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ABSTRACT

Background

Research in the field of educational leadership asserts a set of effective leader practices. Effective leader practices are defined as those shown to influence student achievement (Leithwood, 2012; Marks & Printy, 2003; Murphy, Goldring, Elliot, & Porter, 2006; Robinson, Lloyd, & Rowe, 2008; Sebring, Allensworth, Bryk, Easton, & Luppescu, 2006). The practices represent instructional, organizational, and transformational approaches to leadership. When utilized as constructs, the practices provide the substance for future evaluation and assessment of school leaders and school leader candidates.

Purpose

This manuscript style dissertation summarizes a line of inquiry into the substance of effective leader practices through the work of three papers. The first paper examines the extent to which students of school administration use effective leader practices in a case-based instructional and assessment tool. Findings from paper one implicate future research into the factors associated with individuals who do and do not use effective leader practices and papers two and three attempt to address this call for future research. The second paper is a literature review that expands the scope of effective leader practices by examining findings from the entire field, and synthesizes 27 practices from three sets of authors' findings into a new overarching organizational framework. The final manuscript utilizes the findings from the literature review and attempts to answer questions implicated for future research from paper one, specifically if and to what extent

prior experience leading adults, and if and to what extent teaching experience, correlate with principal enactment of effective practices.

Research Design

In paper one, *Rendering educational administration students' knowledge of key leadership practices through digital practicum data,* we analyze 118 school leadership student responses in a case-based learning environment. First, we utilize a 12 point coding scheme derived from the literature (Leithwood, 2012) for effective leader practices, and score the responses. Second, we utilize a framework for leadership style (Blake & Mouton, 2006), and analyze the styles students call upon to enact their plans as stated in their written responses.

In paper two, *Key leader practices shown to influence student achievement: A synthesis of major frameworks,* we systematically review the literature on effective leader practices. We use thematic synthesis.

For paper three, *Identifying and predicting effective leadership using the Schools and Staffing Survey,* we use the Public School Principal Questionnaire from the 1999-2000 Schools and Staffing Survey to identify latent factors and then employ regression analysis to investigate the relationship between effective leader practice and principals' professional backgrounds.

Findings

In paper one, we express results of the coding from both phases in descriptive statistics. In paper two, we set forth a new framework that encompasses wholly the findings from the field. A descriptive tally conveys both the number and frequency of practices asserted in the field which guides our synthesis. In paper three, first, we conduct

a factor analysis of the variables representing effective leader practices, and subsequently develop refined composite scores for hypothesized latent constructs. Second, these scores serve as the outcome variables in regression analyses that examine principals' years of experience and their prior roles.

Conclusions

In paper one we find that students in school leadership preparation programs use effective leader practice in a limited way and we suggest that preparation programs conduct evaluations of their delivery models to consider how student exposure to experiences that enhance use of effective leader practice might be developed and implemented. In paper two, we find that effective leader practices can be unified into a "blended" framework and assert that this cohesive work could be a way for scholars and practitioners to design empirically-based preparation, development, and evaluation processes. Paper three provides insight into principal backgrounds, a section of the field that is understudied, and implies that prior role and leader background do matter for principals' use of effective leader practice.

DEDICATION

I dedicate this dissertation to my children, Travis Marsh, Lucienne-Louise Hambrick, and Virginia-Annabelle Hambrick. While the pursuit of my this accomplishment has been a personal life-long aspiration, my desire to provide you with a better life and a mother who models virtues that I hope you will someday see as compelling and inspiring sustained me in the endeavor. None of you will ever remember what it was like to have a mother who was not a doctoral student, and Vivi will likely not remember life before me as PhD. There were sacrifices, but in the end, know that I love you more than anything. Everything I do, I do for you and our family.

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I have deep gratitude for my committee: Sara Dexter, Francis Huang, Dan Player, and Pamela Tucker. I see this dissertation as a reflection of what I can do as a new scholar of educational leadership but also as a reflection of what you do as teachers and mentors. As I said from the inception of this dissertation, I wanted to be challenged and for my dissertation to matter. Thank you for making sure I met those criteria through you roles as coauthors and consultants in the writing of these three manuscripts.

Sara, thank you for your guidance and mentoring in the form of "big sisterly attention." You inducted me into empirical research in such an authentic and supportive way. I continue to marvel at your inquisitive nature, your intellect, and your special way of moving mountains to get things done. I have benefited so much from not only your scholarly strengths, but also your encouragement, support, and accommodation. You know how to bring out the best in people, and you have brought out some of the best in me.

Francis, I had many talented statistics professors at Curry, but you were the best! You challenged me to apply what I learned about regression beyond the recall level. I appreciate so much your work both as an applied researcher and methods teacher. Your assistance with the factor analysis and the broader refinement of paper three was pivotal. Your patience and approachable manner let me become the confident budding quantitative researcher that I am.

Dan, thank you for having me as a research apprentice throughout my time as a student. The benefit of your astute skills as a researcher, economist, and thinker over the past four years will continue to unfold in my professional life. When I came to Curry, I aspired to do a large scale, quantitative dissertation and your support made that dream come true. You have a way of pointing me in the right direction that is balanced with finding my own way, and this method lets me find my own strength in the process. Knowing you were coauthor for this piece gave me the confidence to tackle my aspiration.

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but I hope I have hinted at it here. Thank you. I could not have done this without you as my shepherd and role model.

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LINKING DOCUMENT

This manuscript style dissertation represents how a line of inquiry into effective leader practices which is informed by prior analysis (paper one). Reviewing and synthesizing of the literature (paper two) permits operationalization of these practices as constructs to explain some of the variance in the backgrounds of principals who utilize effective leader practice (paper three). In its aggregate, this dissertation uses mixed methods, is diverse in terms of sample size, rests upon a careful review and organization of the related literature, and spans the course of three years (see Table 1).

Table 1

Three manuscripts for the dissertation "Examining Effective Leader Practice."

	Manuscript 1 Rendering educational administration students' knowledge of key leadership practices through digital practicum data	**Manuscript 2** Key leadership practices shown to influence student achievement: A synthesis of major frameworks	**Manuscript 3** Examining and predicting effective leadership using the Schools and Staffing Survey
Research Questions	What do digital practicums reveal about the knowledge and skills as well as shortcomings of students of school administration? What styles do students utilize? How can instructors identify these strengths and shortcomings?	What are the leader practices shown to influence student achievement? How can these practices be organized to represent all empirically-supported practices asserted by all authors?	Are there latent factors within the SASS that can be aligned with any domains for effective leaders practice asserted by the literature? In terms of the latent factors that emerge, how are these factors associated with leader background, specifically prior role and number of years teaching?
Sample/ Data Sources	118 students of school administration in a southeastern state	53 Empirical works	8,524 US principals drawn from the universe of all public school principals (response rate of 90%)
Methods	**Phase 1:** Four domain coding scheme derived from literature (Miles and Huberman) **Phase 2:** Descriptive totals of codes	Systematic review of the literature Thematic synthesis of various practices asserted	**Phase 1:** Factor analysis of Schools and Staffing Survey (Public School Principal Questionnaire) and composite variable construction **Phase 2:** Regression of experience on effective leadership practice scores
Findings	1. Students give unbalanced attention to: • Defining vision • Monitoring performance • Implementing professional development • Modifying existing organizational structures • The other nine practice receive little consideration. 2. Students enact the practices with: • "Blended" style • "Authority-compliance" style	New overarching framework encompassing all practices asserted by empirical findings	1. Experience: • Years teaching matters, but not as much as years of experience as a principal • In terms of magnitude of the coefficient, the strongest relationship was found between vision and years principal of the current school 2. Prior role: • Assistant principal related to highest number of factors with largest magnitude of coefficients • Department coordinator also had four associations but did not include vision and magnitude was lower

The line of research begins with a focused study of a sample of students from university leadership preparation programs in a Southeastern state. This study, paper one, utilizes a framework of effective leader practices as the standard by which to measure students' intent to employ these practices in a case-based instructional environment. The methods of analysis include development of a coding structure (Miles & Huberman, 1994) to analyze student responses for a set of actionable steps aligned with highly conceptual dimensions asserted by the Ontario Leadership Framework (Leithwood, 2012). We find that relatively few students call upon the leader practices wholly or enacted them with a team-based approach. Recommendations for future research include examining the difference between the group that did and the group that did not tend to the effective leader practices to account for the descriptive findings.

Next, in an effort to strengthen and broaden my scope of effective leader practices, thereby enhancing the foundation of my scholarship, we conduct a comprehensive and systematic review of the literature with a focus on the findings of well-respected scholars in the field who assert frameworks derived from rigorous reviews and research. Consideration and attention are also given to the specific individual studies upon which the frameworks rest. We assert a new unified framework, which we term as "blended."

Finally, the third manuscript builds upon the first two in that it identifies and examines a set of factors to explain the variance found in the groups described in paper one, but utilizes quantitative methods and a large sample size drawn from the universe population of principals in the United States.

Paper One: Rendering Educational Administration Students' Knowledge of Key Leadership Practices Through Digital Practicum Data

This study examines the intent of school leadership students in preparation programs to draw upon practices shown to influence student achievement during a case-based instructional experience. Leithwood's 2012 Ontario Leadership Framework (OLF) serves as the empirically derived standard for leader practices, and we analyze written student responses from a convenience sample of 118 for evidence of a set of actionable steps that align with a 12 point coding structure. Results and findings suggest that students in school administration programs give unbalanced attention to a handful of the dimensions (setting direction, holding teachers accountable, and providing needs-based professional development) while other dimensions receive little consideration. Students rarely discuss their intended use of formal leadership roles as a platform to model desired practices, build collaborative processes, or engage the broader external community.

Another part of the analysis in paper one examines students' leadership styles for enacting their plans and we find that over half of the participants called upon a compliance approach based on formal authority rather than an approach that balances a press for results and a concern for people (team-based). Team-based leadership most closely encompasses the range of practices needed for effective leadership to thrive (Durbin, 2004). Data suggest that future leaders of schools intend to focus upon the "results," but give negligible attention to the kinds of practices that engage and advance teachers. Some of the implications call for school leadership preparation programs to reflect upon existing implicit and explicit curriculum practices such that the value of a team based leadership style and the supporting effective leader practices that manifest

this style are emphasized. We assert that the case-based software, and the OLF, could be tools by which preparation programs measure student readiness for effective leadership. We also offer examination of the underlying factors contributing to the variance in use of effective leader practices as a potential avenue for future study.

Completion of this paper leaves me with additional questions. First, the OLF is one of the five widely accepted frameworks for effective leadership that links findings to student achievement through a systematic review of the research. Through the development of the scoring structure and its application via coding the 118 student responses, and reconciling to reach acceptable levels of inter-rater reliability, I know the OLF deeply and see its value as researcher and former practitioner of school leadership. However, my commitment to scholarship calls for me to widen my understanding to include a broader range of effective leader practices. Further research involving effective leader practice logically calls for the examination, and potential inclusion, of practices found by other scholars in the field. Despite the empirical strength of the OLF, one limitation of the first study could be its strict reliance upon the OLF.

The first study also caused me to question what factors contribute to the variation in students' responses, and what the field identifies as variables implicated in the success, and therefore appropriate recruitment, of future effective leaders. A separate project (with Pamela Tucker and Michelle Young) involving a comprehensive literature review allowed me to explore and synthesize findings pertaining to the pipeline for school leaders. During the review of studies regarding profiles of students with potential to become effective leaders, we found that the empirical base was slim. Little confirmatory evidence exists, particularly in the form of quantitative studies, to provide guidance about

the characteristics of individuals with the potential to become effective leaders. Gaining this insight would be helpful for both preparation programs and school districts as resources for each are limited. With additional research, preparation programs could begin to develop empirical criteria to assist them in the admission process, and school districts could hire effective leaders with increased certainty.

A logical continuation of this line of research is enumerating and describing effective leader practices as currently asserted by the field. While other frameworks direct efforts toward this end, as I begin my review, I find that the field lacks a synthesis reflecting the whole range of the effective leader practices. I also find that the existing domain labels fall short of capturing descriptively the empirical and theoretical strength of several constructs, specifically an explicit focus on both people and results. Again, for a number of reasons, a focus on effective leader practices is important. From a program evaluation perspective, be it a school of education in a university preparing future school leaders, or a school district seeking to evaluate and develop practicing leaders, we need to know precisely what we expect leaders to know and do. These should be the practices that are associated with improved student achievement. Further, because of the indirect influence leaders have on student achievement and the direct influence they have on teachers, these practices should be largely about exercising influence over teachers. Early in my program, I worked as a research assistant for CLASS (Classroom Assessment Scoring System), which is an observational instrument used to assess multiple types of interactions between teachers and students shown to influence student achievement. I became interested in eventually translating the methods and project outcomes to the realm of school leadership. One theoretical perspective of the CLASS tool in particular

prompted me to consider the parallels between leading a classroom of students and leading a faculty of adults. CLASS evaluates teachers for their work in both a press for results and a concern for students. Therefore, it prioritizes a dual-pronged focus, and in some ways eschews over-reliance on either. Additionally, work with my mentor and advisor, Pamela Tucker, as a teaching assistant in the Human Resource Management course allowed me to further research effective leadership practices and theories of motivation from the broader range of disciplines to include psychology and organizational health. While effective leader behaviors/practices may at first seem highly conceptual, I foresee that my line of inquiry will be quite concrete. I hope to engage in studies that offer answers to leaders considering how to direct their efforts, school systems developing principals in ways that support student achievement, as well as entities with more expansive influence, to include university preparation programs and policy organizations.

Sara Dexter and Pam Tucker mentored me as first and third authors, respectively on my first endeavor in empirical work and this first paper. I am second author. The paper will be submitted to *Educational Administration Quarterly*.

Paper Two: Key Leader Practices Shown to Influence Student Achievement: A Review of the Research

To accomplish goals aligned with my long-term plan for scholarship, we conducted a systematic examination of state of the field regarding effective leadership, which yields manuscript two. I am lead author for this manuscript and Pamela Tucker coauthors, and we plan to submit to *Journal of Educational Administration*. In parsing out the specific leader practices shown to influence student achievement, variation in the

method and substance of the findings emerges (Leithwood, 2012; Marks & Printy, 2003; Murphy et al., 2006; Robinson et al., 2008; Sebring et al., 2006). Further variation can be found at the broader "domain" level, which acts as the larger organizer of dimensions (practices/behaviors) within each framework (Leithwood, 2012; Marks & Printy, 2003; Murphy et al., 2006; Robinson et al., 2008; Sebring et al., 2006). The organization of these frameworks represents diverse assumptions. For example, the OLF asserts domains and dimensions that represent the indirect influence leaders have on students, and focuses instead on organizational, instructional, and transformational leadership. Sebring et al.'s *Essential Supports* framework provides some contrast in that it asserts a dimension focused on students and student safety, somewhat of a departure from a strict focus on adults.

Our review identifies practices asserted by at least one of the five frameworks. This yielded a total of 27 practices. Because of the degree of disagreement on the broader domain level, we suspend existing domain labels, and arrange the dimensions inductively into different domains that we propose. These new domains distinguish themselves from the former labels in that they wholly include all dimensions set forth by all sets of authors. Further, these proposed domains represent key assumptions regarding theories of motivation and a balance between a press for results and a concern for people. We explain both the method we employed to develop a new way to organize these practices, as well as the subsequent potential framework in the review, below.

These frameworks rest solidly upon a primarily qualitative research base appropriate for exploring and eventually identifying variables of interest, but many of the practices asserted by the literature have yet to be tested or confirmed with quantitative

methods. Aside from the research that undergirds these five frameworks, relatively few studies investigate the specific practices used by leaders who influence teacher effectiveness, thereby influencing student achievement. Of this small number of studies, few employ quantitative methods, use large-scale data sets, or employ designs that permit causal inference when analyzing behaviors.

Paper Three: Identifying and Predicting Effective Leadership Using the Schools and Staffing Survey

In keeping with my above stated commitment to a line of inquiry in effective leader practices, and to continue to examine factors that contribute to individuals utilizing effective leader practices as asserted by findings in manuscript one, I designed the study in the third manuscript. I am lead author and Dan Player is coauthor and we plan to submit to *Educational Administration Quarterly*. This third paper analyzes data from the 1999-2000 Schools and Staffing Survey, specifically the principal questionnaire, to answer two questions in a two-phase analysis:

1. Are there latent factors within the SASS data that can be aligned with any of the effective leader domains asserted by the literature?
2. In terms of the latent factors that emerge, how are these factors associated with the principals' background experience, specifically prior role and number of years teaching?

