D. A., Oliver, S., & Thomas, J. (2017). *An introduction to systematic reviews*. Los Angeles, CA: SAGE.

Graham, P. (Ed.). (1995). *Mary Parker Follett prophet of management*. New York, NY: Beard Books.

Green, R. (2001). *Practicing the art of leadership: A problem-based approach to the ISLLC standards.* Upper Saddle River, NJ: Prentice-Hall.

Greenfield, T., & Ribbins, P. (1993). (Eds.). *Greenfield on educational administration: Towards a humane science*. London, England: Routledge.

Griffiths, D. (1995). Theoretical pluralism in the field of educational administration. In R. Donmoyer, M. Imber, & J. J. Scheurich (Eds.), *The knowledge base in educational administration: Multiple perspectives*. Albany, NY: State University of New York Press.

Griffiths, D. (1999). *Introduction*. In J. Murphy & P. Forsyth (Eds.), *Educational administration. A decade of reform* (pp. xi-xix). Newbury Park, CA: Corwin Press.

Guah, M. (2008). *Managing very large IT projects in businesses and organizations*. Hershey, PA: IGI Global.

Guyatt, G. (1992). Evidence-based medicine. *Jama, 268*, 2420. doi:10.1001/jama.1992.03490170092032

Hay, A., & Hodgkinson, M. (2006). Rethinking leadership: A way forward for teaching leadership? *Leadership & Organization Development Journal, 27*, 144-158. doi:10.1108/01437730610646642

Hess, F. M. (2008-2009). The new stupid. *Educational Leadership, 66*(4),12-17.

Hess, F. M. (2018, January 14). *New over-reliance on data?* [Interview]. Retrieved from http://www.aei.org/publication/new-over-reliance-on-data/

Hess, F. M., & Kelly, A. P. (2005). Textbook leadership? An analysis of leading books used in principal preparation. PEPG 05-03. Practice: An international survey. *Plos One, 12*(10).

Hess, F. M., & Kelly, A. P. (2007). Learning to lead: What gets taught in principal-preparation programs. *Teachers College Record, 109*(1), 244-274.

Hodgkinson, C. (1991). *Educational leadership: The moral art*. Albany, NY: State University of New York Press.

Holt, M. I. (1993). The educational consequences of W. Edwards Deming. *Phi Delta Kappan*, *74,* 382-388.

Hoy, W., & C. Miskel, C. (1996). *Educational administration: Theory, research, and practice*. New York, NY: Random House.

Hoy, W. K. (1996). Science and theory in the practice of educational administration: A pragmatic perspective. *Educational Administration Quarterly, 32,* 366-378.

Hovey, D., & Boser, U. (n.d.). *Return on investment in education*. Retrieved from https://www.erstrategies.org/tap/return_on_investment_in_education

International Organization for Standardization 2100. (2018). *Educational organizations management systems for educational organizations — Requirements with guidance for use.* Retrieved from https://www.iso.org/standard/66266.html

Isaac, C. A., & Franceschi, A. (2008). EBM: Evidence to practice and practice to evidence. *Journal of Evaluation in Clinical Practice*, *14*(5), 656-9.

Jogulu, U. D., & Pansiri, J. (2011). Mixed methods: A research design for management doctoral dissertations. *Management Research Review,34*, 687-701. doi:10.1108/01409171111136211

Jones, G. (2016). *Evidence-based management: The basic principles*. Amsterdam, The Netherlands: Centre for Evidence-Based Management.

Jones, G. (2018). *Evidence-based school leadership and management: A practical guide*. Los Angeles, CA: SAGE.

Kanigel, R. (1997). *The one best way: Frederick Winslow Taylor and the enigma of efficiency*. New York, NY: Penguin Group.

Khandkar, S. (2014). *Management is an art and a science*. Retrieved from: http://www.publishyourarticles.net/knowledge-hub/business-studies/management-is-an-art-as-well-as-science.html

Kitson, A., Harvey, G., & McCormack, B. (1998). Enabling the implementation of evidence-based practice: A conceptual framework. *Quality in Health Care: QHC*, *7*(3), 49-58.

Knezevich, S. J. (1974). *Administration of public education exploration series in education*. New York, NY: Harper Collins.

Koontz, H. (1961). The management theory jungle. *The Journal of the Academy of Management, 4*(3), 174-188.

Kowalski, T. J. (2004). The ongoing war for the soul of school administration. In T. J. Lasley (Ed.), *Better leaders for America's schools: Perspectives on the manifesto* (pp. 92-114). Columbia, MO: University Council for Educational Administration.

Kowalski, T. J. (2009). Need to address evidence-based practice in educational administration. *Educational Administration Quarterly, 45*, 351-374. doi:10.1177/0013161X09333623

Kowalski, T. J., Place, A., Edmister, J., & Zigler, T. (2009). Need for practice-based research in school administration. *Mid-Western Educational Researcher, 22*(4), 2-8.

Kroeze, R., & Keulen, S. (2014). The managers' moment in western politics: The popularization of management and its effects in the 1980s and 1990s. *Management & Organizational History, 9*, 394-413. doi: 10.1080/17449359.2014.989235

Lakatos, I., Motterlini, M., & Feyerabend, P. K. (1999). *For and against method: Including Lakatos's lectures on scientific method and the Lakatos-Feyerabend correspondence*. Chicago, IL: University of Chicago Press.

Leedy, B. (2018). *The hard work of changing public perception*. Retrieved from https://www.schoolwebmasters.com/Blog_Articles?entityid=372216

Lemos, R., & Scur, D. (2016). *Developing management: An expanded evaluation tool for developing countries*. Manuscript in preparation, 16/007, Oxford, England: RISE.

Littrell, J., & Foster, W. (1995). The myth of a knowledge base in educational administration. In R. Donmoyer, M. Imber, & J. Scheurich (Eds.), *The knowledge base in educational administration* (pp. 32-46). New York, NY: SUNY Press

Lunenburg, F. C. (2011). Leadership versus management: A key distinction - At least in theory. *International Journal of Management, Business, and Administration, (14)*1, 103-107.

Mangham, I. L., & Pye, A. (1991). *The doing of managing*. Oxford, England: Blackwell Business.

Mayer, J. P. (1943). *Max Weber and German politics*. London, England: Faber & Faber.

McNulty, R. J. (n.d.). *Best practices to next practices: A new way of " doing business " for school transformation*. Retrieved from http://leadered.com/pdf/Best_Practices_to_Next_Practices_2014.pdf

Mendels, P. (Ed.). (2016). *Improving university principal preparation programs: Five themes from the field.* Retrieved from https://www.wallacefoundation.org/knowledge-center/pages/improving-university- principal-preparation programs.aspxdoi:10.1371/journal.pone.0184594

Murphy, J. (1999). *The quest for a center: Notes on the state of the profession of educational leadership.* Paper presented at session 13.53, AERA 1999, Montreal, Canada.

Murphy, J. (2002). Reculturing the profession of educational leadership: New blueprints. *Educational Administration Quarterly, 38*, 176-191.

Murphy, J. (2005). The knowledge base in school administration: Historical footings and emerging trends. In R. Donmoyer , M. Imber, & J. J. Scheurich (Eds.), *The knowledge base in educational administration: Multiple perspectives* (pp. 62-73). Albany, NY : State University of New York Press.

Murphy, J., & Seashore Louis, K. (Eds.). (1999). *Handbook of research on educational administration: A project of the American educational research association*. San Francisco, CA: Jossey-Bass.

National Policy Board for Educational Administration (2015). *Professional standards for educational leaders 2015*. Reston, VA: Author.

Newlon, J. H. (1934). *Educational administration as social policy*. San Francisco, CA: Charles Scribner & Sons.

No Child Left Behind Act of 2001, P.L. 107-110, 20 U.S.C. § 6319 (2002).

Nonaka, I., Takeuchi, H. (1995). *The knowledge-creating company. How Japanese companies create the dynamics of innovation.* Oxford, England: Oxford University Press.

Northouse, P. G. (2004). *Leadership: Theory and practice*. Thousand Oaks, CA: Sage.

Nutley, S., Walter, I., & Davies, H. T. (2003). From knowing to doing. *Evaluation, 9*, 125-148. doi:10.1177/1356389003009002002

Olum, Y. (2004, July 12). *Modern management theory and practices*. Lecture presented at the 15th East African Central Banking Course. Kenya School of Monetary Studies, Nairobi, Kenya.

Page, A. (Ed.). (2004). *Keeping patients safe: Transforming the work environment of nurses*. Washington, DC: National Academies Press. Available from https://www.ncbi.nlm.nih.gov/books/NBK216194/

Patterson, K., & Winston, B. E. (2006). An integrative definition of leadership. *International Journal of Leadership Studies,1*(2), 6-66. Retrieved from https://www.regent.edu/acad/global/publications/ijls/new/vol1iss2/winston_patterson.doc/winston_patterson.pdf.