This paper draws upon the blended framework set forth in paper two to examine a large-scale data set for latent constructs. Doing so advances my secondary, and subsequent future, analyses in that the composite variables from the factor analysis allowed a way for me to study effective leader practices, use quantitative methods, and generalize findings

to the national level by virtue of the sampling design of SASS. These outcomes address the call for improved substantive and methodological components of studies Leithwood and Sun (2012) implicate when they discuss the need for researchers to decrease the focus on leadership style, and instead increase the focus on the practices effective leaders call upon to allow for examination of "impact," a class of findings that can only be asserted through study design that includes, among other components, quantitative methods and large sample sizes.

This line of research represents an interrelated set of studies with effective leader practices as the unifying element. In addition to the complementary nature, the studies are evolutionary and additive, and informed by findings and limitations, as well as concern for methodological diversity.

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PAPER ONE:

RENDERING EDUCATIONAL ADMINISTRATION STUDENTS' KNOWLEDGE OF KEY LEADERHIP PRACTICES THROUGH DIGITAL PRACTICUM DATA

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Abstract

Within the boundaries of university-based leadership studies, cases, games, and simulations can provide "digital practicum" that produce performance assessment data which allow instructors to "peek into" students' knowledge and dispositions and provide feedback on them, as well as determine what additional instruction might be needed. These data from 118 students of nine faculty at eight different institutions suggest that leadership programs should provide increased scaffolding to students of how leaders set directions, develop people, and make the organization work as well as how leaders can work through and with others to effect organizational change. While these data do not draw on a random sample, the study illustrates a means by which a program can generate data that illustrate its own students' relative understanding of effective leadership practice, and the sorts of learning experiences they still need.

RENDERING EDUCATIONAL ADMINISTRATION STUDENTS' KNOWLEDGE OF KEY LEADERHIP PRACTICES THROUGH DIGITAL PRACTICUM DATA

To learn complex endeavors such as school leadership, pre-service administration students need well-designed learning opportunities that range from direct instruction, to guided practice, to field experiences (Taylor, Cordiero, & Chrispeels, 2009). Leading up to field experiences and within the boundaries of university-based leadership studies programs, learning experiences in cases, games, and simulations can all provide for "digital practicum" experiences, with the added value that they generate performance assessment data that allow instructors to "peek into" students' knowledge and dispositions and provide feedback on them, as well as determine what additional instruction might be needed (Dexter, Tucker, & Peugh, 2011; Tucker & Dexter, 2012). Here we discuss students' responses describing their plan of action for a problem of practice posed in the online ETIPS case-based learning environment http:\\etips.info to illustrate how such digital practicum experiences afford instructors insight into what students know and the sorts of leadership development the students' responses indicate they still need.

Theoretical Perspectives

Leithwood and colleagues (Leithwood, Harris, & Hopkins, 2008; Leithwood, 2005; Leithwood & Riehl, 2003; Day, Sammons, Leithwood, & Kington, 2008; Leithwood & Jantzi, 2008; Leithwood & Louis, 2012; Hallinger & Heck, 1996) have set forth a framework that organizes into three domains the key knowledge and skills embodied in particular leadership practices shown to make a difference for teacher and

student learning. Blake and Mouton (1961) set forth a framework for understanding the approach, or style, leaders use to exercise their knowledge and skills. This study uses both of these frameworks, arranged into analytic domains, to simultaneously analyze the leadership substance and leadership style of student responses.

The first domain is the key leadership knowledge and skill of setting directions. The iterative process of setting directions by school leaders includes not only the establishment of shared vision, goals, meanings, and expectations, but also the continual process of leaders monitoring organizational performance and communicating with stakeholders. Effective leaders understand that a sense of purpose, and the extent to which it is shared, stimulates the work of teachers (and other adult stakeholders) to benefit students.

The presence of visions and goals is not enough. The process by which leaders support the arrival at and the endorsement of visions and goals must be one that prioritizes collaboration, thereby maximizing clear understanding and widespread acceptance by the entire organization. Such processes and ends increase individual acceptance of the organizational goals, and enable teachers to find themselves reflected in the goals—that is, the goals of the organization are at once a group goal and also compelling, challenging, and achievable individual goals that allow teachers to meet their own needs for self-efficacy while simultaneously fulfilling the needs of the greater good.

Setting directions must include establishment of organizational expectations through identifying the gap between the current position the school occupies and the one into which it seeks to grow. Once vision/group goals and expectations are determined, leaders must turn to determining how teachers and their efforts will be assessed on both a

formative and summative basis (i.e., monitor progress). Throughout the process of setting directions, leaders should seek to communicate clearly with multiple strategies so as to reach all stakeholders and thereby reduce ambiguity, guide the organization, and reinforce the vision and goals, as well as progress towards it, and how they relate to the organizational purpose, all of which is especially important during times of conflict or change.

The second domain is the key leadership knowledge and skill of developing people. Leaders approach the overall organization's improvement by attention to individuals' development needs, honoring and recognizing teachers and other stakeholders as unique persons with different dispositions, strengths, limitations, and life-contexts that, when appropriately acknowledged and harnessed, can improve outcomes for students. Leaders must address the various levels of commitment, capacity, and resilience teachers bring to the organization and respond in ways that supports them in persisting to fulfill their unique potential on behalf of students. Leaders again emphasize an individualized approach in diagnosing and anticipating teachers' needs for intellectual stimulation and growth toward mastery over desired outcomes. Leaders should recognize the concurrent benefits that exist when supporting individuals: meeting the need of the individual thereby better equips the individual to contribute to the organization. The leader extends this individualized consideration through supporting, mentoring, recognizing, and rewarding teachers.

The third domain is the key leadership knowledge and skill of developing the organization. Leaders accomplish this by implementing processes and structures and cultivating cultures that encourage broad participation and collaboration. School leaders

should continually seek to improve the conditions in which their faculty members function, and understand how teachers benefit from refined structures and processes thereby improving student achievement. Once again, school leaders do not pursue the support of teachers and the organization simply to benefit students—such inauthentic interest in teachers rarely rings true in faculties—nor do leaders succeed in providing the support they espouse when the efforts are superficial. It is when leaders take a genuine interest in the humans who comprise the organization that such attention is well received by teachers and results in improved outcomes for students via their teachers. That is, leaders who develop the organization should do so in a manner that communicates the value of the adults in the building as well as the importance of students. While students are clearly the organization's focus, the leader indirectly affects student achievement through a clear and unswerving emphasis on the organization's needs (Supovitz, Sirinides, & May, 2009; Witziers, Bosker, & Kruger, 2003; Hallinger & Heck, 1998). By anticipating the needs of the organization's members, faculty are thereby relieved from the need to focus on their own unmet needs and instead can focus on meeting student needs. This is not to say that leaders single-handedly meet their faculty's needs. Instead, leaders identify and anticipate faculty needs, and enable faculty to meet their own needs through support and removal of barriers (Leithwood, Harris, & Hopkins, 2008; Leithwood, 2005; Leithwood & Riehl, 2003).

In addition to the above three domains reflecting what the substance of leaders' work should be so that it impacts student achievement, Blake and Mouton (1961) delineate five different styles that leaders may use to exercise influence. These leadership styles serve as the fourth domain we used as a lens for analyzing our data. Leadership

style is of interest as the methods that leaders rely upon to enact leadership reveal much regarding concern for people as individuals and concern for results, and, potentially, the longevity of followers' perception and acceptance of influence. The five styles are delineated by the relative amount of interest and focus leaders place in two key areas: organizational results and individual needs.

The five styles are labeled as:

- Authority compliance,
- Team,
- Country club,
- Impoverished, and
- Blended.

An authority compliance leadership style calls for a leader to place more emphasis on results rather than individual needs, which receive negligible attention if any. Leaders utilizing a team leadership style have high emphasis on both organizational results and individual needs. A country club leadership style prefers a focus on meeting individuals' needs even at the expense of the organization accomplishing goals. Those displaying an impoverished leadership style do just enough to get by and demonstrate little concern for the individual or the organization. Finally, a blended leadership style is marked by mediocre consideration for both the organization and individuals.

This literature summarizes research findings about the key knowledge and skills that leaders should acquire that impact student achievement, as well as the stylistic differences with which they might approach such work. By extension, professors of administration and supervision should be concerned about their students' abilities in these

domains. While recommendations from the field of educational administration underscore the need for learning experiences that develop these sorts of knowledge and skills, there is little data about the depth and breadth of novice administrators' knowledge and skills as they enter the field, and as a result even less discussion about how this might be ascertained, or the subsequent interventions needed. This study provides an example of a method and an analytic approach for determining gaps in the preparation of pre-service educational administration students, and its findings provide some initial rationale for why this topic should be of interest to the faculty of leadership preparation programs.

Data Sources and Methods

During the 2008-2009 academic year, nine faculty members were recruited into a test-bed for the ETIPS web-based software from eight institutions of higher education located in a southeastern state, all of which offer licensure and master degree programs in educational administration. These programs vary across a number of dimensions including funding, location, size and nature, achievement levels of the students in districts in which most of their administrator candidates will work, and utilization of technology. This provided a rich opportunity to learn about students' leadership knowledge and intentions to lead from a variety of different types of programs.

Instructors implemented three ETIPS cases as an integral component of an educational administration course such as organizational leadership, or instructional supervision. Students in this convenience sample (i.e., in classes instructed by one of the test-bed faculty) were asked to participate in the study and thereby allow our analysis of these already assigned cases. An ETIPS case consists of an introduction to a problem of practice, which is set in a hypothetical yet realistic and detailed school. For these data

students examined a low-performing high school, which was a site with a significant focus on improving students' reading skills and scores. Much of the evidence in the case highlighted the school's lack of organizational coherence and teachers' work primarily as independent operators devoid of leadership referenced in the conceptual framework described earlier. Thus, opportunities for students' insight into wide-ranging and whole-school improvement abound as they carry out a four-step decision making process of identifying (a) the core issue the school has, (b) the criteria to be used in decision-making, (c) and two alternative courses of action, and then selecting one to (d) offer a plan of action that addresses that issue. All four steps have sub-tasks, and those of step four ask students to describe the strategies they'd use to (a) set directions, (b) develop people, and (c) develop the organization. Thus, the ETIPS cases allow students to demonstrate how to devote most of their attention to the tasks of school leadership that involve leading, supporting, and developing teachers as individuals, as well as attending to the organizational level, all as a coherent whole.

This study uses as the unit of analysis individual student responses (n=118) in the third, of three, cases that they completed. Student responses to step four (i.e., the three-part plan of action) were analyzed (Miles & Huberman, 1994) using codes derived, identified and defined through a four-domain coding scheme, each with sub-points (see Tables 1 and 2), derived from the literature described earlier. To improve rigor, answers characterized by usage of buzzwords or a vague rumination were not counted. For instance, we ignored a student's remarks if they wrote how teacher input was important for leaders to get without describing a concrete action step for how they would solicit it.

Specifically, the first three of our four-domain coding scheme was comprised of Leithwood and colleagues' framework, described earlier (i.e., setting directions, developing people, and making the organization work). It was within each of the first three domains that we examined how aspects of students' responses represented sub-points of the domain. For example, within the setting directions domain the five potential codes to be assigned were vision, group goals and shared meaning, performance expectations, performance monitoring, and communicating (see Table 1). Across these first three domains, we tracked which of the 13 codes a student's answer contained. Also shown in Table 1 are the percentages of all student responses that contain that code.

Table 1

Relative Frequency of Codes in Students' Responses by Count and Percentage

Code	Number of Answers With Each Code (N=118)	Percent of All Answers With Each Code
Setting Directions		
Identifying a Vision	111	94%
Creating Shared Meaning	14	12%
Defining High Performance Expectations	26	22%
Monitoring Performance	93	79%
Communicating	55	47%
Developing People		
Providing Individualized Support	36	31%
Developing Intellection Stimulation	89	75%
Modeling of Desired Behavior by Leader	7	6%
Redesigning the Organization		
Strengthening School Culture	35	30%
Modifying Organizational Structure	80	68%
Building Collaborative Processes	59	50%
Facilitating Community Building	36	31%

The fourth domain of our coding scheme was a code assigned to holistically capture the students' leadership style. Derived from Blake and Mouton's (1961)

managerial grid framework, the five styles indicate the relative balance students expressed for focusing on tasks and getting results and how they would involve other people involved in accomplishing those tasks (see Table 2).

Table 2

Frequency and Percentage of Holistic Leadership Style Inherent in Students' Responses

Blended	Authority-Compliance	Team	Impoverished	Country Club	n/a
46 (39%)	29 (25%)	25 (21%)	9 (8%)	7 (6%)	2 (2%)

Note. N=118

Student responses, ranging from one half to four pages, initially were all analyzed by the team of three authors and we reconciled codes and reached consensus on all responses. When our independent coding efforts reached 90% inter-rater agreement, the team split the remaining portion of the sample and two authors read each of those responses, and again reached consensus on all codes.

Findings

Overall, students' responses within all four domains of codes described in the conceptual framework indicate negligible detail. While a student's answer could potentially be assigned all of the codes in domains one, two and three, in fact student responses on average were scored with less than half of all the sub-codes within these domains. Students' suggested action plans referenced, on average, 39% of the five code areas within the setting directions domain; 36% of the three codes within the developing people domain; and 42% of the four codes within the developing the organization domain. More detailed analysis illustrates several additional trends in the data (see Table 1).

Domain One: Setting Directions

Within the setting directions domain (see Table 1), the high percentage of respondents (94%, see Table 1) who identified a vision within their response indicated a firm grasp by students of the need for a clear goal or purpose in school leadership; however, this high percentage may be inflated due to the question prompt which would at the least suggest students had to indicate that they would take some course of action for the school in the case. Students most commonly elaborated (79%, see Table 1) in their response to setting directions by describing how they would monitor teachers' performance in moving toward that vision, through means such as test results, observing classrooms, administering surveys, organizing focus groups, examining attendance and discipline data, and holding open meetings with constituents. Their responses demonstrate that these leadership students see themselves primarily responsible for the act of holding teachers accountable, and details on how to formatively assess or monitor performance receive relatively adequate attention. In today's context of accountability, articulating a vision and enumerating strategies for monitoring performance serve as fairly obvious approaches to school administration. While students demonstrate readiness and commitment to holding followers accountable, their responses less frequently explained how they would establish such performance expectations (22%, see Table 1), which would likely function as a necessary component of successfully and legitimately holding teachers accountable. Participants were somewhat more facile with describing how they would develop two-way communication exchanges with stakeholders (47%, see Table 1) about the direction that had been set and movement toward it. When discussing setting directions, students' responses did not attend to the fostering of clear

understanding by the entire group by promoting shared goals in which teachers might find a heightened sense of identity within and connection to the greater organization (12%, see Table 1), which is arguably the generative act for producing performance. Overall, these relative levels of action steps mentioned seem to reflect more ease with technical skills than with the interpersonal skills (Getzels & Guba, 1957) that develop a collective sense of purpose and commitment by a community of professionals.

Domain Two: Developing People

In comparison to the previous domain, within the developing people domain (see Table 1), students' responses were shorter in length and were often comprised of non-specific statements.

Towards the end goal of developing people, most respondents referred to professional development (75%, see Table 1) as a means of facilitating change and improvement in a school, but often in vague and superficial ways. For example, respondents stated they would implement professional development, but did not elaborate about its frequency, nature, or duration, or the intended goal for teacher learning. Thus, while we did consider providing professional development as aligned with our theoretical framework's element of intellectual stimulation, it only partially represents its intent. Intellectual stimulation calls for the presence of careful examination of assumptions, enablement of teachers to gain mastery, and reconsideration about how to best perform—few of which were observed in student responses. Further, when students evoked the phrase "professional development," student responses largely use it as an a one-time intervention for teachers versus a job-embedded, structured and ongoing process as

suggested by the research on effective adult learning (Garet, Porter, Desimone, Birman & Yoon, 2001).

Responses rarely included development by individual support and consideration (31%, see Table 1) through utilization of practices like mentoring and coaching, or other methods of conceiving of the faculty as individuals with unique needs and strengths. Instead, responses generally reflect an assumption that professional development can be structured for a large group without individual needs in mind.

Any mention of school leaders intentionally modeling the practices proposed by the respondents, and the concept of leading by example through intentionally displaying behavior aligned with the school's values and goals was close to non-existent (6%, see Table 1).

Domain Three: Developing the Organization

Within student responses that comprise those in the domain of developing the organization (see Table 1) and establishing working conditions that make the most of teachers' motivation and capacity, their answers again fall short of wholly incorporating many empirically based factors from the literature. Instead, students discuss adjusting and modifying the organization through more modest structural elements like the schedule. Students suggest the reallocation of budgets, which echoes the idea of leaders refining routine administrative procedures, but teacher recruitment and performance appraisal, which require more depth in instructional background and interpersonal skills, receive inconsequential consideration.

Half of the respondents (50%, see Table 1) describe the need for building collaborative processes. In these instances, students often describe how professional

development would be collaboratively decided. Students call upon leadership teams and committees to design and implement a program of teacher learning, thereby suggesting students employ a consensus-building approach in this domain, and acknowledge that when stakeholders participate in decision-making, it improves the likelihood of organizational members embracing the results. However, responses coded within this domain lack key elements of organizational development, which is the buffering of teachers from excessive and distracting demands, and the widespread, organizationally instituted and purposeful use of collaborative decision-making approaches that exist beyond the perfunctory level and are woven into the fiber of the organization.

Between one quarter and one third of the respondents did discuss strengthening school culture (30%, see Table 1) by fostering shared norms or values, or mutual trust internal to the school organization. About the same number of the responses suggest facilitating community building (31%, see Table 1) by utilizing processes to build relationships and network with the stakeholders who are external to the school organization.

Domain Four: Leadership Style

In describing how they would carry out their plan of action, students most commonly utilized a “blended” or "middle-of-the-road” leadership style (39%, see Table 2), which reflects a moderate concern for results and people. To be scored with this code respondents had to demonstrate concern for people as well as for results, which we operationalized by requiring that they mention at least one strategy that we coded from each of the three domains of codes (i.e., 1.x, 2.x, 3.), but they did so with the majority of suggested actions to be taken without sophistication or integration into the culture of the

school.

The next two most common leadership styles were "authority-compliance" management (25%, see Table 2) and "team" management (21%, see Table 2). Respondents who described a high concern for results with minimal attention to developing people fell into the "authority-compliance" category and they typically indicated they would have the agency to mandate, require, and/or expect change. The responses with the richest blend of strategies that reflected a concern for results and people were characterized as "team management." These respondents seemed to understand the complexities of leadership and the need for equally sophisticated approaches to facilitating change in an organization by attending to the people in the organization who would make those changes.

Among the least common leadership styles observed in these responses are "impoverished" leadership, a style marked by abdication of responsibility and/or apathy (8%, see Table 2) and "country club" leadership, which reflects a high concern for people with little emphasis on results (6%, see Table 2). Two students' responses were so brief that they did not allow for analysis of the leadership style, and are marked not applicable (2%, see Table 2).

Discussion

By rendering this student work through the lens of Leithwood and colleagues' empirically based school leadership practices, it makes visible the extent, quality and depth of the repertoires of knowledge these students of school administration possess. Within each domain, the majority of responses were simplistic and superficial, falling

short of the mark the literature suggests students will need to hit as practitioners in order to improve student achievement.

In examining the most prevalent codes, we see students generally tend to setting directions (91%), keeping account of teacher performance in adhering to the directions (79%), provision of professional development to compensate for deficits teachers may have when pursuing the directions (75%), and modification of organizational structures (68%) to better suit the directions. It is only these four of the 13 codes to which more than half of the participants attend. Perhaps it is the concrete nature of deciding upon a direction, watching performance, implementing a development program, and changing structures (e.g., like the schedule) that make these codes accessible to students of school leadership. Perhaps these are the behaviors they perceive as important due to their own experience as a member of an organization—that is, their leaders previously modeled the behavior associated with these codes and not others.

Of the remaining nine codes, which are all desired leader behaviors, none were observed in even half of the responses. Noteworthy is that capacity building codes like creating shared meaning and modeling desired behavior, receive by far the least attention (12% or less each). Perhaps this is due to the less concrete, often murky, and difficult to address nature of human capacity building. It is much harder for a leader to measure whether they created shared meaning, or exercise influence, than it is for them to know if they set forth a direction, or exercise control. Altogether, these data suggest that students would benefit from increased scaffolding of how leaders set directions, develop people, and make the organization work, given that multiple nuances within each domain were absent in their responses.

Further, the responses reflected mostly leadership styles where actions would be taken unilaterally by an individual with little understanding of the need for working through and with others to effect organizational change. The two most common styles, blended leadership and authority compliant leadership, comprising two-thirds of the responses, both emphasize results over people. This finding may reflect the current context of high stakes accountability. The two least prevalent styles, impoverished and country club, put little to no emphasis on results. Arguably the emphasis on both results and people found in the team style of leadership is best in that balancing results and people is implied in leaders attending to setting directions, developing people, and making the organization work. Yet, less than a quarter of the students' responses were characterized by this style, which suggests a need to integrate most students' knowledge of the organization and how to redesign it to achieve goals with the fact that it is comprised of people through whom results are achieved.

Implications and Conclusion

While these preparation programs may be addressing the importance of the knowledge and skills represented in the dimensions and domains within this framework, these student responses do not demonstrate mastery, fluency, or even familiarity with the majority of the behaviors shown to influence student achievement. Improving the number of students who express the intention to exhibit behaviors empirically and positively associated with student achievement could likely be increased by students observing these leadership behaviors in their own schools. Yet preparation programs cannot control which schools students come from and thus their ability to have first-hand observation of these behaviors from their vantage point as a teacher. Preparation programs, however, can expose students to these desirable leadership behaviors.

University preparation programs might consider rethinking current instructional strategies and find ways to authentically expose students to leaders and leadership that display these behaviors through providing digital practicum experiences like these cases. Learning experiences such as the ETIPS cases used in this study provide an opportunity for students of leadership to make observable their approach to exercising influence. By requiring students to be explicit about their approach to the practice of leadership, it supports both their clear articulation of their espoused theories and also renders their thinking more visible for comment and intervention by their program faculty.

Another implication for preparation programs is that they provide school-based practicum experiences in sites where leaders do model a fuller range and more nuanced array of these leadership practices. Observation does not assure that students will

internalize this full set of behaviors, but with guidance and reflection it can help them see these theories in action, which is a key step in the process of learning them.

These results also suggest that attention must be given to how it is that adult learners can become more facile in complex skill sets that call for strong inter- and intra-personal skills. Further, university programs may want to reflect upon existing programs to determine if features of their programs privilege and emphasize some behaviors over others, which may be perceived by students as ascribing greater importance to them. Faculty may then consider how to modify programs to present a more balanced exposure to the entire range of these domains and their elements, thereby communicating to students that all behaviors deserve attention, and that setting directions, monitoring performance, providing professional development, and altering structures without the remaining complementary and necessary behaviors that develop shared meanings and collaborative practices and create communication and data feedback loops will not yield the same positive influence on student achievement.

The findings suggest that while the declarative knowledge of students aligns in some ways with the domains in our conceptual framework of empirically based school leadership practices, these data mostly illustrate the deficits that exist in students' breadth, quality and depth of knowledge. It is a limitation of the study that it is not a representative sample of pre-service educational administration students, and thus our conclusions do not apply to all institutions that prepare school leaders. However the study does illustrate a means by which a program can generate its own data. These data hint that programs may find that their students would benefit from increased scaffolding of how leaders set directions, develop people, and make the organization work, given that

multiple nuances within each dimension were absent in the sample's responses. We conclude that leadership preparation programs should conduct their own analysis of students' knowledge through this or similar means to determine students' relative understanding of effective leadership practices and the types of learning experiences they still need. Digital practicum experiences such as the ETIPS cases described here are a promising means for formatively assessing and providing feedback to students so as to build their knowledge of effective leadership practice. Because they also offer a cost-effective approach to developing leadership students' decision-making abilities (Tucker & Dexter, 2012), further research and development of digital practicums seem warranted.

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PAPER TWO:

KEY LEADER PRACTICES SHOWN TO INFLUENCE STUDENT ACHIEVEMENT:

A SYNTHESIS OF MAJOR FRAMEWORKS

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Abstract

Background

The field of educational leadership has accrued a body of research that explains how leaders influence student achievement through the use of various practices. Yet, differences exist in the substance of the primary frameworks that assert the areas to which leaders should attend.

Research Design

We identify the body of empirical work and existing frameworks related to effective leader practices. Then, we use analysis and synthesis.

Conclusion

This study unifies the findings of the existing frameworks through development of cohesive domains and practices. Based upon these analytic approaches, we suggest a blended framework for both researchers and practitioners to use to inform their work. This framework will be of particular interest to those involved in the practice and policy related to school leader preparation, development, and evaluation.

KEY LEADER PRACTICES SHOWN TO INFLUENCE STUDENT ACHIEVEMENT:

A SYNTHESIS OF MAJOR FRAMEWORKS

The importance of school leaders and their daily practices in creating fertile learning environments for teachers and students is receiving increased attention from policymakers and a host of entities committed to improvement of pk-12 education. While the instructional role of teachers continues to be viewed as the primary determinant of student achievement, we now have substantial evidence that the leader's role in school effectiveness is pivotal in terms of enabling teachers to improve student achievement (Halinger & Heck, 1998; Mulford, Kendell, Ewington, Edmunds, Kendell, & Silins, 2009; Suppovitz, Sirinides, & May, 2009). Almost four decades of work allow researchers to assert in a well-substantiated way the importance of leadership, and how it relates to student achievement, the current objective of educational policy (Creemers, 1996).

The supporting research for these practices has coalesced around developing conceptions of school leadership and the central role of the principal. Instructional leadership was viewed as foundational to the work of principals during the 1980s. Research began to accrue around this basic construct such that a review of the literature spanning the years of 1980-1995 by Hallinger and Heck (1998), concluded that "the general pattern of results drawn from this review supports the belief that principals exercise a measurable, though indirect effect on school effectiveness and student achievement" (p. 186). This conclusion has stood the test of time but questions arose

regarding the narrow focus on the school leader and what practices constituted instructional leadership (Leithwood, 2012).

In the ensuing decades, the aperture used to study the dynamics of school leadership and the respective roles of different parties began to widen from principals to teachers and parents. Today, a number of robust frameworks articulate the practices of school leaders. Some frameworks, such as the national ISLLC Standards, reflect both the empirical evidence on school leadership and "craft knowledge" (Murphy, 2005). While these standards have substantial policy influence on preparation program designs, program accreditation, licensure, professional development and evaluation, they reflect multiple perspectives on what constitutes good practice as a leader. The distinct purposes of this paper are to identify and synthesize the empirical research on how leadership influences student achievement, which in turn, provides evidence on how school leaders should direct their efforts. These efforts, when grouped together by type, can be described as "practices." We deliberately choose the term "practice" to describe "the bundles of activities" (Leithwood, 2012, p. 5) that comprise effective leadership. An important connotation and implication of "practice" is they can be considered the integration of a discrete set of actions (Leithwood, 2012) that can be improved with effort and commitment. Within the body of literature, multiple scholars assert multiple sets of effective leader practices in the form of frameworks (Leithwood, 2012; Murphy, Elliot, Goldring, & Porter, 2006; Sebring, Allensworth, Bryk, Easton, & Luppescu, 2006).

Differences persist in the substance and organization of the practices depending on the parameters of the foundational research for each. We recognize that the act of leadership is not static and that it responds to various environments, which may, along

with the method by which the practices were analyzed, explain the current variation in frameworks. Because differences exist, and because we acknowledge the value in multiple frameworks, we assume a critical perspective of the current state of effective leader practice, and see an opportunity to capture and unify empirically asserted effective leader practices in a way that accurately reflects what we know about effective school leadership. That is, leadership which enhances student achievement.

Definitions

Before proceeding, it seems helpful to clarify the meaning of two terms, leaders and leadership, that are often used interchangeably much to the confounding of meaning and understanding of both. We subscribe to definition of leadership offered by Leithwood (2012) as "the exercise of influence on organizational members and diverse stakeholders toward the identification and achievement of the organization's vision and goals" (p. 3). It is "exercised through relationships between and among individuals" (p. 3) who include administrators, teachers, parents, and community partners. Leadership can be enacted by a host of individuals and is not necessarily the province of a school principal who has formal authority. Leaders are those who influence and mobilize others in the pursuit of a goal. In the case of schools, the most salient goal in our current policy context is student achievement. What are the leader practices or "bundles of activities exercised by a person or group of persons" (Leithwood, 2012, p. 5) that influence student achievement? These practices are expected of school principals but are often distributed across many individuals who are informal leaders within the context of schools, or the communities in which they are located.

Historical Context

The centrality of the principal's role to effective schools is often traced to the work of Ron Edmonds and others (Brookover et al., 1982, Edmonds, 1979; Frederickson & Edmonds, 1979). By the mid-1980s, "instructional leadership became the new educational standard for principals" (Hallinger, 1992, p. 37). While the emphasis was clearly on the technical core of schools, that is teaching and learning, the activities of instructional leadership often were vested in the principal. Early work by Hallinger (1984) delineated principal behaviors that constituted instructional leadership such as framing school goals, supervising and evaluating instruction, coordinating the curriculum and monitoring student progress. Reflective of the times, there was a hierarchical and supervisory tone to these practices in most cases although Glickman (1989) argued for the conception of principals as the "leader of instructional leaders" (p. 6) who worked closely with teachers and other key players in the school context.

Broader views of instructional leadership also included managerial behaviors (Donmoyer & Wagstff, 1990; Murphy, 1988). Recent quantitative studies also indicate that an organizational focus rather than a strict instructional approach provides more of an influence on student achievement (Francera & Bliss, 2011; Grissom & Loeb, 2011). Grissom and Loeb find that the organizational function of school leaders consistently predicted student achievement growth. These authors report that a standard deviation increase in organizational management used by the principal associates with ten percent of a standard deviation in student achievement (Grissom & Loeb, 2011, p. 1106). In this study, the authors identify and define a latent construct from exploratory factor analysis as "organizational management," that includes measures of school safety, managing the

budget, and dealing with staff concerns.

The active collaboration of principals with teachers around curriculum, instruction and assessment has been termed "shared" instructional leadership (Marks & Printy, 2003). Shared instructional leadership differs from its predecessor, instructional leadership, in that the leader adopts an interactive and collaborative role when addressing the instructional program (Marks & Printy, 2003; Printy, Marks, & Bauers, 2010). Instructional leadership, marked by the reservation of decision-making and other power structures for the principal role, came to be regarded as outdated once schools moved away from strict bureaucratic organizational models and school districts increasingly began to adopt local control policies. Shared instructional leadership calls for the leader to act as less of an inspector of teacher practice and more of a facilitator of continual teacher growth. In this model, teachers and principals work together to investigate best practices, engage in action research to improve practices, and, the principal eschews directives or criticism to establish a "community of learners" (Marks & Printy, 2003).

During the next decade, an alternative conception of principals as transformational leaders began to take hold. This model of leadership was derived from the work of Burns (1978) and focused on developing the capacity of the organization through a commitment to collective goals and the larger good (Bass & Avolio, 1993; Leithwood, 1994). Instead of an exclusive focus on the instructional core of schools, transformational leadership in education encourages school leaders to create a school culture that inspires and motivates educators to collaboratively improve organizational performance (Hallinger, 1992). Principals and other leaders thus become change agents. Leithwood and his colleagues described three major characteristics of transformational

leadership: mission centered, performance centered and culture centered (Leithwood, 1994; Leithwood & Jantzi, 1990; Leithwood , Jantzi & Steinbach, 1999).

Transformational leadership binds the leader and teachers in a continual pursuit of higher purposes so that their combined efforts move the organization toward improvement (Avey et al., 2010; Avolio & Gardner, 2005; Leithwood, 2012). Often this transformative approach begins with purposeful inspiration that melds together the goals of the overall organization and the individual such that attaining an organizational goal cannot always be clearly separated from attaining an individual's goal. During the process of attaining organizational improvement, the relationship between the leader and teacher improves through the development of a common vision and shared meanings, which provide sustained forward momentum. Accordingly, teachers involved in this transformational relationship begin to transcend their own self-interests and instead adopt interest in seeing the greater organization succeed. Leaders utilizing the transformational approach call upon at least one of the following factors: idealized influence, inspirational motivation, intellectual stimulation, or individualized consideration (Fu, Tsui, Lu, & Liu, 2010). Transformational leaders find ways to tap into follower motivation by reflecting the individual's interests (and need for efficacy) in some aspect of the larger organization. By focusing on fostering collaboration and continual inquiry, transformational leaders seek to shape a positive organizational culture and cultivate the type of collective efficacy referenced by Francera and Bliss (2009).

Ushering in the 21st century, Marks and Printy (2003), in an empirical study of instructional and transformational leadership, found that effective principals worked "simultaneously at transformational and instructional tasks" (p. 377). They proposed the

idea of integrated leadership that blended transformational leadership and it reform orientation with shared instructional leadership and its collaborative work around curriculum, instruction and assessment. Schools with integrated leadership had higher pedagogical quality and were higher achieving by roughly a 0.6 standard deviation in both regards. As noted by the authors, "when the principal elicits high levels of commitment and professionalism from teachers and works interactively with teachers in shared instructional leadership capacity, schools have the benefit of integrated leadership; they are organizations that learn and perform at high levels" (p. 393).