Peck, C., & Reitzug, U. C. (2012). *How existing business management concepts become school leadership fashions*. *Educational Administration Quarterly 48*(2), 347–381.

Pennsylvania School Performance Profile. (n.d.). *Understanding closing the achievement gap*. Retrieved from: https://1.cdn.edl.io/QlqNsYHlxHzi0JCrNrFJLGVLAYXbzwHauCwS9fRoBa9QCXuz.pdf

Petticrew, M., & Roberts, H. (2006). *Systematic reviews in the social sciences*. Malden, MA: Blackwell Publishing.

Pfeffer, J., & Sutton, R. I. (2000). The *knowing-doing gap.* Brighton, MA: Harvard Business School Press.

Pfeffer, J., & Sutton, R. I. (2006). *Evidence-based management*. Retrieved from https://hbr.org/2006/01/evidence-based-management

Pitre, P., & Smith, W. (2004, October 19). ISLLC standards and school leadership: Who's Leading this band? *TC Record.* Retrieved from: http://www.tcrecord.org/PrintContent.asp?ContentID=11382

Polikoff, M. S., McEachin, A. J., Wrabel, S. L., & Duque, M. (2014). The waive of the future? School accountability in the waiver era. *Educational Researcher, 43*, 45-54. doi:10.3102/0013189x13517137

Prasad, L., & Gulshan, S. S. (2011). *Management principles and practices*. New Delhi, India: Excel Books.

Professional Capital Online Survey. (n.d.). Retrieved from https://michaelfullan.ca/professional- capital-online-survey/

Public Education Leadership Project. (n.d.). Retrieved from https://pelp.fas.harvard.edu/

Pugh, D. S. (1971). *Organization theory: Selected readings*. London, England: Penguin.

Pulliam, J. D., & Van, P. J. J. (1995). *History of education in America*. Englewood Cliffs, NJ: Prentice Hall.

Questionnaire design. (n.d.). Retrieved from https://www.pewresearch.org/methods/u-s-survey-research/questionnaire-design/

Raynor, A. (2013). *Individual schools, unique solutions: Tailoring approaches to school leadership*. Retrieved from https://books.google.com/books?id=31-0ebYm0ycC

Rifkin, J. (1997). *The one best way: Frederick Winslow Taylor and the enigma of efficiency*. [Review of the book]. Retrieved from http://www.robertkanigel.com/index.htm

Rousseau, D. M. (2005). Is there such a thing as evidence-based management*? Academy of Management Review*, *31*, 256-269.

Rousseau, D. M. (2014). Envisioning evidence-based management. In *The Oxford handbook of evidence-based management* (pp. 19-85). New York, NY: Oxford University Press.

Rusch, E. A. (1991). *The social construction of leadership: From theory to praxis.* Columbus, OH: Merrill.

Scheurich, J. J. (1995). The knowledge base in educational administration: Postpositivist reflections. In Donmoyer, R., Imber, M., & Scheurich, J. J. (Eds.), *The knowledge base in educational administration: Multiple perspectives*. Albany, NY: State University of New York Press.

Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. New York, NY: Doubleday/Currency.

Shakeshaft, C. (1987). *Women in educational administration*. Newbury Park, CA: Sage.

Shakeshaft, C. (1999). The struggle to create a more gender inclusive profession. In J. Murphy & K. S. Louis (Eds.), *Handbook of research on educational administration* (pp. 99-118). San Francisco, CA: Jossey-Bass.

Slavin, R. E. (2002). Evidence-based education policies: Transforming educational practice and research. *Educational Researcher, 31*(7), 15–21.

Slavin, R. E. (2003). Education research can and must address "what works" questions. *Educational Researcher, 33*(1), 27–28.

Sludden, J., Westmass, L., Beaver, J., & Schott, A. (2015). *Pennsylvania's school performance profile: Not the sum of its parts. Research for action*. Retrieved from https://www.researchforaction.org/publications/pennsylvanias-school-performance profile-not-the-sum-of-its-parts/

Spencer, M. E. (1970). Weber on legitimate norms and authority. *The British Journal of Sociology, 21*(2), 123-134.

Taylor. F. (2014). *Boundless business*. Retrieved from https://www.boundless.com/business/textbooks/boundless-business-textbook/motivation-theories-and-applications-11/management-and-motivation-74/frederick-taylor-353-1721/

Taylor, F. W. (1917). *The principles of scientific management*. New York, NY: Harper.

Tellis, G. J., & Chandrasekaran, D. (2010). Extent and impact of response biases in cross-national survey research. *Intern. J. of Research in Marketing*. doi:10.1016/j.ijresmar.2010.08.003

Texas A & M University, Corpus Christi. (n.d.). *Educational leadership, EdD*. Retrieved from http://gradcollege.tamucc.edu/degrees/education/ed_leadership.html

The Carnegie Project on the Education Doctorate. (n.d.). Retrieved from https://www.cpedinitiative.org/page/framework

Theoharis, G. (2007). Social justice educational leaders and resistance: Toward a theory of social justice leadership. *Educational Administration Quarterly, 43*, 221-258. doi:10.1177/0013161x06293717

Thomas, G., & Pring, R. (2010). Conclusion: Evidence-based policy and practice. *In Evidence-based practice in education*. Maidenhead, UK: Open Univ. Press.

Toor, S., & Ofori, G. (2008). Leadership versus management: How they are different, and why. *Leadership and Management in Engineering, 8*, 61-71. doi:10.1061/(asce)1532-6748(2008)8:2(61)

Towne, H. R. (1886). Engineer as economist. *Transactions of the American Society of Mechanical Engineers, 7*(1886), 425ff.

Trochim, W. M. K., & Donnelly, J. P. (2007). *Research methods knowledge base*. Mason, OH: Thomson Custom Pub.

Uman, L. S. (2011). Systematic reviews and meta-analyses. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, *20*(1), 57–59.

University Council for Educational Administration. (1987). *Leaders for America's schools: The report of the national commission on excellence in educational administration*. Tempe, AZ: Author.

Weber, M. (1909). *Gesammelte augsaetze zur soziologie und sozialpolitik*. Speech presented at The Association for Social Policy, Vienna, Austria.

Weber, M. (1947). *Max Weber: The theory of social and economic organization* (A. M. Henderson & T. Parsons, Trans.). New York, NY: The Free Press.

Weinrich, H. (1997). Management: Science, theory, and practice. In R. H. Thayer (Ed.), *Software engineering project management* (2nd ed.). Los Alamitos, CA: IEEE Computer Society Press.

Willower, D. J. (1998). Fighting the fog: A criticism of postmodernism. *Journal of School Leadership, 8,* 448-463.

Wong, K., & Nicotera, A. (2007). *Successful schools and educational accountability*. Boston, MA: Pearson.

Wren, D., & Bedeian, A. (2009). The emergence of management process and organizational theory. In *Evolution of management thought* (6th ed., pp. 227). Hoboken, NJ: John Wiley & Sons.

Zaleznik, R. (1992). Managers and leaders - Are they different? *Harvard Business Review, March-April,* 1-13.

APPENDIX A

Adapted World Management- Education Instrument Survey

I am conducting a study to investigate the use of evidence-based management skills in public schools. In this study, you will be asked to answer questions regarding the use of evidence-based management in your school, in regard to both you as an administrator and in your school in general. I will also need to collect information to describe you such as your position (principal or assistant principal), tenure in position and district, degree attainment, and span of management.

You will be asked to participate in a survey that will take approximately 10 to 15 minutes to complete that asks about four subsets of evidence-based management. The survey is distributed and collected via Survey Monkey. Participants are also asked to engage in open-ended questions that further illuminate the autonomy and accountability aspects of your leadership experience. There is no potential harm to those surveyed as the exploratory research data will be kept confidential.

The potential benefits to you from being in this study are varied and provide conceivably both short and long term assistance. The survey is derived from the World Management Survey, Education instrument, a research based derivative of the World Management survey. This is an established tool used to examine management usage in several industries and public sector organizations. The initial survey is imitative of the World Management Survey website "Benchmark your School" instrument. If you simply record your answers and fill them into the online survey, you will obtain a report bench marking your management practices with like school systems. By simply participating in the survey, you will be exposed to what the established instrument promulgates as evidence-based management best practice for school systems.

Your privacy is important, and I will handle all information collected about you in a confidential manner. I will report the results of the project in a way that will not identify you. I do plan to present the results of the study as a published dissertation and potentially in organizationally affiliated journals/periodicals.

You do not have to be in this study. If you don't want to, please do not complete the survey. If you do agree, you can stop participating at any time. If you wish to withdraw just tell me or the contact person listed below.

If you have questions about this research project please contact Mr. Michael Leitera at XXX or Dr. Karen Larwin at XXX. If you have questions about your rights as a participant in a research project, you may contact the Office of Grants and Sponsored Programs at YSU (330-941-2377) or at YSUIRB@ysu.edu.

1. Position:

2. College degree(s)/instructional certificate(s)

3. Tenure in Post:

4. Tenure in School District:

5. Gender:

Operations Management

Operations Management is all about how effectively modern management techniques have been introduced in your company: why were these modern processes introduced, for how long have these practices been in place, how are other departments of the company, outside your own, involved in implementing these processes?

6. How structured or standardized are the instructional planning processes across the school?

O No clear or institutionalized instructional planning processes or protocols exist; little verification or follow-up is done to ensure consistency across classrooms.

O Between 1 and 3

O School has defined instructional planning processes or protocols to support instructional strategies and materials and incorporate some flexibility to meet students needs; monitoring is only adequate.

O Between 3 and 5

O School has implemented a clearly defined instructional planning process designed to align instructional strategies and materials with learning expectations and incorporate flexibility to meet student needs; these are followed up on through comprehensive monitoring or oversight.

7. How do you ensure that teachers are effective in personalizing instruction in each classroom across the school and that students are engaged in their own learning?

O Teachers lead learning with very low involvement of students; there is little or no identification of diverse student needs.

O Between 1 and 3

O School has defined instructional planning processes or protocols to support instructional strategies and materials and incorporate some flexibility to meet students' needs; monitoring is only adequate.

O Between 3 and 5

O Emphasis is placed on personalization of instruction based on student needs; school encourages student involvement and participation in classrooms; school provides information to and connects students and parents with sufficient resources to support student learning.

Performance Monitoring

Performance Monitoring is all about how well your performance monitoring system informs your and your employees' day-to-day operations: how processes and

attitudes are screened, how meaningful are your metrics in relation to how frequently they measured and reviewed, to what degree the detection of different levels of process-based performance leads to adequate and consequential process

8. How are data used to inform planning and strategies, especially in regard to student transitions through grades/levels?

   O School may be aware of critical transitions for students, but little or no effort is made to match support services to students; data are often unavailable or difficult to use.

   O Between 1 and 3

   O School may understand the critical transitions points for students, although these are not identified in a consistent manner; some data are available, although not necessarily in an integrated or easy to use manner.

   O Between 3 and 5

   O Student transitions are managed in an integrated and proactive manner, supported by formative assessments tightly linked to learning expectations; data are widely available and easy to use.

9. How does the school encourage incorporating new teaching practices into the classroom and how are these shared across teachers?

   O Minimal school-wide understanding or monitoring of improved practices or learnings.

   O Between l and 3

   O Teachers may often collaborate to share learning or 'best practice' techniques; there is insufficient monitoring or implementation of these 'best practices' into the classroom.

   O Between 3 and 5

   O ID School provides staff with opportunities to collaborate and share best practice techniques and learning with multiple methods to support their monitored implementation in the classroom.

10. When problems (e.g., within school or teaching tactics) do occur, how do they typically get exposed and fixed?

   O Exposing and solving problems (for the school, individual students, teachers, and staff) is unstructured; no process improvements are made when problems occur, or there is only one staff group involved in determining the solution.

O Between 1 and 3

O Exposing and solving problems (for the school, individual students, teachers, and staff) is approached in an ad hoc way; resolution of the problems involves most of the appropriate staff groups.

O Between 3 and 5

O Exposing and solving problems (for the school, individual students, teachers, and staff) in a structured way is integral to individual's responsibilities, and resolution involves all appropriate individuals and staff groups; resolution of problems is performed as part of regular management processes.

11. What kind of main indicators do you use to track school performance?

O Measures tracked do not indicate directly if overall objectives are being met (only government targets are tracked); tracking is an ad hoc process (certain processes are not tracked at all).

O Between 1 and 3

O Most performance indicators are tracked formally: tracking is overseen by the school leadership only.

O Between 3 and 5

O Performance is continuously tracked and communicated, both formally and informally, to all staff using a range of visual management tools.

12. How often do you review school performance --formally or informally-- with teachers and staff?

O Performance is reviewed infrequently or in an un-meaningful way (e.g., only success or failure is noted).

O Between 1 and 3

O Performance is reviewed periodically with successes and failures identified: results are only communicated to senior staff IU members (e.g., department heads): no clear follow up/ action plan is adopted.

O Between 3 and 5

O Performance is continually reviewed, based on indicators; all aspects are followed up to ensure continuous improvement: results are communicated to all staff.

Target Setting

Target Setting is all about how tightly your targets are linked to the company's wider objectives: are your targets covering a sufficiently broad set of metrics, how strongly are your short and long term targets connected, how well are they cascaded down and clarified to your workers?

13. How are these review meetings structured?

- O The right data or information for a constructive discussion are often not present or conversations overly focus on data that are not meaningful: clear agenda is not known, and purpose is not stated explicitly.
- O Between 1 and 3
- O Review conversations are held with appropriate data and information present: objectives of meetings are clear to all participating and a clear agenda is present; conversations do not, as a matter of course, drive to the root cause of the problems.
- O Between 3 and 5
- O Regular review/ performance conversations focus on problem solving and addressing root causes; purpose, agenda and follow-up steps are clear to all: meetings are an opportunity for constructive feedback and coaching.

14. What would happen if a follow up plan agreed during one of your meetings were not enacted?

    O Failure to achieve agreed objectives does not carry any consequences.

    O Between 1 and 3

    O Failure to achieve agreed results is tolerated for a period before action is taken.

    O Between 3 and 5

    O A failure to achieve agreed targets drives retraining in identified areas of weakness, moving individuals to where their skills are more appropriate.

15. What types of targets are set for the school to improve student outcomes?

    O Performance metrics and targets are very loosely defined or not defined at all; if they exist, they are absolute measures of student outcomes (e.g., only include government and/or school district stipulated targets).

    O Between 1 and 3

    O Performance metrics and targets are defined for the school and individuals (leaders, teachers, staff) in terms of absolute measures of student outcomes, which may include both government targets and schools internal targets.

    O Between 3 and 5

    O Performance metrics and targets are defined for the school and individuals (leaders, teachers, staff) that include both absolute and value-added measures of student outcomes and other metrics linked to key drivers of student outcomes.

16. What is the motivation behind these goats and how are they cascaded down to the different staff groups or to individual staff members?

    O Goals do not cascade down the throughout the school or school system.

    O Between 1 and 3

    O Goals do cascade but only to some staff and/ or departmental heads.

    O Between 3 and 5

    O Goals are aligned and linked at system level and increase in specificity as they cascade, ultimately defining individual expectations for all staff groups.

17. What kind of time scale are you looking at with your targets? Are your goals set independently of each other?

    O The school principal’s or headmaster's main focus is on short-term targets

    O Between 1 and 3

    O There are short and long-term goals for all levels of the school system; as they are set independently, they are not necessarily linked to each other.

    O Between 3 and 5

    O Long-term goals are translated into specific short-term targets so that short-term

targets become a 'staircase to reach long-term goals.

Talent Management

Talent Management is all about how you manage your people: to what degree is people management emphasized within your company, how careful are your hiring policies, how closely are pay and promotions linked to the ability and effort of your employees, how do you deal with under-performers, and how do you retain your best-performers?

18. How tough are your targets? Do you feel pushed by them?

O Goals are either too easy or impossible to achieve; at least in part because they are set with little teachers' involvement.

O Between land 3

O In most areas, school leaders pushes for aggressive goals based on external benchmarks, but with little buy-in from teachers; there are a few "sacred cows" that are not held to the same rigorous standard.

O Between 3 and 5

O Goals are genuinely demanding for all parts of the organization and developed in consultation with senior staff (e.g., to adjust external benchmarks appropriately).

19. If your staff were asked about individual targets, what would they say?

O Performance measures are complex and not clearly understood; school performance data are not made public unless mandated.

O Between I and 3

O Performance measures are well defined and communicated; school performance data are purely quantitative but goes beyond government requirements and is made public.

O Between 3 and 5

O Performance measures are well defined, strongly communicated and reinforced at all reviews; school performance data include both quantitative and qualitative measures and are made public.

20. How does your evaluation system work?

O People are rewarded in the same way irrespective of performance level.

O Between 1 and 3

O There is an evaluation system which awards good performance; the system may include individual financial and non-financial awards, but these are always or never awarded.

O Between 3 and 5

O There is an evaluation system which rewards individuals based on performance; the

system includes both personal financial and non-financial awards; rewards are awarded as a consequence of well-defined and monitored individual achievements.