The construct of integrated leadership which combines shared instructional leadership and transformational leadership provide a rich theoretical base for the rationale of a focus on both results and individualized concern (Waters, Marzano, & McNulty, 2005). Each alone is insufficient, but when enacted in tandem, student achievement is increased. Integrated leadership acknowledges that a solid, results-focused management approach must be in place before, or at least simultaneous to, expecting teachers to engage in transcendental and transformational work. Much like Maslow's hierarchy of needs (1943) in which individuals require that basic needs be met, such as food and shelter, before they can move toward interdependency and self-actualization, organizations must first prioritize the basics of instructional leadership. Shared instructional leadership calls for the leader to approach these fundamental tasks with a collaborative and inclusive spirit to the extent possible, and distribute responsibility and decision making while also eliciting input. When teachers perceive a principal's instructional leadership to be acceptable, and sense their input as valued, they then may become more accepting of the invitation to innovate and transcend, and allow principals

to remove barriers to their growth.

More recently, research findings from a broad-based undertaking in the Chicago Schools by the Consortium on Chicago School Research (Sebring, Allensworth, Bryk, Easton, & Luppescu, 2006) have further defined the necessary conditions for school improvement and student achievement. Through a large scale effort to collect data from teachers and students on conditions in schools which were linked to measures of reading and math, researchers were able to link five essential supports to increased student achievement: leadership (defined broadly), parent-community ties, professional capacity, student-centered learning climate and ambitious instruction. This framework expands the circle of relevant conditions for student achievement to include much more active roles for all educators in a school as well as families and community partners.

The ambitious purpose for this paper is to examine the commonalities and differences of existing, empirically-based frameworks of activities that increase student achievement and propose a blended model of school leader practices that (a) reflects the thinking of eminent scholars, (b) is supported by rigorous empirical research, and (c) conveys the evolving breadth and depth of practices that contribute to improved student achievement.

Method

As an initial step in conducting the literature review, we consulted experts in school leadership for recommendations regarding seminal frameworks which identified effective leader practices with strong empirical support. We then searched prominent journals pertaining to school leadership and Google scholar during the years of 2000-2014. Search terms included school leadership, effective, framework, practices, and

behavior, as well as their combinations. Using these parameters, the initial inquiry yielded four distinct frameworks. Of those frameworks, two result from a review of the literature (Leithwood, 2012; Murphy et al., 2006), one is a meta analysis with effect sizes (Robinson et al., 2008), and one analyzes survey and student achievement data from a longitudinal design (Sebring, Allensworth, Bryk, Easton, & Luppescu, 2006).

We refer to the actions or practices as dimensions and the clusters or groupings of dimensions as domains. The Robinson et al. framework (2008) uses meta-analysis and calculates effect sizes for constructs generally used by other authors as domains, rather than dimensions or practices. The calculation of effect sizes is useful, but by nature of the analytic approach, it does not include qualitative studies in its review. Because Robinson et al. (2008) do not assert dimensions explicitly and does not provide details of "practice" beyond the organizing "domain," we note the distinction and consider the implications for the review. We include findings from this study in the general review of the supporting empirical evidence for leader practices; however, because it cannot contribute to the synthesis and development of the more specific practices and dimensions, we set it aside and call upon it in the construction of the domains. The three remaining frameworks are the products of ongoing research by groups of scholars and offer both domains and dimensions of practice.

Frameworks

Based on the above search approach, we identify three noteworthy frameworks. Leithwood (2012) reviews the research to capture his definition of effective leader behaviors in the Ontario Leadership Framework (OLF). The framework rests upon a review of 47 empirical works, 36 of which were published since 2007. Murphy, Elliot,

Goldring, and Huff (2006) also review the research to identify practices associated with effective leaders in the Learning Centered Leadership Framework (LCL). Their review includes 157 works which are both empirical and theoretical in nature. The earliest of these works was published in 1971 and the latest was published in 2006. The OLF and the LCL together almost seamlessly span reviews of the literature during 41 years. Sebring and colleagues (2006) identify effective leader behaviors in the Essential Supports Framework, which they derive from analysis of longitudinal survey and student achievement data. The design of their study was informed by 119 studies published between 1982 and 2005.

Ontario Leadership Framework (OLF). In the most recently developed of the frameworks, Leithwood (2012) conceives of leadership in schools through a review of the literature that links student achievement to leadership. The framework is comprised of four domains: (a) setting directions, (b) building relationships and developing people, (c) improving the instructional program, and (d) securing accountability. There are 21 dimensions that bring specificity to the overarching domains.

Table 1

Domains and Dimensions in the Ontario Leadership Framework

Setting Directions
Building a shared vision
Identifying specific, shared short term goals
Creating high performance expectations
Communicating the vision and goals
Building Relationships and Developing People
Providing and demonstrating individual consideration for staff members
Stimulating growth in the professional capacities of staff
Modeling the schools values and practices
Building trusting relationships with and among staff, students, and parents
Establishing productive relationships with teacher federation representatives
Developing the Organization to Support Desired Practices
Building collaborative cultures and distributing leadership
Structuring the organization to facilitate collaboration
Building productive relationships with families and communities
Connecting the school to its wider environment
Maintaining and safe and healthy school environment
Allocating resources in support of the school's vision and goals
Improving the Instructional Program
Staffing the instructional program
Providing instructional support (supervising and evaluating teaching; coordinating curriculum)
Monitoring student learning and school improvement practice
Buffering staff from distractions to their work
Securing Accountability
Building staff members' sense of internal accountability (promoting collective responsibility)
Meeting the demands for external accountability

Note. Adapted from "Ontario Leadership Framework with A Discussion of the Research Foundations," by K. Leithwood, 2012. Copyright 2012 by the Institute for Education Leadership, OISE.

Learning-Centered Leadership (LCL) Framework. Murphy et al. (2006) developed this framework as part of the larger Vanderbilt Assessment of Leadership in Education (VAL-ED) project to design a 360º assessment tool for school leaders. Like the OLF, it also results from a review of studies that examine the influence of leadership

on student achievement. It is the oldest of the three frameworks, and is comprised of eight major domains and 31 dimensions.

Table 2

Domains and Dimensions in the Learning-Centered Leadership Framework

Vision for Learning	**Communities of Learning**
Articulating vision	Professional development
Implementing vision	Communities of professional practice
Developing vision	Community-anchored schools
Stewarding vision	**Resource Acquisition and Use**
Instructional Program	Acquiring resources
Knowledge and involvement	Allocating resources
Hiring and allocating staff	Using resources
Supporting staff	**Organizational Culture**
Instructional time	Production emphasis
Curricular Program	Accountability
Knowledge and involvement	Learning environment
Expectations, standards	Personalized environment
Opportunity to learn	Continuous improvement
Curriculum alignment	**Social Advocacy**
Assessment Program	Stakeholder engagement
Knowledge and involvement	Diversity
Assessment procedures	Environmental context
Monitoring instruction and curriculum	Ethics
Communication and use of data	

Note. Adapted from "Learning-Centered Leadership: A Conceptual Foundation" by J. Murphy, S. N. Elliot, E. Goldring, & A. Porter, 2006. Copyright 2006 by the Wallace Foundation.

The Essential Supports (ES) Framework. Through analyzing longitudinal survey and student achievement data in Chicago Public Schools, Sebring, Allensworth, Bryk, Easton, and Luppescu (2006) set forth seven domains and 16 dimensions. This framework distinguishes itself as the only empirically derived framework and is described by the authors as a "theory of practice" because it was intended to provide

"clinical guidance to practitioners" (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010, p. 44). The sample is composed of public schools in Chicago and as a consequence, the findings may generalize more so to urban schools.

Table 3

Domains and Dimensions in the Essential Supports Framework

Leadership
Inclusive leadership focused on instruction
Faculty/Parent/Community influence
Strategic orientation
Parent-Community Ties
Teachers learn about student culture and local community
Staff engages parents and community in strengthening student learning
Professional Capacity
Quality of human resources
Values and beliefs about teacher responsibility for change
Quality of professional development
Professional community
Student Centered Learning Environment
Safety and order
Press toward academic achievement coupled with personal concerns for students
Ambitious Instruction
Curricular alignment
Intellectual challenge

Note. Adapted from "The Essential Supports for School Improvement" by P. B. Sebring, E. Allensworth, A. S. Bryk, J. Q. Easton, & S. Luppescu, 2006. Copyright 2006 by the Consortium on Chicago School Research.

Review and Analysis of Literature

We review studies cited as support for practices in the frameworks and we cross-reference to confirm empirical backing for each of them. These processes yield a final list of 56 studies. Given the relatively low number of studies meeting the established the aforementioned criteria, and the circumstance of the various methods (literature review

and analysis of different data) frameworks utilized to capture effective leader practice, it follows that some variation in asserted domains as well as more specific dimensions/practices exists. We describe the existing domain labels here to complement Tables 1-3 that list the dimensions/practices. Table 4 provides an overview of how the domains, created by the respective scholars differ.

Table 4

Domains in Three Prominent Frameworks

Framework	Domains						
Essential Supports	Leadership for change	Ambitious instruction	Student centered learning environment	Professional capacity	Parent/ community ties		
Learning-Centered Leadership	Vision for learning	Instructional program; Curricular program; Assessment program		Communities of learning		Resource acquisition and use; Organizational culture	Social advocacy
Ontario Leadership Framework	Setting directions	Managing the instructional program		Developing people		Redesigning the organization	

Note. Adapted from "Ontario Leadership Framework with a Discussion of the Leadership Foundations," by K. Leithwood, 2012. Copyright 2012 by the Institute for Education Leadership, OISE; "Learning-Centered Leadership: A Conceptual Foundation" by J. Murphy, S. N. Elliot, E. Goldring, & A. Porter, 2006. Copyright 2006 by the Wallace Foundation; "The Essential Supports for School Improvement" by P. B. Sebring, E. Allensworth, A. S. Bryk, J. Q. Easton, & S. Luppescu, 2006. Copyright 2006 by the Consortium on Chicago School Research.

Research Question

In light of this variation at both the domain and dimension levels, a review of the relevant research and how it contributes to a more holistic schema for leader practices appears warranted. If each of the dimensions asserted within the three different frameworks have empirical support, yet differences exist as to the substance of the asserted dimensions among frameworks, a resulting assumption is that none of the

frameworks wholly encompass all of the empirically derived practices of effective leaders. Each framework, possibly because of the aforementioned variation in sample and analytic approach, captures some of the effective leader practices. A logical progression from this observation would be to attempt to unify the findings in the field through analysis and synthesis, and consider if and how these practices can be gathered, combined, and organized to include the thoughtful construction of domains as well as the careful combining of similar dimensions to wholly reflect the research of all scholars. Because of the gap we delineate, our question is:

> What are the findings from the field regarding effective leader practices and how can these findings be synthesized to represent what we know in aggregate?

When the practices asserted by all three of the frameworks are synthesized and totaled, 28 practices emerge. The synthesis involves the combining of practices that differ in semantics. No practice was eliminated (see Tables 1-3). For example, one framework asserts "leading instruction" while another calls it "facilitating instruction." Including both of these as separate practices would be duplicative, so the practice included here is "developing and monitoring instructional program." Another example of synthesis occurred within the domain of establishing and conveying the mission and vision. The OLF named a related practice, "building a shared vision." The LCL expressed the same sort of practice as three separate practices: "developing vision," "stewarding vision," and "articulating vision." To balance the need for parsimony with accuracy, we develop the name for the practice of mission and vision building as "creating, articulating, and stewarding the mission and vision." This synthesis through rephrasing and combining captures the intent of multiple authors. Tables 1-3 describe the domains and dimensions

asserted by respective authors in their original language.

We then group the 28 practices asserted by empirical work into five over-arching, larger "domains." The standards for the clustering and assignment of practices, and therefore the inductive labeling of the domains, are determined by considering the following criteria: (a) the practices asserted unanimously (which may be seen as an indicator of robustness), (b) if and how the practices could be considered to "indirectly" influence student achievement through leveraging organizational contexts purportedly under the discretion of formal school leaders as this is reflective of the theoretical and empirical models accepted in school leadership (Leithwood & Sun, 2012; Marks & Printy, 2008), and (c) if and how the practices could be considered to "indirectly" influence student achievement through a leadership focus on those routines and responsibilities normally associated with the act of teaching (Hallinger & Heck, 1996; Hallinger & Heck, 1998), as it is effective teaching that remains the most important school based factor for student achievement.

Results

In Table 5 we indicate the 28 specific practices and their inclusion in each of the three frameworks to derive a descriptive tally for each practice. Some practices receive support from one framework and others receive support from all three frameworks, and this description provides a method to reveal the level of prominence which characterizes each practice. Of these 28 dimensions, all three frameworks explicitly identify twelve practices as "in common." Another twelve practices receive support from two sets of authors. Four dimensions are identified in only one framework.

In an effort to maximally organize and unite the practices, five essential broad

areas, or domains, of effective leader practices emerge as a result of the review: (a) establishing and conveying the vision (b) facilitating a high quality learning experience for students, (c) building professional capacity, (d) creating a supportive organization for learning, and (e) connecting with external partners. As shown in Table 4 by the variation in broad domains utilized by researchers, there is not full consensus on how to organize the practices into a conceptual framework. The broader "domains" largely demonstrate incongruency. For example, not all frameworks assert a domain relating to managing the organization, or student centeredness. Some frameworks consider an action as a dimension/practice while others label it as a broader domain. For example, the Essential Supports Framework has a domain addressing parents and community, but the LCL and the OLF consider these entities as practices within broader domains. When analyzed at the more specific "dimension" level, similarities emerge. Accordingly, the discussion will reference both domains (when organized as such by authors) and dimensions, but comparisons and contrasts are noted at the dimension level, as indicated in Table 5. Because our analysis entailed reviewing original empirical work from which framework dimensions were derived, we reference primary sources in our discussion of the following results.

Table 5

Blended Model of Effective Leader Practices

Domains and Dimensions	Essential Supports Framework	Learning-Centered Framework	Ontario Leadership Framework
Establishing and conveying the vision			
Creating, articulating and stewarding shared mission & vision	✓	✓	✓
Implementing vision by setting goals and performance expectations		✓	✓
Modeling aspirational and ethical practices		✓	✓
Communicating broadly the state of the vision			✓
Promoting use of data for continual improvement		✓	
Tending to external accountability		✓	✓
Facilitating a high quality learning experience for students			
Maintaining safety and orderliness	✓		
Personalizing the environment to reflect students' backgrounds	✓	✓	✓
Developing and monitoring curricular program	✓	✓	
Developing and monitoring instructional program	✓	✓	✓
Developing and monitoring assessment program		✓	
Building professional capacity			
Selecting for the right fit	✓	✓	✓
Providing individualized consideration		✓	✓
Building trusting relationships	✓		✓
Providing opportunities to learn for whole faculty, including leader(s)	✓	✓	✓
Supporting, buffering, and recognizing staff		✓	✓
Engendering responsibility for promoting learning	✓	✓	✓
Creating communities of practice	✓	✓	
Creating a supportive organization for learning			
Acquiring and allocating resources strategically for mission and vision	✓	✓	✓
Considering context to maximize organizational functioning	✓	✓	✓
Building collaborative processes for decision making	✓		✓
Sharing and distributing leadership	✓		✓
Tending to and building on diversity	✓	✓	
Maintaining ambitious and high expectations and standards	✓	✓	✓
Strengthening and optimizing school culture	✓	✓	✓
Connecting with external partners			
Building productive relationships with families and external partners in the community		✓	✓
Engaging families and community in collaborative processes to strengthen student learning	✓	✓	✓
Anchoring schools in the community	✓	✓	✓

Note. Adapted from "Ontario Leadership Framework with a Discussion of the Leadership Foundations," by K. Leithwood, 2012. Copyright 2012 by the Institute for Education Leadership, OISE. Adapted from

Establishing and Conveying the Vision

The practices within this domain share a focus on the establishment of a purpose and a complementary set of supporting practices to facilitate attaining that purpose. According to a meta analysis of 22 published, peer-reviewed studies conducted between 1978 and 2006 that examine the connection between leadership and student achievement, establishing goals and setting expectations has an effect size of 0.42 standard deviations (Robinson et al., 2008), a moderate to large effect in terms of educational research. The magnitude of this effect size is in keeping with a body of social science research that explains the importance of goals for individuals and organizations (Harris & Lambert, 2003; Latham & Locke, 2006; Silins & Mulford, 2002). Goals provide a sense of clarity and common purpose in the formerly described type of dynamic environment that might otherwise be overwhelming (Latham & Locke, 2006). Table 6 lists the six practices within the domain of establishing and conveying the mission and vision.

Table 6

Domains and Dimensions Pertaining to Vision: Blended Model, OLF, LCL, and ES

Blended Model: *Establishing and Conveying the Mission and Vision*	OLF: *Setting Directions*	LCL: *Vision for Learning*	ES: *Leadership*
Creating, articulating, and stewarding shared mission and vision	Building a shared vision	Developing vision; Stewarding vision; Articulating vision	
Implementing the vision by setting goals and performance expectations	Identifying specific, shared short term goals	Implementing vision; Expectations, standards*	
Modeling aspirational and ethical practices*	Modeling the school's values and practices*	Ethics* (and, specifically discussed within multiple dimensions*)	
Communicating broadly the state of the vision	Communicating the vision and goals		Inclusive leadership focused on instruction
Promoting use of data for continual improvement		Communication and use of data*	
Tending to accountability	Meeting the demands for external accountability; Establishing productive relationships with teacher federation representatives	Environmental context	Strategic orientation

Note. * Denotes author assigned the dimension to a substantively different domain in their framework.

Creating, articulating, and stewarding shared mission and vision. While setting the direction may seem like a simple task, it is the method by which the direction is decided and the subsequent activities that may be just as important as the substance of the direction itself. Leaders must regard the internal organization, and the external community, and approach these stakeholders as valuable contributors (Fu, Tsui, Lu, & Liu, 2010). As such, effective principals seek input once they define an outline for the

vision (Sebring et al., 2006). Leading, after all, is the act of exercising positive influence toward the attainment of beneficial goals (Robinson et al., 2008). Exercising of influence, not just the act of deciding, is essential and challenging when motivating individuals within organizations to pursue a direction. It is not enough for leaders to decide the goals for the school in isolation. If those goals are not embraced and reflective of what teachers and parents perceive as appropriate, and personally compelling (Podsakoff, 2004), then the leader must either readjust the focus of the vision or work to reframe what stakeholders see as the solution. The practice here is more about *how* to set direction for a school in a way that encourages teachers to both initially support the vision and continue to see it through for the long term. Leithwood (2012) notes in the Ontario Leadership Framework that significant time can be productively spent in this practice. The extent to which the vision is simultaneously reflective of both individual and group goals has implications for how well the ideas will be accepted and the likelihood of the vision being attained. In short, leaders should find ways for teachers to see the vision as personally compelling and engaging, and at the same time, connecting the vision to the broader organizational needs.

As such, principals create a general plan for the school, and then invite teachers, parents, and other stakeholders to participate in the further formation of the vision and mission (Sebring et al., 2006). Involving teachers as active participants in the school improvement process leads to a strengthened design as well as increased support and buy-in of the resulting plan (Sebring et al., 2006). The direction setting process includes leaders developing, articulating, implementing, and stewarding the vision for learning by utilizing processes that prioritize collaboration while requiring stakeholders to use data

that illuminates the direction for the organization. Leaders should also tend to individuals regarded as outliers and find ways to engage them productively (Ryan, 2006).

Implementing the vision by setting goals and performance expectations. To accompany the act of deciding upon the vision, leaders also engage in other practices that sustain the pursuit of the goal. Bringing the vision to life through discernment of goals and objectives creates shared meaning (Leithwood, 2012). Deciding upon specific, short-term, easily understood, and facilely measured goals translate ideals into reality. One of the most important parts of this practice is clearly communicating these shared goals, to the point that references to them are heard in conversations around the building on a regular basis (Leithwood, 2012). While creating shared meaning may at times seem like an exercise in logistics, it is also a time to define how individuals contribute to the vision attainment, be it through contribution of actions or ideas. Creating shared meaning will call for initial conversation to unearth the details that need attention, and then also continued dialogue to be sure that everyone is on board to the extent possible.

Communicating broadly the state of the vision. During the entire direction setting process, leaders tend to regular, two-way communication with stakeholders that includes both the sending and receiving of progress updates and changes (Supovitz et al., 2009). Such communication may diffuse the dysfunction associated with information being irregularly shared. And, ideally, every teacher would participate in defining the vision and the goals for the school; however, that may not be feasible. To address this challenge, leaders should strive to continually communicate different aspects of the vision (Leithwood, 2012). For example, once the vision has been decided, that information, and the implications must be shared on a widespread basis, with special care

afforded in including those who were not directly involved with the decision-making process. Then, status updates should occur regularly to keep people apprised and to maintain the vision at the forefront of everyone's mind. Also, leaders continually reiterate, in both large and small group settings, the importance of the vision. Enlisting the support of others who are making good progress on goals helps to spread the word and add credibility to the vision (Leithwood, 2012).

Promoting use of data for continual improvement. Effective leaders use multiple forms of student data to inform the improvement efforts in the various realms of a school (Leithwood & Montgomery, 1982; Murphy, 2006). These realms include the school's mission and vision, the curricular and instructional programs, and even teacher evaluation. Leaders encourage and expect teachers to examine data in multiple job embedded contexts to include departmental meetings, subject and grade level teams, and individual exchanges (Murphy, 2006).

Tending to external accountability. Given the critical nature of the accountability environment, effective school leaders translate the external expectations and pressures teachers may sense into coherent and contextually-relevant goals for improvement (Murphy, 2006). This process leads to internalization of goals, which may help meet the external goals (Robinson, Hohepa, & Lloyd, 2009). Leaders also use care to consider how teacher may perceive these pressures, and find ways to keep motivation levels high and cynicism levels limited (Leithwood, Steinbach, & Jantzi, 2002)

Modeling aspirational and ethical practices. Modeling, a critical practice that addresses the "conveyance" portion of this domain's title, calls for leading by example. Modeling demonstrates for teachers what it is that they are expected to be doing. It may

be tempting to rely upon verbal, or written communication, to encourage the attainment of goals and vision. But, it is more effective if leaders deliberately embed the changes in their own practice. They at once communicate the importance of the change and allow teachers to see and experience the change in action (Avolio & Gardner, 2005; Hallinger, 2003; Waters et al., 2006). Effective leaders understand that modeling desired behavior encourages individual and organizational improvement (Jacobson et al., 2007).

Leaders are in some ways on display. By virtue of their formal roles, others notice what they do and how they do it. Effective leaders accept this heightened level of the organization's awareness and capitalize on it by displaying behaviors that reflect what it is they are asking teachers to do. When teachers experience the power of espoused goals, and objectives aligned with the vision, and see that the leader is not only espousing change, but is also changing their practice, leading by example becomes a powerful tool (Leithwood & Montgomery, 1982). Two frameworks assert this practice.

Building Professional Capacity

Once leaders embrace and demonstrate what they personally can do to promote the vision, and consider how to engage teachers, their attention turns to developing others, and themselves. Table 7 depicts this domain and its seven dimensions.

Table 7

Domains and Dimensions Pertaining to Building Professional Capacity: Blended Model, OLF, LCL, and ES

Blended Model: *Building Professional Capacity*	OLF: *Building Relationships and Developing People*	LCL: *Communities of Learning*	ES: *Professional Capacity*
Selecting the right fit	Staffing the instructional program	Hiring and allocating staff*	Quality of human resources
Providing individualized consideration	Providing and demonstrating individual consideration for staff members		
Building trusting relationships	Building trusting relationships with and among staff, students, and parents		Relational trust*
Providing opportunities to learn for whole faculty to include leader(s)	Stimulating growth in the professional capacities of staff	Professional development	Quality of professional development
Supporting, buffering, and recognizing staff	Buffering staff from distractions to their work*	Supporting staff*	
Creating communities of practice	Structuring the organization to facilitate collaboration	Communities of professional practice; Learning environment*	Professional community
Engendering responsibility for promoting learning	Providing instructional support (supervising and evaluating teaching)*	Accountability*	Values and beliefs about teacher responsibility for change

Note. *Denotes author assigned the dimension to a substantively different domain in their framework.

An important aspect of this domain is that the leader learns alongside his or her faculty about instructional improvements and methods set forth by the development activities (Robinson, et al., 2008). This sort of side by side learning is three-fold in its benefits as it not only strengthens the leader's knowledge in curriculum and assessment

(Murphy et al., 2006), a dimension shown to improve student achievement, but it also serves to strengthen teacher perceptions of the leader's credibility and legitimacy as an instructional leader, and it better equips the principal to be a source of knowledge and assistance. Teachers who perceive their leaders as skilled and well versed in effective teaching practices are more likely to seek assistance and intervention (Friedken & Slater, 1994). The modeling inherent in these activities may also communicate the importance of learning and intellectual stimulation for all, regardless of role and position.

This domain encompassing teacher learning rests upon a vast empirical base from which multiple bodies of literature confirm the importance of teacher quality (Carlisle, Kelcey, Berebitsky, & Phelps, 2011; Hamre & Pianta, 2005; Measures of Effective Teaching Project, 2010; Stronge et al., 1997; Palardy & Rumberger, 2008; Wright et al., 1997). While pinpointing effective professional development continues to elude researchers in many ways (Newman, Finney, Bell, Turner, Jaciw, Zacamay, Feagans & Gould, 2012; Rice, 2009; Wayne, Yoon, Zhu, Cronen, & Garet, 2008), we do know that the quality of teachers matters most for student achievement. And, while we may need to proactively address the recruitment facet of teacher quality, the reality is that the vast majority of the teacher workforce will be in place for years to come. Addressing the quality of in-service teachers is limited to strengthening their effectiveness through professional development and evaluation, as these comprise the known avenues to improve the quality and effectiveness of existing teachers. If school leaders hope to impact student achievement, then teacher quality, and by extension, teacher development, play a critical role.

Selecting faculty and staff for the right fit. The human resource management

function calls for the principal to proactively address teacher effectiveness by recruiting and choosing strong and capable practitioners who match the composition of a given faculty. Selection is often more effective with the input of existing faculty who can identify individuals who will best fit a grade level team or complement the members of an existing department. This function also allows the leader to reactively remove those who do not respond to professional development or otherwise detract from student achievement. Whether enacted proactively or reactively, leaders must guard their faculty composition as it is the single largest resource for maximizing student achievement. As such, effective leaders not only grow and develop teachers, but also counsel poor teachers to leave the profession (Grissom & Loeb, 2011).

Providing individualized consideration. Teachers need and crave learning opportunities (Higgins-D'Alessandro, 2002). Developing human capital in schools must be approached on both an individual and collective level (Leithwood, 2012). For example, leaders who mentor, or arrange mentoring relationships for faculty, provide an individualized development experience for both the mentor and the mentee. This type of learning allows for the unique strengths and limitations of an individual teacher to be addressed. Leaders must also find ways to combine each individual's needs into an all-encompassing faculty-wide development program (Hallinger, 2003). Leaders who approach change by harnessing existing strengths among teachers see that a collaborative, team-based approach may yield better results than un-orchestrated, scatter-shot individual efforts. Leaders understand that followers benefit from stimulating work and learning (Murphy et al., 2006; Sanzo et al., 2010). Therefore, leaders seek to design such experiences for their teachers so that by meeting the needs of their faculty, they exert an

indirect influence over student learning.

Building trusting relationships. To enhance the development of community, leaders genuinely care for teachers and their lives outside of the school (Murphy et al., 2006). When teachers perceive that leaders treat them as individuals, the foundations for trust take root, as do the pillars that define community: shared direction, cooperative work, and mutual accountability, all of which link to improved outcomes for students (Menges, Walter, Vogel, & Bruch, 2011). In these communities, leaders address conflict in ways that result in organizational improvement rather than dysfunction. Such practices include conflict resolution, problem framing and solving, and consensus building (Murphy et al., 2006).

Trust influences the degree to which teachers display a willingness to improve and change (Louis, 2007). One quantitative study analyzes 4,165 teacher surveys using step wise regression to examine the relationship between effective teacher behaviors and the teachers' trust in their principal (Wahlstrom & Louis, 2008). These authors find that almost 10% of the variance in teachers' effective instructional behaviors is explained by trust (p. 476). Another study explains how trust influences teacher professionalism (Tschannen-Moran, 2009). Using survey data from 80 middle schools and 2,355 teachers, regression is employed to find that 57% of the variance in teacher professionalism is explained through four trust variables (Tschannen-Moran, 2009, p. 236).

Providing opportunities to learn. Leaders also carefully consider and develop teachers as groups, and their efforts must also include developing needed skills and knowledge in larger groups or even on a faculty-wide basis (Leithwood, 2012). There will be some knowledge and skills in which all teachers need to gain proficiency.

Synthesizing, identifying, and then defining whole-group development opportunities is a key practice of leaders. One example might be literacy training for the entire faculty in an elementary school.

Supporting, buffering and recognizing individuals. As discussed within the "tending to external accountability" dimension, teachers are often faced with competing expectations. Effective leaders intervene to protect their faculty's time and energies from distractions that detract from mission, vision, and goal attainment. This usually occurs in the form of leaders preserving both instructional time and teacher work time. Francera and Bliss (2011) find that of the ten leadership practices they measured, protecting teachers' time was the only one with significant effects on student achievement and teacher collective efficacy. Leaders recognize and celebrate high quality teaching as measured by improved student performance, and link it to incentives and rewards (Leithwood, 2012; Murphy et al., 2006).

Engendering responsibility for learning. To accompany the practices of advancing and developing teachers, establishing expectations is an important preliminary step. Discerning baseline data for each teacher in terms goals for specific departments, grade levels, and other subunits within the school helps with alignment of effort at other levels (Jacobsen et al., 2007; Leithwood, 2012). With a clear understanding about the starting point, the work it will take to attain the vision (or the end point), and the intermediary goals, becomes much more defined. Leaders should assume a positive mindset for growth, invite teachers to use innovation in meeting the goals, encourage teachers to have high self-expectations, and promote an environment in which teachers assume responsibility for meeting expectations.

Creating communities of practice. Learning is a social endeavor and needs to be nurtured and supported. Leaders purposefully develop communities of practice to foster adult learning in the building (Murphy et al., 2006; Robinson et al., 2008). One concrete step that leaders can take is structuring the schedule such that job embedded learning occurs on a regular basis (Murphy et al., 2006). Other mechanisms that promote classroom and school-wide improvement include creating opportunities for professional dialogue and examination of student work (Murphy et al., 2006).

Creating a Supportive Organization for Learning

People want to succeed professionally, and schools offer ample opportunity for teachers to derive both individual and collective efficacy. But before most people can function at their best, some other affective conditions must be met (Grayson & Alvarz, 2008; Singh & Billingsley, 1998). Just as we know teachers must build relationships with their students before, or at least simultaneous to, teaching them (Brown, Jones, LaRuso, & Aber, 2010), similar emotional needs exist for adults (Grayson & Alvarz, 2008). Leaders who strive to model this relationship building with their faculties may not only see enhanced performance, but may also perpetuate what it is they hope to see in classroom interactions between teachers and students (Ostroff, Kinicky, & Tamkins, 2003). Although the substance of demonstrating concern for the well-being of their faculty looks different than in a classroom, it is when people sense that they are recognized and supported as valuable individuals by leaders that they may become committed to organizational objectives.

Effective leaders are at once task and relationship oriented (Robinson et al., 2008). Although some studies conceive of leadership practices as dichotomous, either

task oriented or relationship oriented, Robinson and colleagues propose that leadership has a dual focus. Ideally leader practices simultaneously encompass both orientations, as it is progress in both realms that positively influence student achievement. The two realms, according to Robinson and colleagues are not mutually exclusive but rather mutually beneficial as accomplishing work strengthens relationships, and the quality of accomplishments is improved when relationships exist.

This domain builds upon instructional, transformational, and integrated approaches to leadership by identifying practices leaders employ to concurrently demonstrate a concern for teachers and a press for results that ultimately yields benefit for both individuals and the organization. This is accomplished by finding ways to involve teachers in the broader definition of organizational culture and decision-making, and by establishing trusting relationships with all constituencies. Furthermore, mutual benefit is accomplished by helping teachers self-actualize through providing stimulating learning and growth experiences (Maslow, 1943). Leaders who positively influence student achievement think carefully about how to construct a school environment that both demonstrates a concern for the people in the organization and enables these same adults to achieve personal and organizational goals. Practices here, as described in Table 8, focus on the organizational supports that ultimately undergird an effective instructional program.