21. If you had a teacher who could or would not do his/her job what would the school do?

O Poor performance is not addressed or inconsistently addressed; poor performers are rarely removed from their positions.

O Between 1 and 3

O Poor performance is addressed, but typically through a limited range of methods (e.g., coaching); the process of terminating an employee often takes more than a year to complete and is therefore infrequent, even under conditions of repeated poor performance.

O Between 3 and 5

O Repeated poor performance is addressed, beginning with targeted interventions; poor performers are moved out of the school when weaknesses cannot be overcome.

22. How would you identify and develop your star performers?

O Staff members are promoted primarily upon the basis of tenure (e.g., years of service).

O Between 1 and 3

O Staff members are promoted upon the basis of performance; school provides career opportunities but usually based on nonperformance related factors.

O Between 3 and 5

O School actively identifies, develops, and promotes its top performing staff members.

23. How do school leaders show that attracting talented individuals and developing their skills are top priorities?

O The school has very limited or no control over the number and types of teachers, staff, and leadership needed to meet goals.

O Between 1 and 3

O The school re-actively controls the number and types of teachers, staff, and leadership needed to meet goals; school may define hiring criteria and processes, but they are not linked with key drivers of student outcomes.

O Between 3 and 5

O School proactively controls the number and types of teachers, staff, and leadership needed to meet goals; school defines hiring criteria and processes based on understanding of what drives student achievement.

24. If you had a top performing teacher who wanted to leave, what would the school do?

O We do little to try and keep our top talent.

O Between 1 and 3

O We usually work hard to keep our top talent.

O Between 3 and 5

O We do whatever it takes to retain our talent.

25. What makes it distinctive to work at your school as opposed to other similar schools?

O Other schools offer stronger reasons for talented people to join.

O Between 1 and 3

O Our value proposition to those joining our school is comparable to those offered by other schools.

O Between 3 and 5

O We provide a unique value proposition to encourage talented people join our school above our competitors.

26. How many students are in the school?

27. How many people (including professional and non-professional staff) work at the school?

28. Number of levels (i.e., managerial levels) between your position and the teachers?

29. Is the district a charter school?

O Yes

O No

30. How many people report directly to your position?

31. Percent of teachers that are union members

32. Average classroom teaching hours per week by teachers (if negotiated into the union agreement, please use that number)

33. Percent of teachers whose pay is set by union negotiations

34. Percent of teachers who have left in the past 12 months

Ignoring yourself, how well managed do you think the rest of the school is on a scale: 1 to 10, where 1 is the worst practice, 10 is the best practice, and 5 is average. Please rate each management category on the scales below.

35. Overall management

36. Operations (teaching practices/student transitions)

37. Talent (people, promotions, incentives)

Open-ended questions

Would you be willing to perform a brief 10 to 15 minute interview regarding leadership and target-setting management practices in your school?

38. Leadership Vision

Regarding the school's vision for the next five years, do teachers and staff know and understand the vision?

39. Clearly Defined Targets: Accountability for school leaders

How are individual school leaders held responsible for the delivery of targets, fiscal, and student achievement?

40. Clearly defined management and teacher roles

How are school leaders' and teachers' roles and responsibilities of the school leaders defined and are they linked to student performance?

APPENDIX B
World Management Survey – Education Survey Instrument

2009 Education Survey Instrument

Interview Details	School and Manager's Information
School ID: _____ School Name: _____ Interviewer Name: _____ Date (DD/MM/YY): _____ Time (24 hour clock): _____ Running interview ☐ Listening to interview ☐	a) Position: _____ b) Specialty: English ☐ Maths ☐ Reading ☐ Science ☐ Social Studies ☐ None ☐ Other ☐ c) If "Other", what is his/her specialty? _____ d) Tenure in post (*number of years*): _____ e) Tenure in school (*number of years*): _____ f) How old is your school (*number of years*)? _____ g) Country: _____ h) Region: _____ i) Number of other secondary schools within 30 minutes drive: _____

Management Questions*

1) Standardisation of Instructional Processes *Tests how well materials and practices are standardised and aligned in order to be capable of moving students through learning pathways over time* Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	a) How structured or standardised are the instructional planning processes across the school? b) What tools and resources are provided to teachers (e.g. standards-based lesson plans and textbooks) to ensure consistent level of quality in delivery across classrooms? c) What are the expectations for the use of these resources and techniques? d) How does the school leader monitor and ensure consistency in quality across classrooms?		
	Score 1: No clear or institutionalized instructional planning processes or protocols exist; little verification or follow-up is done to ensure consistency across classrooms	Score 3: School has defined instructional planning processes or protocols to support instructional strategies and materials and incorporate some flexibility to meet students needs; monitoring is only adequate	Score 5: School has implemented a clearly defined instructional planning process designed to align instructional strategies and materials with learning expectations and incorporate flexibility to meet student needs; these are followed up on through comprehensive monitoring or oversight

2) Personalization of Instruction and Learning *Tests for flexibility in teaching methods and student involvement ensuring all individuals can master the learning objectives* Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	a) How much does the school attempt to identify individual student needs? How are these needs accommodated for within the classroom? b) How do you as a school leader ensure that teachers are effective in personalising instruction in each classroom across the school? c) What about students, how does the school ensure they are engaged in their own learning? How are parents incorporated in this process?		
	Score 1: Teachers lead learning with very low involvement of students; there is little or no identification of diverse student needs	Score 3: Teachers lead students through learning with students having some influence over their own learning	Score 5: Emphasis is placed on personalization of instruction based on student needs; school encourages student involvement and participation in classrooms; school provides information to and connects students and parents with sufficient resources to support student learning
3) Data-Driven Planning and Student Transitions *Tests if the school uses assessment to verify learning outcomes at critical stages, make data easily available and adapt student strategies accordingly* Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	a) Is data used to inform planning and strategies? If so how is it used – especially in regards to student transitions through grades/ levels? b) What drove the move towards more data-driven planning/ tracking?		
	Score 1: School may be aware of critical transitions for students, but little or no effort is made to match support services to students; data is often unavailable or difficult to use	Score 3: School may understand the critical transitions points for students, although these are not identified in a consistent manner; some data is available, although not necessarily in an integrated or easy to use manner	Score 5: Student transitions are managed in an integrated and proactive manner, supported by formative assessments tightly linked to learning expectations; data is widely available and easy to use
4) Adopting Educational Best Practices *Tests how well the school incorporates teaching best practices and the sharing of these resources into the classroom* Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	a) How does the school encourage incorporating new teaching practices into the classroom? b) How are these learning or new teaching practices shared across teachers? What about across grades or subjects? How does sharing happen across schools (community, state-wide etc), if at all? c) How does the school ensure that teachers are utilising these new practices in the classroom? How often does this happen?		
	Score 1: Minimal school-wide understanding or monitoring of improved practices or learnings	Score 3: Teachers may often collaborate to share learnings or 'best practice' techniques; there is insufficient monitoring or implementation of these 'best practices' into the classroom	Score 5: School provides staff with opportunities to collaborate and share best practice techniques and learnings with multiple methods to support their monitored implementation in the classroom

5) Continuous Improvement *Tests attitudes towards continuous improvement* Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	a) When problems (e.g. within school/ teaching tactics/ etc.) do occur, how do they typically get exposed and fixed? b) Can you talk me through the process for a recent problem that you faced? c) Who within the school gets involved in changing or improving process? How do the different staff groups get involved in this? d) Does the staff ever suggest process improvements?		
	Score 1: Exposing and solving problems (for the school, individual students, teachers, and staff) is unstructured; no process improvements are made when problems occur, or there is only one staff group involved in determining the solution	Score 3: Exposing and solving problems (for the school, individual students, teachers, and staff) is approached in an ad-hoc way; resolution of the problems involves most of the appropriate staff groups	Score 5: Exposing and solving problems (for the school, individual students, teachers, and staff) in a structured way is integral to individual's responsibilities, and resolution involves all appropriate individuals and staff groups; resolution of problems is performed as part of regular management processes
6) Performance Tracking *Tests whether school performance is measured with the right methods and frequency* Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	a) What kind of main indicators do you use to track school performance? What sources of information are used to inform this tracking? b) How frequently are these measured? Who gets to see this performance data? c) If I were to walk through your school, how could I tell how it was doing against these main indicators?		
	Score 1: Measures tracked do not indicate directly if overall objectives are being met; tracking is an ad-hoc process (certain processes are not tracked at all)	Score 3: Most performance indicators are tracked formally; tracking is overseen by the school leadership only	Score 5: Performance is continuously tracked and communicated, both formally and informally, to all staff using a range of visual management tools
7) Performance Review *Tests whether performance is reviewed with appropriate frequency and follow-up* Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	a) How often do you review (school) performance --formally or informally-- with teachers and staff? b) Could you walk me through the steps you go through in a process review? c) Who is involved in these meetings? Who gets to see the results of this review? d) What sort of follow-up plan would you leave these meetings with? Is there an individual performance plan?		
	Score 1: Performance is reviewed infrequently or in an un-meaningful way (e.g. only success or failure is noted)	Score 3: Performance is reviewed periodically with successes and failures identified; results are only communicated to senior staff members (e.g. department heads); no clear follow up/ action plan is adopted	Score 5: Performance is continually reviewed, based on indicators; all aspects are followed up to ensure continuous improvement; results are communicated to all staff
8) Performance Dialogue *Tests the quality of review conversations*	a) How are these review meetings structured? b) Do you generally feel that you do have enough data for a fact-based review? c) What type of feedback occurs during these meetings?		