Table 8

Domains and Dimensions Pertaining to Creating a Supportive Organization for Learning: Blended Model, OLF, LCL, and ES

Blended Model: *Creating a Supportive Organization for Learning*	OLF: a) *Building Relationships and Developing People* b) *Developing the Organization to Support Desired Practices*	LCL: Organizational Culture	ES: n/a
Acquiring and allocating materials and resources for mission and vision	Allocating resources in support of the school's vision and goals*; Staffing the instructional program*	Acquiring resources*; Allocating resources*; Using resources*	Strategic orientation*
Considering context to maximize organizational functioning	Providing support and demonstrating consideration for individual staff members*	Environmental context*	Contextual resources
Building collaborative processes for decision making	Building collaborative cultures and distributing leadership		Faculty/Parent/ Community influence*
Sharing and distributing leadership	Building collaborative cultures and distributing leadership		Inclusive leadership focused on instruction*
Tending to and building on diversity	Building productive relationships with families and communities*	Diversity*	Teachers learn about student culture and local community*
Strengthening and optimizing school culture	Building collaborative cultures and distributing leadership		
Maintaining ambitious and high expectations and standards	Creating high performance expectations*	Continuous improvement*	Values and beliefs about teacher responsibility

Note. * Denotes author assigned the dimension to a substantively different domain in their framework.

Acquiring and allocating resources strategically for mission and vision. Robinson et al. (2008) find that resourcing strategically has an effect size of 0.31 standard deviations, which is an average and considerable effect size, and addresses the practice necessary for leaders to align resources with optimal program delivery. Teacher selection and staff assignment generally constitute a majority of the budget, so effective leaders astutely facilitate the human resource management function such that it supports, by way of hiring in particular, the vision and mission of a school (Leithwood, 2012; Murphy et al., 2006; Robinson et al., 2008; Sebring et al., 2006). Principals carefully allocate the remaining budget to professional development, necessary supports for students, and other expenses needed to support the vision.

Considering context to maximize organizational functioning. Leaders who promote improved student achievement adapt to context in order to maximize the strengths of the school and its community (Leithwood, 2012; Marks & Printy; Murphy et al., 2006; Sebring et al., 2006). Leaders approach their organizations from a strengths-based perspective in that they see the best in people and situations, and also allow for development and growth in themselves and their constituents (Tschannen-Moran & Tschannen-Moran, 2011). While leaders also maintain high expectations of teachers and students, they do so in ways that employ flexibility and astute discretion, while avoiding a rigid response (Daly, 2009; Leithwood, 2012; Marks & Printy, 2003; Murphy et al., 2006; Sebring et al., 2006).

Building collaborative processes for decision making. Effective leaders understand that fostering ways for all stakeholders to see themselves reflected in the decision making process improves the probability that those needed to enact the resulting

decision will actually participate. They also understand that the resulting decision will ultimately be enhanced in terms of quality and benefit to students when multiple perspectives work together (Supovitz et al., 2009; Leithwood & Mascall, 2009). This distributed approach, marked not only by intentional sharing but also by capacity building of those who may have previously remained in a follower or stakeholder role, exerts a positive influence on student achievement (Heck & Hallinger, 2009). Specifically, one longitudinal study utilizing multilevel change analysis shows that when leaders distribute decision-making, the overall academic capacity of a school improves, as do students' math scores (Heck & Hallinger, 2009).

Sharing and distributing leadership. Effective leaders recognize that the bureaucratic and hierarchical organization of schools is not the best way to promote student achievement (Murphy et al., 2006; Tschannen-Moran, 2009). Instead, these leaders distribute and share leadership and decision-making rather than centralize these functions, develop a sense of community rather than individuals, encourage collaborative work efforts rather than isolate practitioners, and base authority on expertise rather than role or position (Murphy et al., 2006; Tschannen-Moran, 2009). Reconceptualizing leadership in this way results in reculturing and formation of a base for community within a school (Devos, Tuytens, & Hulpia, 2014; Hulpia, Devos, & Hilde, 2006; Murphy et al., 2006).

Distributing leadership provides a way for leaders simultaneously to meet these ends of personal and organizational concern. Through collaboratively making decisions, leaders adjust school conditions to enable teacher commitment to the organization (Fu et al., 2010) as well as enhance performance of the teachers. Studies also suggest that

distributing leadership allows for leadership to manifest in others besides the formal leader (Elmore, 2000; Pounder, Ogawa, & Adams, 1995; Spillane, 2006). This is in keeping with research outside of the education realm that indicates that overall organizational health and performance improve when leaders share authority and responsibility (Durbin, 2004; Murphy et al., 2006).

Tending to and building on diversity. Effective leaders view diversity, in terms of people and ideas, as a benefit. "Effective leaders demonstrate an understanding of and commitment to the benefits diversity offers the school" (Murphy, 2006, p. 30). To demonstrate their commitment to divergent and varying cultures, views, and people, leaders work from an inclusive mindset (Sebring et al., 2006). Through careful communication with diverse groups of stakeholders (with diverse backgrounds and diverse perspectives), effective leaders allow for two-way communication, the enhancement of the mission and vision, and collaborative decision making (Murphy, 2006).

Maintaining ambitious and high performance expectations and standards. Leaders who positively influence student achievement insist upon and expect high performance (Timperley, 2011; Leithwood, 2012; Marks & Printy, 2003; Murphy et al., 2006; Sebring et al., 2006), and make those performance expectations public and transparent. Once leaders bring the school to agreement about goals and objectives, they then design formative and summative assessments aligned with the desired outcomes that hold stakeholders accountable and measure progress in ways that advance the desired outcomes (Jacobson et al., 2007; Leithwood, 2012). These types of positive supports, coupled with accountability, help teachers move toward accomplishing goals. Through

monitoring and providing regular formative feedback to teachers, teachers sense that they are both supported and expected to accomplish. Monitoring performance without clear expectations or support detracts from teachers' motivation and is interpreted as demoralizing (Leithwood, 2012), so it important to approach performance monitoring in a balanced way. An effective leader not only also calls attention to what needs improvement, but also positively reinforces what is being done correctly.

Strengthening and optimizing school culture. Strengthening school culture requires leaders to shape the norms and values of the school such that they support positive and professional learning communities. Marked by the presence of authentic professional learning communities, openness, transparency, efficacy, trust, conflict resolution and other such structures and characteristics, these descriptors of the school-life in many ways meet the affective needs of teachers and help to maintain their commitment to the school organization (Hulpia et al., 2006).

Facilitating a High Quality Learning Experience for Students

Planning, coordinating, and evaluating teaching and the curriculum together provide a moderately large effect size of 0.42 (Robinson et al., 2006). This domain calls for leaders to be actively and directly involved in matters related to instruction and curriculum (Hallinger & Heck 1996; Hallinger & Heck, 1998; Leithwood, 2012; Murphy et al., 2006; Robinson et al, 2008). Active involvement requires that leaders not only participate in discussions but also have influence on the vertical and horizontal alignment of curriculum (Robinson et al., 2008). Included here are regular classroom observations and timely provision of feedback to teachers along with clear expectations of specific teacher practices (Murphy et al., 2006.; Robinson et al., 2008). Table 9 enumerates the

practices comprising this domain focused on meeting students' needs through strong instructional leadership.

Table 9

Domains and Dimensions Pertaining to the Teaching and Learning Environment: Blended Model, OLF, LCL, and ES

Blended Model: *Facilitating a high quality learning experience for students*	OLF: *Improving the instructional program*	LCL: *Instructional Program; Curricular Program; Assessment Program*	ES*: Student Centered Learning Environment; Ambitious Instruction*
Maintaining safety and orderliness	Maintaining and safe and healthy school environment*	Learning environment*	Safety and order
Personalizing the environment to reflect students' backgrounds		Personalized environment*	Teachers learn about student culture and local community*
Developing and monitoring curricular program	Providing instructional support (supervising and evaluating teaching; coordinating curriculum)	Knowledge and involvement; Opportunity to learn; Curriculum alignment	Curricular alignment
Developing and monitoring instructional program	Monitoring student learning and school improvement practice	Knowledge and involvement; Instructional time	Intellectual challenge*
Developing and monitoring assessment program	Monitoring student learning and school improvement practice	Knowledge and involvement/ Assessment procedures/ Expectations, standards*; Monitoring instruction and curriculum*	Intellectual challenge; Press toward academic achievement coupled with personal concern for students*

Note. * Denotes author assigned the dimension to a substantively different domain in their framework

Maintaining safety and orderliness. Effective leaders protect the learning environment by instilling safety and order, and balancing a press for student achievement

with a concern for individual student realities. Robinson et al. (2008) found this leader practice yielded an effect size of .27, which while not as resounding as other effect sizes noted above, still accounts for considerable influence. It follows that teacher and student development will be stunted when these two groups are subjected to an insecure environment. Without safety and order, "educational goals become lofty rhetoric" (Sebring et al., 2006, p. 13), after all, a sense of safety and security is fundamental (Maslow, 1943). Effective leaders address this concern by insisting agreed upon codes of conduct and enforcing a fair and consistent set of expectations, (Robinson et al., 2008; Sebring et al., 2006). In this way, leaders set the tone for how members of the community will interact with each other (Miller, Luppescu, Gladden, & Easton, 1999). As a corollary to psychological and physical safety, effective leaders focus on maintaining an attractive campus that is fully functioning (Leithwood, 2012; Murphy, 2006).

Personalizing the environment to reflect students' backgrounds. Schools that identify and incorporate student backgrounds, to include parental support and expectations, see a positive influence on student achievement (Leithwood, 2012; Murphy, 2006, Sebring, et al., 2006). Effective leaders assist teachers in identifying the diverse types of social and intellectual capital students bring with them to school (Leithwood, 2012; Leithwood, 2006; Sebring et al., 2006), and leverage these assets in their interaction with students. In practice, personalizing the environment looks like mentoring and advising structures for students, creating ways for students to exercise leadership and personal responsibility, and designing learning experiences that are personally and individually engaging for students (Murphy, 2006).

Issues of teaching and learning. The work that leaders do is multifaceted, but

maintaining expertise, understanding, and a firm grasp of curriculum, instruction, and assessment means that principals truly understand life in the classroom and the challenges inherent in their chosen profession. Systems often pull leaders in many directions, but the research asserts that leaders who never lose site of the technical core of schools and also devote considerable effort to organizational issues will serve their schools well. Teachers may open themselves to accepting leadership and influence from those they perceive to be at once credible in terms of curriculum, instruction, and assessment and also empathic and supportive of their realities. As discussed earlier, instructional leadership must accompany organizational management in a mutually supportive manner (Grissom & Loeb, 2011; Leithwood, 2012; Robinson et al., 2008).

Developing and monitoring the curricular program. Effective leaders focus efforts on the curricular program by requiring rigor and high expectations of all students (Hallinger & Heck, 1996; Hallinger & Heck, 1998; Leithwood, 2012; Murphy et al., 2006; Robinson et al., 2008). These leaders insist that each individual student has the opportunity to learn. Leaders monitor and evaluate continuously the alignment of curriculum, instruction and assessment (Leithwood, 2012; Murphy et al., 2006; Robinson et al., 2008). Special programs, such as exceptional education and second language education are required to align with and meet the same standards. Principals coordinate vertical (within subject) and horizontal (across subject) alignment through the allocation of time and the development of the master schedule to support such endeavors, a prime example being the protection of common planning time for teachers (Murphy et al., 2006).

Developing and monitoring the instructional program. Effective leaders emphasize the instructional program through equipping themselves with a deep knowledge of pedagogy and devoting a large portion of the time to the advancing teaching (Hallinger & Heck, 1996; Hallinger & Heck, 1998; Leithwood, 2012; Murphy et al., 2006; Robinson et al., 2008). Instructional time is protected by such practices as prohibiting the scheduling of non-instructional school events during the instructional day, encouraging student and teacher attendance, and limiting the time individuals are pulled from their classrooms.

Developing and monitoring the assessment program. Leaders regard assessment as pivotal to the measurement of student progress as well as the development of data from which to make programmatic adjustments (Murphy et al., 2006). Assessment is multifaceted (to include teacher designed, school designed, and standardized) and both formative and summative in nature (Murphy et al., 2006). Leaders facilitate this data collection and subsequent analysis in ways that permit disaggregation on indicators important to the school's improvement effort and goals (Murphy et al., 2006). The data derived from the assessment efforts inform individual student progress, teacher and departmental effectiveness, and overall school performance (Murphy et al., 2006; Robinson et al., 2008), informing the iterative process of vision and mission building. For the latter, leaders may then adeptly wield this information to objectively define future improvement efforts, faculty professional development, and individual teacher learning.

Connecting with External Partners

Effective leaders make connections with the community to promote broad participation from parents, families and other external stakeholders who can contribute to

a positive learning experience for students (Salfi, 2011; Sheppard & Dibon, 2011). Effective leaders acknowledge that external partners, particularly in urban schools, are untapped resources. Leaders who find ways to optimize the contributions of parents, families and community partners see increased student achievement (Sebring et al., 2006). Table 10 captures this fifth and final domain which includes three key dimensions.

Table 10

Domains and Dimensions Pertaining to Connecting to the Community: Blended Model, OLF, LCL, and ES

Blended Model**:** *Connecting with external partners*	OLF: *Developing the Organization to Support Desired Practices*	LCL: *Social Advocacy*	ES: *Parent-Community Ties; Contextual resources*
Building productive relationships with families and community	Building productive relationships with families and communities	Stakeholder engagement	
Engaging families and community in collaborative processes to strengthen student learning	Building productive relationships with families and communities*	Community- anchored schools*	Staff engages parents and community in strengthening student learning
Anchoring schools in the community	Connecting the school to its wider environment*	Community- anchored schools* Environmental context	Resources of community

Note. * Denotes author assigned the dimension to a substantively different domain in their framework.

Building productive relationships with families and communities. The importance of including parents in the educational process of their children becomes clear when we consider the critical contributions of home and family (Hattie, 2009; Leithwood, 2002; Leithwood, 2012). Leaders can engage parents through designing welcoming and inclusive environments, developing multiple ways (traditional and non-traditional) for

parents to be involved, and fostering teacher understanding and commitment of the importance of parent and community participation (Leithwood, 2012). Leaders must facilitate the faculty's understanding of their students' cultural backgrounds, build trusting relationships with parents, and draw on and include existing community resources that parents respect (Sebring et al., 2006).

To further build a relationship, schools can develop ways to integrate parents in schools on a regular basis. Back to school night should serve as the starting point for continual involvement throughout the year rather than the single time some parents have reason to be in their child's school. In this way, schools and families partner to support children. In a follow-up study in the Chicago Public Schools, Bryk et al. (2010) found a .137 effect size for parent involvement in the school. Leaders recognize that (a) students need continual positive influence, (b) schools and families share students, and (c) families entrust their children to schools. As such, the extent to which partnership and joint approaches can be utilized to the ultimate benefit of the student can be in many ways orchestrated by the school leader (Murphy, 2006; Sebring et al., 2006).

Engaging families and community in collaborative processes. In their work with Chicago Public Schools, Sebring et al. found that leaders who involved parents/family members in the decision making processes regarding school policy, budgetary issues, and the school improvement plan generally had higher functioning schools (2006). Finding ways for parents and the community "to enjoy a real sense of influence" in their schools surfaces as a critical component in this domain.

Anchoring schools in the community. Because of their unique position in the school and community, leaders can serve as connectors for families of their students. As

teachers and leaders become aware of family and student needs, they seek to connect them to helpful community agencies (Leithwood, 2002; 2012). Leaders also participate in networks with other school leaders in the broader community to share and discuss ways to meld home, community, and school efforts (Leithwood, 2002; 2012).

Discussion

Our work provides a blended framework that represents both broadly and specifically what is known about effective leader practices. It unifies the discrepant elements of prior frameworks authored by three sets of scholars. We organize our framework by composing broad domains that are informed by the literature. We also assemble and then categorize all known specific practices as substantiated by over 100 studies that link leadership to student achievement.

In terms of the utility, and necessity, of a blended model, we identify several important contributions this framework makes.

1. It reflects and unifies the strong research base regarding leadership practice, both in terms of studies and frameworks.

2. By way of its construction, it acknowledges the direct effect leaders have on teachers, and the indirect effect leaders have on students.

3. It presents the work of effective leaders as being geared toward enhancing the most important school-based factor in student achievement, teaching.

We discuss the importance of these points in the following section.

First, we assert that the work of effective leaders encompasses multiple realms as reflected in the dimensions of the blended framework. Leaders exercise influence through shaping the organizational context and conditions that teachers and other stakeholders

experience and perceive (Francera & Bliss, 2009; Grissom & Loeb, 2011). Although principals in particular are charged with leading a specific type of organization with unique dimensions (the school), a knowledge base of effective instructional practices is not enough (Francera & Bliss, 2009; Grissom & Loeb, 2011; Robinson et al., 2008). School leaders, more broadly defined, need expertise in multiple domains, including curriculum and instruction, but also organizational management, It is dexterity in this latter capacity that unleashes the potential of other teachers and stakeholders through the removal of barriers and refining of conditions that influence school culture (Grissom & Loeb, 2011; Robinson et al., 2008). In addition to this notion of organizational leadership, we know that by drawing upon their knowledge and understanding of fundamental theories of human motivation, effective leaders intellectually stimulate their faculties and broader stakeholder entities. In fact, one recent study utilizing path analysis (Leithwood, Patten, & Jantzi, 2010) suggests that affective factors such as the emotions teachers experience and their internal states exert more influence over student outcomes than other factors, yet the majority of school leaders' time continues to be devoted to the more technical issues of instruction. Given the comparison between what we know leaders should be doing, and what we know leaders are actually doing, we see this disconnect as grounds for interested parties to reconsider their efforts. We discuss this further in our implications.