2009 Education Survey Instrument			
Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	Score 1: The right data or information for a constructive discussion is often not present or conversations overly focus on data that is not meaningful; clear agenda is not known and purpose is not stated explicitly	Score 3: Review conversations are held with appropriate data and information present; objectives of meetings are clear to all participating and a clear agenda is present; conversations do not, as a matter of course, drive to the root cause of the problems	Score 5: Regular review/ performance conversations focus on problem solving and addressing root causes; purpose, agenda and follow-up steps are clear to all; meetings are an opportunity for constructive feedback and coaching
9) Consequence Management *Tests whether differing levels of school performance (NOT only individual teacher performance) lead to different consequences*	a) Let's say you've agreed to a follow-up plan at one of your meetings, what would happen if the plan was not enacted? b) How long does it typically go between when a problem is identified to when it is solved? Can you give me a recent example? c) How do you deal with repeated failures in a specific department or area of process?		
Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	Score 1: Failure to achieve agreed objectives does not carry any consequences	Score 3: Failure to achieve agreed results is tolerated for a period before action is taken	Score 5: A failure to achieve agreed targets drives retraining in identified areas of weakness, moving individuals to where their skills are more appropriate
10) Target Balance *Tests whether the system tracks meaningful targets tied to student outcomes*	a) What types of targets are set for the school to improve student outcomes? Which staff levels are held accountable to achieve these stated goals? b) How much are these targets determined by external factors? Can you tell me about goals that are not externally set for the school (e.g. by the government or regulators)?		
Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	Score 1: Performance metrics and targets are very loosely defined or not defined at all; if they exist, they are absolute measures of student outcomes (e.g. only include government/ school district stipulated targets)	Score 3: Performance metrics and targets are defined for the school and individuals (leaders, teachers, staff) in terms of absolute measures of student outcomes, which may include both government targets and schools internal targets	Score 5: Performance metrics and targets are defined for the school and individuals (leaders, teachers, staff) that include both absolute and value-added measures of student outcomes and other metrics linked to key drivers of student outcomes
11) Target Inter-Connection *Tests whether the school and individual targets are aligned with each other and the overall system goals*	a) How are these goals cascaded down to the different staff groups or to individual staff members? b) How are your targets linked to the overall school-system performance and its goals?		
Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	Score 1: Goals do not cascade down the throughout the school or school system	Score 3: Goals do cascade, but only to some staff and/ or departmental heads	Score 5: Goals are aligned and linked at system level and increase in specificity as they cascade, ultimately defining individual expectations for all staff groups

12) Time Horizon of Targets *Tests whether the school has a rational approach to planning and setting targets* Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	a) What kind of time scale are you looking at with your targets? b) Which goals receive the most emphasis? c) Are the long-term and short-term goals set independently? d) Could you meet all your short-run goals but miss your long-run goals?		
	Score 1: The principal's (schools) main focus is on short-term targets	Score 3: There are short and long-term goals for all levels of the school system; as they are set independently, they are not necessarily linked to each other	Score 5: Long-term goals are translated into specific short-term targets so that short-term targets become a 'staircase' to reach long-term goals
13) Target Stretch *Tests whether targets are appropriately difficult to achieve* Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	a) How tough are your targets? How pushed are you by the targets? b) On average, how often would you say that you and your school meet its targets? How are your targets benchmarked? c) Do you feel that on targets all departments/ areas receive the same degree of difficulty? Do some departments/ areas get easier targets?		
	Score 1: Goals are either too easy or impossible to achieve; at least in part because they are set with little teachers' involvement	Score 3: In most areas, school leaders pushes for aggressive goals based on external benchmarks, but with little buy-in from teachers; there are a few "sacred cows" that are not held to the same rigorous standard	Score 5: Goals are genuinely demanding for all parts of the organization and developed in consultation with senior staff (e.g. to adjust external benchmarks appropriately)
14) Clarity and Comparability of Targets *Tests how easily understandable performance measures are and whether performance is openly communicated* Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	a) If I asked one of your staff members directly about individual targets, what would they tell me? b) Does anyone complain that the targets are too complex? Could every staff member employed by the school tell me what they are responsible for and how it will be assessed? c) How do people know about their own performance compared to other people's performance?		
	Score 1: Performance measures are complex and not clearly understood; school performance data is not made public unless mandated	Score 3: Performance measures are well defined and communicated; school performance data is purely quantitative but goes beyond government requirements and is made public	Score 5: Performance measures are well defined, strongly communicated and reinforced at all reviews; school performance data includes both quantitative and qualitative measures and are made public
15) Rewarding High Performers *Tests whether good teacher performance is rewarded proportionately*	a) How does your evaluation system work? What proportion of your employees' pay is related to the results of this review? b) Are there any non-financial or financial bonuses/ rewards for the best performers across all staff groups? How does the bonus system work (for staff and teachers)? c) How does your reward system compare to that of other schools?		

Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	Score 1: People are rewarded in the same way irrespective of performance level	Score 3: There is an evaluation system which awards good performance; the system may include individual financial and non-financial awards, but these are always or never awarded	Score 5: There is an evaluation system which rewards individuals based on performance; the system includes both personal financial and non-financial awards; rewards are awarded as a consequence of well-defined and monitored individual achievements

Manager's Bonus: What is your bonus as a percentage of salary? _____	% of the bonus based on individual performance _____ % of the bonus based on school performance _____ % of the bonus based on district performance _____	*Refused to answer* Yes ☐ No ☐ *Bonus on individual, school, and district performance MUST add up to 100*

16) Removing Poor Performers *Tests whether the school is able to deal with underperformers* Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	a) If you had a teacher who was struggling or who could not do his/ her job, what would you do? Can you give me a recent example? b) How long is under-performance tolerated? How difficult is it to terminate a teacher? c) Do you find staff members/ teachers who lead a sort of charmed life? Do some individuals always just manage to avoid being fired?		
	Score 1: Poor performance is not addressed or inconsistently addressed; poor performers are rarely removed from their positions	Score 3: Poor performance is addressed, but typically through a limited range of methods (e.g. coaching); the process of terminating an employee often takes more than a year to complete and is therefore infrequent, even under conditions of repeated poor performance	Score 5: Repeated poor performance is addressed, beginning with targeted interventions; poor performers are moved out of the school when weaknesses cannot be overcome
17) Promoting High Performers *Tests whether promotions and career progression are based on performance* Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	a) Can you tell me about your career progression/ promotion system? b) How do you identify and develop your star performers? c) What types of professional development opportunities are provided? How are these opportunities personalised to meet individual teacher needs? d) How do you make decisions about promotion/ progression and additional opportunities within the school, such as performance, tenure, other? Are better performers likely to be promoted faster, or are promotions given on the basis of tenure/ seniority?		
	Score 1: Staff members are promoted primarily upon the basis of tenure (e.g. years of service)	Score 3: Staff members are promoted upon the basis of performance; school provides career opportunities but usually based on non-performance related factors	Score 5: School actively identifies, develops and promotes its top performing staff members
18) Managing Talent *Tests how well the school identifies and targets needed teaching, leadership and other capacity in the school*	a) How do school leaders show that attracting talented individuals and developing their skills is a top priority? b) How do you ensure you have enough teachers of the right type in the school? c) Where do you seek out and source teachers? d) What hiring criteria do you use?		

Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	Score 1: School has very limited or no control over the number and types of teachers, staff and leadership needed to meet goals	Score 3: School reactively controls the number and types of teachers, staff and leadership needed to meet goals; school may define hiring criteria and processes, but they are not linked with key drivers of student outcomes	Score 5: School proactively controls the number and types of teachers, staff and leadership needed to meet goals; school defines hiring criteria and processes based on understanding of what drives student achievement
19) Retaining Talent *Tests whether the school will go out of its way to keep its top talent* Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	a) If you had a top performing teacher who wanted to leave, what would the school do? b) Could you give me an example of a star performer being persuaded to stay after wanting to leave? c) Could you give me an example of a star performer who left the school without anyone trying to keep him?		
	Score 1: We do little to try and keep our top talent	Score 3: We usually work hard to keep our top talent	Score 5: We do whatever it takes to retain our talent
20) Attracting Talent/ Creating a Distinctive Employee Value Proposition *Tests how strong the teacher value proposition is to work in the individual school* Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	a) What makes it distinctive to teach at your school, as opposed to other similar schools? If you were to ask the last three candidates would they agree? Why? b) How do you monitor how effectively you communicate your value proposition and the following recruitment process?		
	Score 1: Other schools offer stronger reasons for talented people to join	Score 3: Our value proposition to those joining our school is comparable to those offered by other schools	Score 5: We provide a unique value proposition to encourage talented people join our school above our competitors
Leadership Questions*			
21) Leadership Vision *Tests whether school leaders have an understanding of the broader set of challenges that the school, system and key actors face and the right mindset to address them* Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	a) What is the school's vision for the next five years? Do teachers/ staff know and understand the vision? b) Who does your school consider to be your key stakeholders? How is this vision communicated to the overall school community? c) Who is involved in setting this vision/ strategy? When there is disagreement, how does the school leader build alignment?		
	Score 1: School either has no clear vision, or one defined without substantial stakeholder collaboration and which focuses primarily on meeting state/ national mandates; school leader does not or cannot articulate a clear focus on building an environment conducive to learning	Score 3: School has defined a vision that focuses on improvement in student outcomes, but largely focused on meeting state/ national mandates, and usually defined with limited stakeholder collaboration; school leaders may focus on the quality of the overall school environment, but often in response to specific issues	Score 5: School leaders define and broadly communicate a shared vision and purpose for the school that focuses on improving student learning and outcomes (often beyond those required by law); vision and purpose is built upon a keen understanding of student and community needs, and defined collaboratively with a wide range of stakeholders; school leader proactively builds environment conducive to learning

22) Clearly Defined Accountability for School Leaders *Tests whether school leaders are accountable for delivery of student outcomes* Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	a) Who is accountable for delivering on school targets? b) How are individual school leaders held responsible for the delivery of targets? Does this apply to equity and cost targets as well as quality targets? c) What authority do you have to impact factors that would allow them to meet those targets (e.g. budgetary authority, hiring & firing)? Is this sufficient?		
	Score 1: School leaders are only held accountable for minimal targets (e.g. those set by government), without school-level or individual consequences for good and poor performance; leaders have little or no autonomy to impact the areas of accountability	Score 3: School leaders are held accountable for absolute number of student reaching targets set by government and school internally, with school-level & individual consequences for good and poor performance; leaders are provided some autonomy to impact the areas of accountability	Score 5: School leaders are held accountable for quality, equity and cost-effectiveness of student outcomes within the school, with school-level and individual consequences for good and poor performance; leaders are provided sufficient autonomy to impact the areas of accountability
23) Clearly Defined Leadership and Teacher Roles *Tests how clearly the roles, responsibilities and required attributes of teachers, students and staff are defined within the school* Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	a) How are the roles and responsibilities of the school leader defined? How are they linked to student outcomes/ performance? b) How are leadership responsibilities distributed across individuals and teams within the school? c) How are the roles and responsibilities of the teachers defined? How clearly are required teaching competences defined and communicated? d) How are these linked to student outcomes/ performance?		
	Score 1: School does not define clear roles, responsibilities and desired competencies of school leaders and teachers	Score 3: School defines clear roles, responsibilities and desired competencies of school leaders and teachers, but not necessarily linked with the drivers of student performance and outcomes; concentrated leadership amongst senior staff	Score 5: School defines clear roles, responsibilities and desired competencies of teachers and staff across the school, built upon an understanding of what drives student performance and outcomes; leadership responsibilities are distributed across the school

Organization Questions

a) How many students are in the school? _____

b) How many teachers are in the school? _____

c) How many people (including support staff) work in the school? _____

Please say "Can you walk me through the school's hierarchy?". Then iteratively ask "Who does a teacher report to?", "Who would [his/her boss] report to"...., Keep asking until you reach the School Head.

d) Number of levels in the school BETWEEN the teacher and the School Head:_____

e) How many people directly report to the head of the school (i.e. the number of people directly in the hierarchical layer below him/her)? _____

f) To hire a FULL-TIME TEACHER what agreement would your school head need?

Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	Score 1: The school has no authority	Score 3: Requires sign-off from above the school head based on the individual case. Typically agreed (i.e. about 80 or 90% of the time)	Score 5: Complete authority of the school head

g) To add a new class - for example, introducing a new language such as Mandarin - what agreement would the school head need?

Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	Score 1: The school has no authority	Score 3: Requires sign-off from above the school head based on the individual case. Typically agreed (i.e. about 80 or 90% of the time)	Score 5: Complete authority of the school head

h) To expand the school size - for example admitting 5% more students - what agreement would the school head need?

Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	Score 1: The school has no authority	Score 3: Requires sign-off from above the school head based on the individual case. Typically agreed (i.e. about 80 or 90% of the time)	Score 5: Complete authority of the school head

i) Do you use admissions criteria to select students?

Yes☐ No☐ -99☐

j) Can you take me through the criteria you use to select students?

Academics☐ Geographical☐ Siblings☐

Other☐ If other, what? _____

k) Who determines these criteria?

Score: 1☐ 2☐ 3☐ 4☐ 5☐ -99☐	Score 1: School or school board has NO authority to set the admission criteria (mandated by external authorities)	Score 3: School or school board has shared authority with external authorities to set the admissions criteria	Score 5: School or school board has complete authority to set the admissions criteria

l) What is the largest CAPITAL INVESTMENT the school leader can make without PRIOR authorization from outside? *(ignore form filling) [PLEASE CROSS CHECK ANY ZERO RESPONSE BY ASKING "what about buying a new computer - would that be possible?", and then probe further.* _____

UK only:

m) Approximately, how many other 'competing' schools provide teaching for a similar age group (public and private schools) within your catchment area? _____

2009 Education Survey Instrument

Post - Interview			
a) Interview duration (minutes) _____			
b) Interviewee knowledge of management practices			
Score: 1☐ 2☐ 3☐ 4☐ 5☐	Score 1: Some knowledge his school, and no knowledge of its daily operations	Score 3: Expert knowledge of his school, and some knowledge of its daily operations	Score 5: Expert knowledge about his school and its daily operations
c) Interviewee willingness to reveal information			
Score: 1☐ 2☐ 3☐ 4☐ 5☐	Score 1: Very reluctant to provide more than basic information	Score 3: Provides all basic information and some more confidential information	Score 5: Totally willing to provide any information about the school
d) Interviewee patience			
Score: 1☐ 2☐ 3☐ 4☐ 5☐	Score 1: Little patience - wants to run the interview as quickly as possible. I felt heavy time pressure	Score 3: Some patience - willing to provide richness to answers but also time constrained. I felt moderate time pressure	Score 5: Lot of patience - willing to talk for as long as required. I felt no time pressure.
e) Attitude on the government (if mentioned)			
Score: 1☐ 2☐ 3☐ 4☐ 5☐	Score 1: Government seen entirely as a hindrance - bad for the school	Score 3: Government helps the school in some ways but also a constraint in other ways - mixed for the school	Score 5: Government helps the school - good for the school

f) Number of times mentioned overriding economic factors (e.g. recession)? _____

g) Number of times rescheduled (0=never rescheduled) _____

h) Seniority of interviewee

☐ 1 - Superintendent/Governor/Director/ Father ☐ 2 - Principal/ Head Teacher/ Head Master

☐ 3 - Assistant Principal/ Vice Principal/ Deputy Head/ Curriculum Coordinator

☐ 4 - Department Head/ Subject Coordinator ☐ 5 - Teacher

i) Age of interviewee (don't ask) - guess if not told _____

j) Gender of interviewee Male ☐ Female ☐

k) Did the interviewee have a degree - guess if not told _____

l) Interview language _____

*The Management and Leadership questions were asked in the following order during the interview: 21,1,2,3,4,5,6,7,8,9,10,11,12,13,22,23,14,15,16,17,18,19,20.

APPENDIX C

BLUEPRINT ANALYSIS FOR OPEN-ENDED SURVEY QUESTIONS (Questions 38-40)

Primary Research Question	Sub Question	Dissertation/Survey Topics/Specific Measures
What is the relationship between the use of evidence-based management practices and leadership vision, strategies, and accountability of building principals by Pennsylvania public school administrators?	Regarding the school's vision for the next five years, do teachers and staff know and understand the vision?	Leadership vision and strategy/Target interconnection/Clarity and comparability of targets/ Principal strategy/target setting Measures whether school leaders have an understanding of the leadership vision, the broader set of challenges that face the school system, whether the vision is clearly defined, broadly communicated, and connected to stakeholder needs
What is the relationship between the use of evidence-based management practices and leadership vision, strategies, and accountability of building principals by Pennsylvania public school administrators?	How are individual school leaders held responsible for the delivery of targets, fiscally, and for student achievement?	Clearly defined accountability for educational administrators/ autonomy of decision making/ Principal autonomy/Operations Measures whether school leaders are accountable for the delivery of targets fiscally and for student achievement, if administrators are held responsible for good and bad performance, if there is autonomy in target reach and decision-making in the absence of accountability

What is the relationship between the use of evidence-based management practices and leadership vision, strategies, and accountability of building principals by Pennsylvania public school administrators?	How are school leaders' and teachers' roles and responsibilities of the school defined and are they linked to student performance?	Clearly defined accountability/Principal strategy/performance monitoring/People/talent management/Operations Measures principal accountability to stakeholders (teachers, governing board), if role definitions are aligned with accountability and whether role definitions are aligned to student performance

APPENDIX D

Pearson's Zero Order Correlational Analysis

Items six through twenty-five- forced choice format questions

Item	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
6	.403**	.408**	.387**	.382**	.515**	.597**	.528**	.443**	.530**	.662**	.611**	.457**	.596**	.330**	.412**	.265*	.470**	.488**	.427**
7		.280*	0.129	.369**	.452**	.272*	.391**	.343**	.310*	.377**	.389**	.311**	.333**	0.138	.269*	0.182	.429**	0.176	.315**
8			.299*	.289*	.359**	.348**	.374**	.310*	.377**	.356**	.507**	.305*	.433**	0.176	0.139	0.188	.551**	.241*	.383**
9				.493**	.334**	.495**	.492**	.522**	.404**	.453**	.512**	.523**	.484**	0.21	.346**	.263*	.379**	.539**	.559**
10					.602**	.427**	.441**	.591**	.583**	.579**	.360**	.658**	.434**	.306*	.274*	0.121	.390**	.346**	.368**
11						.631**	.594**	.537**	.531**	.533**	.554**	.585**	.610**	0.194	0.193	0.205	.509**	.375**	.329**
12							.664**	.535**	.564**	.588**	.573**	.549**	.644**	0.138	.468**	0.189	.385**	.433**	.461**
13								.605**	.445**	.629**	.560**	.409**	.468**	0.213	.362**	0.15	.439**	.359**	.390**
14									.554**	.621**	.540**	.748**	.549**	.257*	.362**	.255*	.318**	.412**	.541**
15										.696**	.550**	.538**	.633**	.278*	.360**	.286*	.512**	.482**	.483**
16											.502**	.553**	.557**	.399**	.457**	0.22	.468**	.536**	.447**
17												.511**	.587**	0.189	.358**	.441**	.556**	.503**	.508**
18													1 .529**	.251*	.444**	0.232	.431**	.531**	.528**
19														.286*	.361**	.285*	.424**	.527**	.496**
20															.314**	.289*	0.223	.247*	.239*
21																0.224	.427**	.575**	.560**
22																	.307*	.533**	.489**
23																		.428**	.565**
24																			.687**
25																			

** Correlation is significant at the 0.01 level (2-tailed).

APPENDIX E

Narrative Responses for questions 38-40

Leadership Vision Regarding the school's vision for the next five years, do teachers and staff know and understand the vision?	**Clearly Defined Targets: Accountability for school leaders How are individual school leaders held responsible for the delivery of targets, fiscal and student achievement?**	**Clearly defined management and teacher roles How are school leaders' and teachers' roles and responsibilities of the school leaders defined and are they linked to student performance?**
Open-Ended Response	**Open-Ended Response**	**Open-Ended Response**
Yes, through a strategic plan that has been and continues to be reviewed with the staff on an annual basis.	Principals review these components with the superintendent at an end of the year evaluation	Through an annual evaluation process
The teacher leaders are included in the process of developing the vision and are likely bought into that vision. Although the vision is shared with the entire staff it is unclear how many of the staff believe in that vision.	Each building administrator develops goals for the year involving student achievement and the tools to improve student achievement (including professional development for staff and data analysis).	Teacher roles are linked to student achievement through individual and group accountability. Staff in tested subjects analyze both group and individual student results looking for trends, strengths, and weaknesses. That information is then used to make instructional decisions. Teachers in non-tested subjects analyze group data and develop ways to support the tested subjects.
yes	Collaboration and monitoring from superintendent	Collaboration

The vision is the basis for all our decision in each building. The teachers know the vision and also make instructional decision based on our vision.	Each administrator is evaluated by the Superintendent on delivery of specific targets, fiscal responsibility, and student achievement. All administrators receive a bonus based on how well they completed each of these three items.	The roles within the district are collaborative in nature. The curriculum team and the teachers collaborate to develop curriculum, pacing guides, and resources/materials to support the students. The administrative team observes and provides feedback to the curriculum team and the teachers about the implementation of the curriculum and its materials/resources. Through this process student progress is track through MAPs, CDTs, PSSAs, and CDT exams. These assessment also provide the curriculum team, teachers and the administrative team the to understand weaknesses in either the curriculum, implementation of the curriculum, and/or the best educational resources being used in the classroom.
No. There is no real vision expressed from the top; therefore, there is nothing for teachers and staff to know and follow.	There is nothing informal in place, aside from an evaluation system, which does very little to hold people accountable.	They are not clearly defined and they are not linked to student performance.
Yes	Through well-defined targets and progress meetings.	Through SLOs
I am not sure - it does not appear to be. The superintendent has a strong vision, but the assistant superintendent and elementary principals work against him.	We do not have a clear process.	I am not sure.

There are a lot of new initiatives that will strengthen our District as a whole. The educators are being introduced to the vision and appear to understand the direction of the school.	A revised budgetary process has been established and each leader must thoroughly define their budgetary needs. Student achievement is reviewed based on State measurements and District selected assessments.	This area needs improvement.
I think they understand the basic expectations, many in writing or addressed annually. I think they feel overall that our long-term vision could be more specifically addressed.	Basically we are held accountable through our evaluation system, including our SLO and NTPE, and yearly meetings with an administrator in charge of our evaluations. We also meet monthly to address concerns, achievement, fiscal issues, etc. to assure things are being tackled and handled as needed and in a timely manner.	Each administrator evaluates staff, divided almost equally in to 3 groups. Staff is divided by department with department heads. The head principal meets with all teachers about their specific data and shares out with the other principals. As a result, we know targeted student performance areas and staff goals and can monitor those throughout the year as we evaluate and have other interactions with staff. Student performance should be closely monitor based on data of all kinds and targeted performance areas are reassessed annually and again as needed. Teachers, however, discuss data analysis more with the head principal due to the other daily responsibilities of the assistant principals.
Yes		
I don't think so. It's posted on the website though.	They aren't officially held accountable.	Unsure
I believe that our teachers and staff understand the vision statement of the district but do not apply it to a yearly or daily strategy.	Goal setting and curriculum planning to address student achievement is discussed in specific buildings and as a district through Instructional leadership and district	Everything that is done on every level is linked to student performance. Teacher roles and responsibilities are defined with informative assessment

	leadership teams.	measures and leaders are charged with defining expectations and ensuring that these goals/standards/and roles are met or exceeded.
Yes	Goals are set and individuals are rated on their achievement towards that goal.	Their role is to provide core standard and data driven instruction to improve student performance on both the Keystone and NOCTI exams.
yes	not formally	PVAAS growth and the teacher evaluation system
Yes	Action Plans	All staff is held accountable via evaluation practices. All administration and professionals staff roles are linked to student achievement.
At best, we are at a year to year vision. Most goals repeat from on year to the next.	It's a very loose accountability system. Our Act 93 lists some student achievement goals, but those a very hard to quantify into a fair accountability system.	I believe our roles are clearly defined. Everyone understands what they are responsible for. The problem is that we have a very loose link to student performance. Many people that find themselves not performing well are not taking care of business outside of the classroom, ie late to work, not following policy and procedures; insubordinate; poor professional interactions; poor student and parent interactions.
Yes	By an evaluation process	They to district policy, mission statement, and state standards
yes	Formal and informal evaluations	