Second, leaders support teachers in the complex work of shaping young minds. The work of teachers is certainly dynamic, and leadership is needed to create supportive conditions for teacher effectiveness. These conditions call for leaders to carefully direct their attention and actions in ways that enhance teacher effectiveness, and relieve

teachers of unexpected and unnecessary challenges that might undermine their engagement with students (Latham & Locke, 2006). Teaching can be energizing yet tiresome, invigorating yet tedious, and high stakes yet unchartered. Teachers carry out this complicated endeavor and effective school leaders are responsible for supporting teachers in the quest to educate all children from all types of backgrounds, with various learning styles, and with other assorted, and very real, strengths and limitations. Given this reality, leaders, and those interested in leader preparation, practice and policy should consider what can be done to best equip leaders to meet this daunting challenge.

Finally, we present a blended framework that rests upon the assumption that the efforts of leaders and teachers are intertwined in the pursuit of increased student achievement. For example, the construct of "teacher effectiveness" and the implications of quality teaching have become well-substantiated in education (Carlisle et al., 2011; Hamre & Pianta, 2005; Measures of Effective Teaching Project, 2010; Palardy & Rumberger, 2008; Stronge et al., 1997; Wright et al., 1997.) As such, its ubiquitous prominence in educational policy and research begs the question, "Now that we know teachers are critical, how do we support their effectiveness?" The quest to improve teacher effectiveness, particularly the effectiveness of current, in-service teachers, may need to be reframed to accommodate what we know about school leadership, especially because school leaders, particularly principals, hold the formal authority, responsibility, and discretion for creating the very conditions and supports that promote student achievement. Such a reframing envelopes the ideas of competitive recruitment and high quality preparation practices, and acknowledges the importance of stimulating professional development, as these all fall under the purview of formal leaders. These

processes are essential to supporting effective teaching. But their existence is not enough. The development of effective teaching, or teaching that elevates levels of student achievement, needs much more, to include a focus on leadership practices that create dynamic and innovative learning environments for adults and children alike. While the primary work of leaders is to enhance student outcomes, they accomplish this work mainly through interacting with teachers and other adults in the community. If we wish to answer the question about how to improve the effectiveness of teachers, and we know that leaders influence student learning through teachers, then part of the solution may lie in identifying and applying effective leader practices.

Implications and Conclusion

We see our framework as having implications for practitioners (to include principals and district level staff), policy audiences and researchers. In terms of practitioners, we see the level of specificity, in the form of discrete, research-based practices, as a considerable contribution. When district development programs or university preparation programs communicate that a practitioner should be an "organizational" leader, the message falls short of providing the specifics necessary for implementation. This could be the case for a number of reasons, including that multiple versions of effective practices permeate the field. Assisting the research community in reaching consensus and clarity about what we know regarding leader practices that support student achievement might help those who depend upon such research for the preparation of school leaders. Course design, to include curriculum, instruction and formative and summative assessment, in preparation programs is an example of a process that stands to be strengthened by these findings. Furthermore, practitioners need

knowledge about specific, high-yield practices that can guide their daily professional lives. Also implicated is professional development of the practicing school leader. We see that the framework could serve as a tool for self-assessment. And, understanding the practices and habits of effective school leaders enables those in positions of influence, both in the pre-service and in-service roles, to begin with the end in mind. When we identify and unify these practices, we gain insight into what it is that we seek to develop in aspiring leaders as well as current practitioners.

A unified framework of effective leader practices is useful to policy audiences because it enables the field to better prepare school leaders through the development of curriculum, instruction and assessment at the preparation program level that fosters these particular habits. This effort to pinpoint effective leader practices is ongoing in our field, and this blended framework may serve to assist parties involved in the articulation of standards. The Interstate School Leaders Licensure Consortium (ISLLC), for example, is presently engaged in a revision process.

Also, school leader performance evaluation may be improved by increased understanding of specific practices that enable student achievement. As Grissom and Loeb (2011) note, significant work remains in the realm of evaluation tool development, and this work depends largely on the identification of specific behaviors. Currently, most performance evaluation of administrators relies upon tools that are typically unaligned with empirically driven criteria, perhaps in part because a comprehensive identification and synthesis of all known practices has not been undertaken in recent years.

A third and final benefit of developing a blended framework is its research potential. With a more comprehensive, robust framework of effective leader practices,

researchers have an analytical tool for further examination of the elements, and combinations of elements, that contribute to more vibrant school environments, greater student engagement, and improved student learning. By blending together the cumulative knowledge about leader practices, we are able to build a stronger and more robust understanding of what leaders do, how to support their ongoing development and how to assess it more validly.

While high quality teachers remain our best resource for promoting student learning, it is talented leaders who will take student success to scale. Our knowledge about what effective school leaders do to support teacher effectiveness and promote student achievement in the last 10 years has grown substantially. This blended framework is an effort to synthesize what we know about leader practices and provide a schema for future research. Organizing what we know about leadership is one way to become more deliberate and strategic in our efforts to improve the conditions for student achievement.

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PAPER THREE:

IDENTIFYING AND PREDICTING EFFECTIVE LEADERSHIP USING THE SCHOOLS AND STAFFING SURVEY

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Abstract

Background

The importance of leadership in schools is substantiated, and we know that effective leaders call upon certain practices to influence student achievement. What remains less clear is how the professional backgrounds of educators may be implicated in effective leader practice.

Research Design

This study utilizes data from the Schools and Staffing Survey to investigate the relationships between prior experience and prior role with effective leader practice. Factor analysis of the principal responses to items identifies six latent constructs that broadly represent effective leader practices. Principals' scores for these practices correlate with different types of experience and prior roles.

Conclusions

We identify multiple associations that generalize to the population of United States principals and suggest that experience as a teacher may be more important than other types of experience, including experience as a principal. Looking for prior roles as a curriculum specialist and assistant principal could be ways to identify and predict leaders who use effective practices, although each role is related to improvements in different aspects of effective leader practice.

IDENTIFYING AND PREDICTING EFFECTIVE LEADERSHIP USING THE SCHOOLS AND STAFFING SURVEY

We know that leadership matters (Hallinger & Heck, 1998; Mulford, Kendell, Ewington, Edmunds, Kendell, & Silins, 2009; Suppovitz, Sirinides, & May, 2009) and is second only to teacher effectiveness in terms of influence on student achievement. One study finds that leadership accounts for as much as one quarter of the variation in student learning (Creemers & Reetzig, 1996). Many studies confirm leadership's importance as an enabler of conditions that tap teacher effectiveness. However, few studies investigate the specific practices and behaviors used by leaders who influence teacher effectiveness, thereby influencing student achievement. Of this small number of studies, even fewer employ quantitative methods, have large sample sizes, or use large scale data sets (Murphy, Elliot, Goldring, & Porter, 2006).

Due to the paucity of studies examining leader practices, prominent scholars in the field assert that research now needs to shift from studying leadership types and models to studying the impact of leadership behaviors (Leithwood & Sun, 2012). Enhanced understanding of the leader practices associated with improved student achievement surfaces as a critical component in advancing our understanding of how to develop effective leaders and successful schools. Further, a more precise examination of the practices used by effective leaders allows the field to better prepare and recruit school leaders through the development curriculum, instruction and assessment for preparation programs that foster these particular behaviors and through making informed decisions about who to admit into its programs and who to hire. Additionally, scholars whose lines of inquiry address candidate selection in the broader field of leadership preparation

entreat more researchers to examine this subset of individuals more intensely. “It is thus perplexing why research on candidates in educational administration and leadership continues to be nearly nonexistent in refereed publications,” write Browne-Ferrigno and Muth, (2009, p. 207). Of the studies in this vein, case study is the most prominent method of analysis (Browne-Ferrigno, 2001; Browne-Ferrigno & Muth, 2004; Browne-Ferrigno & Muth, 2006). Compounding the problems of limited research and the methodology of existing studies, the aforementioned authors draw samples from single sites. This paper is the first evidence to date of the connections, between professional experience and effective leader practices.

Background

Here we discuss the literature on four factors identified by the field as contributing to the development of principals who practice effective leadership. First, we convey our logic about practices associated with effective leader behavior as shown in Figure 1.

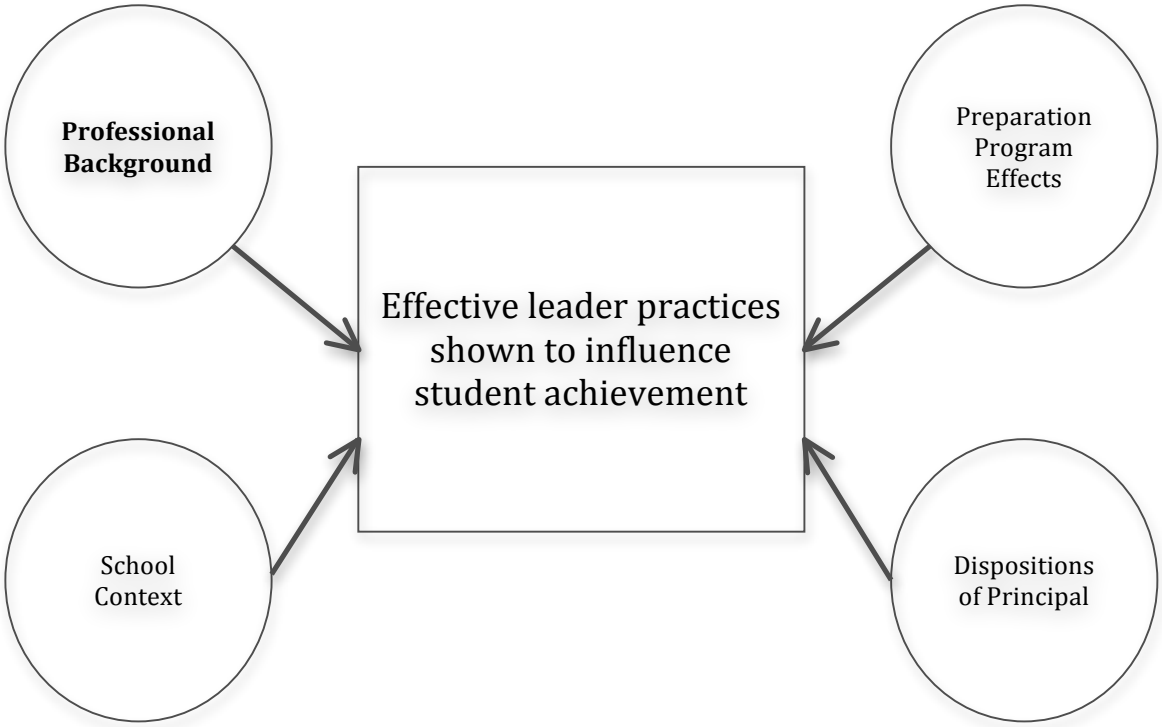

Figure 1. Model of the factors that influence a leader's use of effective practices.

Overall, in terms of the four factors we identify as contributing to principal use of effective leader practice, (a) three are characterized by little or nascent exploratory and qualitative research, and (b) the fourth, school context, receives the most attention of the four.

Preparation program effects. Program quality contributes to candidates' level of effectiveness in terms of leading schools (Leithwood, Jantzi, Coffin, & Wilson, 1996). Further work is needed in this area as scholars raise questions regarding the conceptual and methodological strength of program evaluation by universities. These program evaluations limit measurement to candidate satisfaction and career advancement, and use these measures without the rigor of a comparison group (Orr, Doolittle, Kottkamp, Osterman, & Silverberg, 2004).

In terms of published research, studies investigate program outcomes for educational leaders through the use graduates' perception of readiness for leadership and adequacy of leadership as the outcome measures (Orr & Barber, 2009). Two of the nine studies include a second population to compare perceptions, but the other seven incorporate only leader perception, although perception of ability to practice effectively was not an outcome variable in any of the studies.

Dispositions of principal. Dispositions refer to the belief systems or mental models that inform a leader's practice (Osterman & Hafner, 2009), and may regulate a leader's behavior and practice. Despite its potentially important influence, the construct of disposition continues to be highly understudied (Brown, 2003; Brown, 2004; Hafner, 2006). The work done in this realm assumes a focus on social justice (mainly that of students) as well as the larger belief that all children can achieve at high levels (Johnson & Uline, 2005; McKenzie, Skrla, Scheurich, 2006; Pounder, Reitzug, & Young, 2002; Reihl, 2002; Young & Laible, 2002). Studies have indicated that these beliefs are more often associated with schools that are improving student outcomes. While these student-oriented beliefs are critical, beliefs about the ability and contributions of adults and teachers who mediate this commitment to students are absent from these studies.

School context. The importance of school context is highlighted in a recent study by Bruggencate, Luyten, Sheerens, and Sleegers (2012) in which they investigate the leadership models that influence student achievement. These authors find that the individual nature of the school exerts influence on a leader's ability to lead effectively. For example, urbanization of students was related to principals' proclivity and orientation toward developing faculty. In fact, almost all of the contextual variables in this study

show a relationship with this outcome variable. Findings emphasize the importance of context, and have implications for the construction of future studies in that variables like urbanization should be controlled for during analyses, thereby illuminating the factors that differentially matter.

Professional background. Our review of the literature suggests that very little is known about the professional backgrounds of leaders, and even less is known about the backgrounds of effective leaders. Scholars who study candidates in educational leadership programs describe the field's research in this realm as "sparse," (Browne-Ferrigno & Muth, 2009), "routinely overlooked" (McCarthy, 1999), and "limited" (Murphy & Vriesenga, 2006). Although we are not aware a study that directly tests the variables of previous experience leading adults as well as significant teaching experience, findings from current work implicate the importance of these characteristics (Browne-Ferrigno & Muth, 2009, p. 215) and imply that an examination of prior role and experience maybe warranted. Here, we examine some of the related literature to summarize what is known about candidate backgrounds. Experienced candidates generally link with higher levels of maturity and commitment (Browne-Ferrigno & Muth, 2004; Browne-Ferrigno & Muth, 2006). Further, by virtue of candidate's prior experience leading adults, the school and/or district signals the candidate's ability and potential (Browne-Ferrigno & Muth, 2004; Browne-Ferrigno & Muth, 2006). Prior experience leading adults reflects a commitment to leading adults, which is the primary work of school leaders. Many students in educational administration programs profess more commitment to working with students, rather than adults (Browne-Ferrigno, 2003; Browne-Ferrigno & Muth, 2004; Browne-Ferrigno & Muth, 2006). As experience

increases, candidates appear to display more interest in working with adults (Browne-Ferrigno & Muth, 2009).

Principal experience in teaching makes logical sense in that candidates have a strong background in the technical core of schooling. Yet, it may also be that teaching and leading are two distinct skill sets. Because we know the importance of instructional leadership as a component of the broader effective leadership practices (Grissom & Loeb, 2011; Leithwood, 2012; Marks & Printy, 2003; Robinson, Lloyd, & Rowe, 2008), a logical theoretical extension is that the strong instructional leader had significant teaching experience. Teaching experience brings legitimacy to their role as leader, and allows principals to authentically support teachers in the practice of teaching. In terms of empirical study, these connections have not been made. We do know that graduates of educational administration programs with few years of experience display less commitment to long term practice as a principal (Browne-Ferrigno, 2001; Brown-Ferrigno, 2003; Browne-Ferrigno & Muth, 2004; Browne-Ferrigno & Muth, 2006).