Teachers are made aware of the vision but only some demonstrate knowledge of it and promote the vision.	There are clear targets but the school board does not support using fiscal compensation as a tool to drive student achievement for teachers. They do use this with administrators but not as an incentive but rather a reduced annual raise if targets are not met.	Teacher roles are not directly linked. Administrator roles are loosely linked to student performance. This is an area that could be improved in my school district if the board would be supportive of doing so.
Yes		
The vision, through the profile of a graduate, is clearly defined now. In the five years I've been here, it is the first time it has been defined. How we are achieving that vision is much less clear.	Any accountability is ad hoc and inconsistent. We're constantly pushed to have higher levels of achievement, but there is no support for the implementation of new programs or ideas. We're told to do more with less.	There is not a clear role definition other than doing what we've traditionally done.
Yes, We have an understood shared vision	Yearly data intense evaluations by Superintendent	Administrators and teachers have clearly defined roles but work together to meet the needs of the students. Data is shared and used by all. Admin. evaluations are tied into our honest evaluations of the teachers. Good luck Michael. Almost there. Keep plugging away.
We continuously discuss putting students first and best practice. We talk about assessing the individual needs of the students and using data to drive instruction. The same voice is used throughout the administration.	Everyone takes pride in their own work. We put in long hours, participate in many meetings, meet with staff, students, and parents. No one is harder on the administrators than the administrators.	Everyone has position descriptions. Everyone is linked to student success by state assessments and graduation rates.
Yes. We have several teachers on a committee that is dedicated to looking at the implementation of academies in our high school alongside professional community members.	Targets outside of test scores are not clearly defined at this time.	All roles and responsibilities are centered around doing what is best for our students. Test scores are not our primary focus whatsoever. We want our students to feel safe, be prepared for life after high school, look forward to coming to school

		every day and be respectful, productive citizens.
Yes they are aware	Evaluations, SLOs etc...	Evaluations
Inconsistently	PSSA data	Inconsistent
Yes	They provide plans yearly to the assistant superintendent. Plans are collaboratively created and reviewed by the entire staff at that level.	Roles and responsibilities are well defined, but not necessarily linked to student performance. The emphasis is on student learning, and teachers and leaders become the facilitators of learning. And learning is for everyone involved throughout the educational process, from students to teachers to administration to parents and community.
as defined by the comprehensive plan, no	through evaluation and quarterly discussions	teachers' responsibility is primary and evaluated by the school leaders
Somewhat - they get that college and career is taking over the mindset.	It is a team effort since there are few central office personnel. No	No
Yes. We are focused on learning, specifically finding ways to personalize the learning experience.	A formalized evaluation process using the Principal Effectiveness Framework for Leadership.	Student performance is only one measure used to define leaders' and teachers' roles and responsibilities. Culture, environment, collegiality, progressive though, measured risk-taking, positivity, and communication with parents, students, staff, and admin all play a role.

It is established and communicated but I do not believe that teachers and staff are intimately involved with it. It is unfortunately not a daily conversation. More of a monthly reminder that appears in various meetings and conversations. I think it is understood but not overly visible.	Through evaluations by the superintendent and by the establishment of goals with school board and self-evaluation of having met or failed to meet those goals.	They are not well defined in writing. They are established. Expectations are to have high student performance and if not be provided the opportunity and supports to improve the performance. If that doesn't happen you are moved to another seat on the bus.
Yes, we have just recently recreated our Mission, Vision, Collective Commitments and goals for LMHS.	There is Board pressure to continuously increase scores. However, this is a vague priority, definitely far behind athletics in overall importance.	It is the expectation that leaders and teachers will help all students achieve to high levels and that scores on CDTS, PSSAs and Keystones will continue to increase. However, this is not an overall well defined priority for the district.
They understand that improving student performance and growing as an educator is a goal without a finish line. The specific path that leads to that goal is somewhat vague.	School leaders are accountable in relation to overall student performance, including programs and resources that support it.	School leaders are responsible for ensuring that teachers are being diligent and responsible for student learning and performance. Therefore, student performance is a direct reflection on teacher performance which then reflects on school leaders' ability to indirectly have a positive impact on student performance.
They do, but it is directly related to state expectations and measures.	It directly tied to their evaluation.	They are outlined in specific job descriptions and they are linked to student performance through the job description and evaluations.
The teachers and staff know the vision but as for understanding and applying it I don't believe so. Unfortunately, more and more the staff are becoming disengaged from the community they work in and only come to work for a	Administrators are mandated to conduct monthly data team meetings. Data is shared with the staff through PLC session held twice monthly. Monthly data reports are presented to the superintendent.	Leaders and teachers alike are provided with intensive induction programming which includes the importance the roles and responsibilities of the job. Those responsibilities are all linked to student performance.

paycheck.		
In a global sense. There is some struggle with key components.	Through goal setting and targeted practices.	We do not live and die by numbers, but expectations to achieve are high.
yes, somewhat	walk throughs and observations	No, not directly
Our goals, like many other schools, focus on student achievement. In the past two years we have taken several steps to improve our ELA PSSA scores. We will get our results at the end of May. We are looking for a significant increase. Starting next year we will be looking very strongly at ways to improve our Math Scores. We also started School Wide Positive Behavior program which we feel is working very well. We will be looking for ways to improve that as well.	The District really does not recognize such improvement in meeting targets. we may hear "Good Job!" or "You really need to look at that area again." That's about it. Never any recognition from the Board!	The District is constantly looking for improved achievement. Principals are responsible for what goes on in their buildings so teacher roles may vary from building to building. I know that I recognize and reward good performance. I also meet and discuss improvement methods with underperforming teachers. Again, this focus in on student achievement.
No	Annual Evaluation	No defined process and not linked to student performance.
I believe there is a general understanding of the vision, but sadly it has not been articulated clearly nor consistently.	The Administrative team is evaluated on goals set in conjunction with the superintendent.	The formal 'Job Description' is not directly linked to student performance, but the yearly evaluations are based on student state performance.
Yes	Specific targets are not established for test scores. Each year, we strive to improve from last year's scores. We strive to achieve student growth. If growth or scores are not improved from the past year, that school leader is tasked with	Yes, student performance is linked to our school leaders and teacher's roles and responsibilities. The role of the school leader is defined through the Leadership standards established by PDE.

	developing plans and making changes in their master schedule, curriculum and assessment.	
Probably not. We are getting better and discussing the need to have them more involved in the vision, but it is primarily given to them	Most of these targets are data points and we are moving away from the importance of these as we are more interested in the whole child. We still look and discuss data, but are not held accountable to it unless there are other factors that are supporting that data.	We have implemented PLC's this year as a way to link school leaders to student performance. We are responsible for guiding and leading these as student performance being the underlying factor that drives them
Yes	Annual evaluations use data to determine annual ratings.	They are defined by policies, procedures, and practices that align to best practices in education. Yes, they are linked to student performance.
While it is shared annually I do not believe entire administrative team shares the same vision because of differences of opinion on how to get there. This becomes problematic at times.	Assistant Superintendent meets regularly and expressed his desires based upon performance.	
Copies of the vision are displayed in the office and on the website. The Superintendent rolled out the vision of the district and it is to trickle into our school.	We are met with once a year regarding our overall PVAAS scores.	They are not clearly linked to student performance, save what comes from the Danielson model of supervision and the corresponding scores. These are used to calculate the teacher's year end rating.
Somewhat but it changes	They're not	Team approach

The school wishes to increase academic achievement and the use of technology in the next five years. targets will be set to also accommodate a shrinking tax base with decreased state funding. Staff is aware of the challenges faced by the district. The academic side of these challenges is understood by the staff, however, the fiscal side may not be as clear.	The Administration and teachers are responsible for delivering on targets. Administrators are evaluated each year, but their remuneration is not based on any performance measures. Poor performance could result in a cycle of an improvement plan and eventually termination.	School leaders roles and responsibilities are guided by board policy and the goals collaboratively set out by the superintendent and board. These goals are linked to but dependent on student performance. i.e., there is no negative consequence to diminished student performance.

APPENDIX F

IRB approval

Mike Leitera

From: Daniel Keown <dkeown@ysu.edu>
Sent: Tuesday, May 7, 2019 9:20 PM
To: Karen H Larwin; mleitera@mohawk.k12.pa.us
Cc: ckcoy@ysu.edu; Karen H Larwin
Subject: protocol 169-19

Dear Investigators,

Your research project "Knowledge Base Revisited: Examining Evidence-Base Management Skills in Public School Administrators" protocol (169-19) has been reviewed. This study seeks to examine the relationships among the use of varying evidence-based management practices in Pennsylvania public schools from the perspective of school administrators. Participants will complete a confidential survey through Survey Monkey and respond to various questions related to the evidence-based practices used in their school. Through the consent form, participants understand that all identifiable information about the participant and school will be de-identified in order to project the privacy of human subjects.

The research project meets the exempt definition of 45 CFR 46.101(b)(2). You may begin the investigation immediately. Please note that it is the responsibility of the principal investigator to report immediately to the YSU IRB any deviations from the protocol and/or any adverse events that occur.

Best wishes for the successful completion of your research.

Daniel J. Keown
Designated IRB Reviewer
Youngstown State University

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