In terms of research linking to background, the existing studies use small sample sizes that are not representative and rely upon qualitative methods. These explorative studies have brought the field to the point where it makes sense to test hypotheses about experience and prior leadership of adults. As echoed by insights from prominent scholars studying these factors, more research is needed for several reasons. Preparation programs expend the resources of time and expertise on a broad population students who primarily self-nominate. By developing insight into the types of individuals who associate with the eventual practice of effective leadership, we begin to narrow the pool, thereby targeting and maximizing our effort. This sort of focused selection connects with the

professionalization of school leadership. Further, preparation programs can only be expected to accomplish so much. Preparation, in our model, is one of four factors contributing to effective practice. Understanding the types of candidates who maximally benefit from program preparation is of interest to universities, districts, and other preparation entities, and implicates the importance of background. If we know how this easily ascertained and measured factor associates with practice of effective leadership, then programs and districts could call on it as an indicator to aid in decision making. Further importance of student background emerges when we consider that school context and leader dispositions are largely difficult to alter. Preparation program effects, as shown by the current state of research in that realm, have not been quantified. We can, however, exert discretion over candidate selection based on their prior experience. But doing so only makes sense if we know that prior experiences matter. Gaining this type of insight calls for the eventual development of research that allows for predictive relationships between existing characteristics of a candidate for a leadership role, like prior experience influencing adults, and practice of effective leadership. Such claims will be built upon an existing emergent body of research and this study seeks to contribute to that body in new ways (Browne-Ferrigno 2001; Browne-Ferrigno & Muth, 2004; Browne-Ferrigno & Muth, 2006; Browne-Ferrigno & Muth, 2009; Browne-Ferrigno & Shoho, 2004; Hallinger & Heck, 1996; Hallinger & Heck 1998; Leithwood, 2005; Leithwood & Jantzi, 2006; Waters, Marzano, & McNulty, 2003; Witiziers, Bosker, & Kruger, 2003).

Research Questions

Although the causal relationships between leaders, teachers, and students are empirically confirmed, understanding the ways that effective leader practices can be measured and understanding ways that effective leader practices associate with background factors of practicing principals has not been studied using large-scale data. As we discussed earlier, prior research investigating backgrounds of leaders employs mainly qualitative methods, making confirmation an important next step. One of the only sources of data that allows for generalization to the population of all United States public school principals is the Schools and Staffing Survey (SASS). Determining ways that SASS variables align with what we know about effective leadership broadens the range of questions researchers can ask. This study seeks to begin to address this problem by answering the following questions:

1. Are there latent factors within the SASS data that can be aligned with any of the effective leader domains asserted by the literature?
2. In terms of the latent factors that emerge, how are these factors associated with the principals' background experience, specifically prior role and number of years teaching?

Theoretical Framework

Here, we consider the type of influence principals have on student achievement, which is known as an "indirect effect." Then, we consider specific ways leaders influence student achievement, which we refer to as "practices" or "behaviors."

The leader's role in school effectiveness is pivotal in terms of enabling teachers to impact student achievement (Halinger & Heck, 1998; Suppovitz et al., 2009). Principals

predominantly work through others, primarily teachers but also parents and support personnel, to influence student achievement. The extent to which principals utilize the discretion, authority, and decision-making power granted by their roles to effectively recruit, select, retain, support, and develop their faculties for the ultimate benefit of students determines the outcomes for students in schools (Day, Sammons, Leithwood & Kington, 2008; Leithwood, 2012; Leithwood & Jantzi, 2008; Leithwood & Riehl, 2003; Leithwood, Harris, & Hopkins, 2008).

Without effective leaders, school organizations cannot thrive. In fact, adequate leadership may function as a necessary component of teacher retention. Research makes clear the connection between teacher quality and student achievement, and leaders, especially the principal, occupy a special role in maximizing the potential impact of teachers on students (Halinger & Heck, 1996; Hallinger & Heck, 1998; Leithwood & Jantzi, 2008; Waters et al., 2005; Witiziers et al., 2003). A high functioning principal enables organizational conditions that encourage the right teachers to remain, and the ineffective ones to leave. Leaders can influence student achievement by building and leveraging human capital as represented by teachers.

Influential scholars in the field of educational leadership assert sets of leader practices empirically shown to influence student achievement (Leithwood, 2012; Murphy, Elliot, Goldring, & Huff, 2006; Sebring, Allensworth, & Easton, 2006). These frameworks for understanding leadership linked to student achievement are each organized into “domains,” with each domain encompassing multiple “dimensions” which decompose the larger domains into more specific practices. Inherent in these frameworks is the idea that leaders indirectly influence students, and teachers serve as a mediating

factor. Therefore, most of the effective leader behaviors exert influence over teachers, or other adult stakeholders, who then exert influence on student performance (Day et al., 2008; Leithwood, 2005; Leithwood & Jantzi, 2008; Leithwood & Riehl, 2005; Leithwood et al., 2008).

We call upon the blended theory for school leader practices developed by Hitt and Tucker (2014). This theory is comprised of three frameworks developed by the above scholars in the field. Leithwood (2012) captures his definition of effective leader behaviors in the Ontario Leadership Framework. Murphy, Elliot, Goldring, and Huff (2006) conceive of practices associated with effective leaders in the Learning Centered Leadership Framework. Sebring and colleagues (2006) depict effective leader behaviors as the Essential Supports Framework. Each framework differs in some ways. These differences are likely attributed to the method of assertion (literature review or study), as such Hitt and Tucker developed a unified framework of effective leader practices that includes the findings from all three frameworks.

The framework includes five essential areas, or domains, of effective leader practices as a result of the review in an effort to maximally organize and unite the practices: (a) facilitating a high quality learning experience for students; (b) establishing and conveying the vision, (c) building professional capacity, (d) creating a supportive organization for learning, and (e) connecting with external partners.

Facilitating a High Quality Learning Experience for Students

Effective leaders who influence student achievement favorably are sure to facilitate a high quality student experience through tending to teaching and the learning environment (Leithwood 2012; Marks & Printy, 2003; Murphy et al., 2006; Robinson et

al., 2008; Sebring et al., 2006). Planning, coordinating, and evaluating teaching and the curriculum together provide a moderately large effect size of 0.42 (Robinson et al., 2008). This domain calls for leaders to be actively and directly involved in matters related to instruction and curriculum (Murphy et al., 2006; Robinson et al., 2006). This range of practices calls for strong instructional leadership to include monitoring, supervision, and on-going evaluation of the curricular, instructional, and assessment programs (Leithwood, 2012; Murphy et al., 2006; Robinson et al., 2008). This includes regular classroom observations and timely provision of feedback to teachers along with clear expectation of types of specific teacher practices (Murphy et al., 2006; Robinson et al., 2008). Leaders accomplish this through attending classrooms and participating in teacher meetings, staying abreast of research in these realms, and encouraging teachers to do the same (Murphy et al., 2006; Robinson et al, 2008.). Effective leaders also prioritize personalization and individualization for students' instructional programs (Sebring et al., 2006) such that each component of their educational program is tailored to specific strengths and areas for improvement. Safety and order essential to freeing up cognitive space to embrace learning is addressed through establishment of appropriate norms, values, and fair and consistent disciplinary procedures (Robinson et al., 2008; Sebring et al., 2006). Robinson et al. finds this leader practice yields an effect size of .27. Without safety and order, "educational goals become lofty rhetoric" (Sebring et al., p. 13). Effective leaders remove this concern to the extent possible by insisting on agreed upon codes of conduct and enforcing a fair and consistent set of expectations.

Establishing and Conveying the Vision

The practices within this domain share focus on the establishment of a purpose

and direction for attaining that purpose. According to a meta analysis of 22 published, peer-reviewed studies conducted between 1978 and 2006 that examine the connection between leadership and student achievement, establishing goals and setting expectations has an effect size of 0.42 standard deviations (Robinson, Lloyd & Rowe, 2008), a moderate to large effect in terms of educational research. The magnitude of this effect size is in keeping with a body of social science research that explains the importance of goals for individuals and organizations (Silins & Mulford, 2002). Leaders who influence student achievement set directions for stakeholders (Jacobson, Brooks, Giles, Johnson, & Ylimaki, 2007; Leithwood, 2012; Marks & Printy, 2003; Murphy et al., 2006; Robinson et al., 2008; Sebring, et al., 2006). Setting directions comprises the acts leaders employ to develop and communicate a vision for the school that strengthens student achievement as well as overall organizational efficacy. Principals create a general plan for the school, and then invite teachers, parents, and other stakeholders to participate in the further formation of the vision and mission (Sebring et al., 2006). To accompany the act of deciding upon the vision, leaders also engage in other practices that sustain the pursuit of the goal. Implementing the vision through discernment of goals and objectives creates shared meaning (Leithwood, 2012). Deciding upon specific, short-term, easily understood, and easily measured goals brings the vision to life.

Modeling is a critical practice that addresses the conveyance portion of this domain. Leading by example has many benefits, including that it models for teachers what it is that they should be doing as indicated by the vision. If leaders deliberately embed the changes in their own practice, they at once communicate the importance of the change and allow teachers to see and experience the change in action (Avolio & Gardner,

2005; Hallinger, 2003; Waters et al., 2005).

Building Professional Capacity

Leaders who influence student achievement develop people, including themselves, in the school (Leithwood, 2005; Marks & Printy. 2003; Murphy et al., 2006; Sebastian & Allensworth, 2012; Sebring et al., 2006; Robinson et al., 2008). When leaders both promote and participate in teacher learning and development, a large effect size of 0.84 standard deviations (Robinson et al, 2008) is observed. Effective leaders provide stimulating intellectual experiences (Sanzo, Sherman, & Clayton, 2010).

Developing human capital in schools must be approached on both an individual and collective level (Leithwood, 2012; Marks & Printy, 2003; Murphy et al., 2006). Leaders understand that followers benefit from stimulating work and learning (Murphy et al., 2006; Sanzo et al., 2010). Leaders develop learning communities to benefit the adults in the building (Murphy et al., 2006). Therefore, leaders seek to design such experiences for their teachers so that by meeting the needs of their faculty, they perpetuate the indirect influence they have over student learning.

Leaders of schools who positively influence student achievement insist upon and expect high performance (Timperley, 2011; Leithwood, 2012; Marks & Printy, 2003; Murphy et al., 2006; Sebring et al., 2006), and make those performance expectations public and transparent. Once leaders bring the school to agreement about goals and objectives, they then design formative and summative assessments aligned with the desired outcomes that hold stakeholders accountable and measure progress in a way that advances the desired outcomes (Jacobson et al., 2007; Leithwood, 2012). These types of positive supports, coupled with accountability, help teachers move toward accomplishing

goals. Through monitoring and providing regular formative feedback to teachers, teachers sense that they are both supported and expected to accomplish. Monitoring performance without clear expectations or support detracts from teachers' motivation and is interpreted as demoralizing (Leithwood, 2012), so it important to approach performance monitoring in a balanced way. An effective leader not only also calls attention to what needs improvement, but also positively reinforces what is being done correctly.

Creating a Supportive Organization for Learning

Leaders who influence student achievement think carefully about how to construct a school working environment that both demonstrates a concern for the people in the organization and enables these same adults to achieve agreed upon goals (Murphy et al., 2006; Robinson et al., 2008). Practices here focus on the organizational supports rather than purely curriculum, instruction, and assessment, otherwise known as the instructional program. Distributing leadership, for example, provides a way for leaders to simultaneously meet these ends of personal and organizational concern. Through collaboratively making decisions, strengthening school culture, modifying the existing organizational structures, and building trust, leaders adjust school conditions to enable teacher commitment to the school as well as performance (Durbin, 2006; Fu et al., 2010; Louis, 1997; Murphy et al., 2006; Tschannen-Moran, 2009).

Leaders understand that fostering ways for all stakeholders to see themselves reflected in the decision making process improves the probability that those needed to enact the resulting decision will actually participate, and also understand that the decision will ultimately be enhanced in terms of quality and benefit to students when multiple perspectives work together (Supovitz et al., 2009; Leithwood & Mascall, 2008). This

distributed approach, marked not only by intentional sharing of decision making but also by capacity building of those who may have previously remained in a follower or stakeholder role, indicates a positive influence on student achievement (Heck & Hallinger, 2009).

Connecting with External Partners

Effective leaders make connections with the community to promote broad participation from parents and other external stakeholders who can contribute positive influence to student performance (Salfi, 2011; Sheppard & Dibon, 2011). Leaders see their schools involved in a reciprocal relationship reflective of their students' community, and understand the covenantal relationship of partnering with parents who entrust their children to their schools (Leithwood, 2012; Marks & Printy, 2003; Murphy et al., 2006; Sebring et al., 2006). Leaders must facilitate their faculty's understanding of student culture, build trusting relationships with parents, and draw on and include existing community resources that parents respect (Sebring et al., 2006.).

Data and Methods

Our first research question requires us to conduct a factor analysis of the items within the Public School Questionnaire that include language reflective of effective leader practice. This question also requires us to decided between exploratory and confirmatory factor analysis. Because our work is the first known factor analysis of the questionnaire, we employ exploratory factor analysis and then create composite variables within our dataset. These composite variables are the basis for principals' scores for effective leader practice.

Our next research question calls for a second phase within the study. We call upon the scores and use them as the dependent variable in multivariate regression analyses. We develop two models. One model tests if the number of years of prior experience in various educational roles relates to principals' use of effective leader practice. The other model builds upon the first model by also including specific prior roles to test if the two background factors relate to principal use of effective leader practice.

Sample

Data for this study are from the 1999-2000 public use Public School Principal Questionnaire of the Schools and Staffing Survey (SASS). The sample is 8,524 principals with a weighted response rate of 90%. These data were originally collected by the National Center for Educational Statistics (NCES), a division within the US Department of Education. The sample is drawn from the universe of public school principals. Through calling upon the 1997-98 Common Core of Data, NCES selected schools that represented both state and national characteristics (Gruber, Wiley, Broughman, Strizek & Buran-Fitzgerald, 2002). Districts and principals were then sampled from these schools. To address issues such as over representation and non response, sampling weights are utilized. These weights adjust for selection probability (Gruber et al., 2002).

We, like other educational leadership researchers, chose the 1999-2000 questionnaire because it captures data not seen in more recent versions of SASS (Urick & Bowers, 2014). For example, subsequent SASS questionnaires do not elicit responses from principals regarding their perception of vision, facilitation of curriculum, or development of a professional learning community (Urick & Bowers, 2014).

Instrument

The Public School Principal Questionnaire obtains principals' perceptions of various aspects of the leadership they employ. As such, this questionnaire is organized into five categories: (a) experience and training, (b) attitudes and opinions about education at the school, (c) teacher professional development, (d) teacher and school performance, and (e) demographic information. The questionnaire contains Likert, other interval, and nominal (dichotomous) scales to provide principal perception of the above topics.

Analyses

As described above, our approach involves two phases. First, we employ confirmatory factor analysis with composite variable construction. Then, in the second phase, we use the scores on the composite variables as dependent variables in regression analyses. Our models estimate the relationship between principal use of effective leader practice and principal background.

Factor analysis and composite variable construction. We extracted the principal-reported variables from the public use file. Then, using exploratory factor analysis (Stevens, 2009) we identified the variables relating to self-perception of leadership practices to look for latent constructs represented by refined composite variables aligned with the some of the five domains presented in Table 1. This phase of the analysis tested to see if variables on the public school principal variance is explained by a factor, or composite variable, representing effective leader practices at the domain level.

Table 1

Extracted Factors with Reliability Estimates and the Variables That Comprise Them

Establishing and conveying the mission and vision	Facilitating a high quality learning experience for students	Building professional capacity	Sharing and distributing leadership	Building collaborative decision-making processes	Connecting with external partners
(.643)	(.585)	(.807)	(.735)	(.859)	(.873)
Maintaining physical security	Setting educational goals	Linking PD to improvement needs	Teacher influence on curriculum	SC's influence on discipline policy	Parent influence on content of PD program
Managing school facilities	Setting organizational goals	Linking PD to student achievement	Teacher influence on standards	SC's influence on spending	Parent influence on curriculum
Facilitating student learning	Establishing an assessment system	Aligning PD to support school goals	Teacher influence on PD program	SC's influence on PD	Parent influence on teacher evaluation
Guiding develop-ment of curriculum	Establishing a secure financial base	Teachers participating in planning of PD	Teacher influence on discipline policy	SC's influence on curriculum	Parent influence on standards
		Allocating resources for PD program	Teacher preferences included in design of PD	SC's influence on hiring	Parent influence on hiring
		Teachers presenting PD	Teacher influence on teacher evaluation program	SC's influence on standards	Parent influence on spending
		Embedding PD in teachers' work			Parent influence on discipline policy
		Aligning PD with SIP			College/universi ty influence on PD content
		Principal participating in PD with teachers			

Note. Reliability estimates appear in parenthesis under factor labels. SC = school council, PD = professional development.

We identified 39 variables of interest from the Public Schools Principal Questionnaire. We chose these particular variables because the language within the survey item referenced effective leader practices. Then, we conducted a factor analysis using maximum likelihood extraction with varimax rotation. At this point in the factor analysis, two variables were removed. These variables were "teacher influence on hiring teachers" and "teacher influence on spending." These variables were removed because they formed a factor that was redundant with another factor on which more variables loaded. The remaining 37 variables were included in the factor analysis. Horn's test of parallel analysis indicated that six factors should be retained (Stevens, 2009). The seventh random data eigenvalue equaled the seventh eigenvalue of the raw data (1.280). Because this test calls for the number of factors to be retained to equal the number of factors with eigenvalues greater than the random data, the scree plot was examined to aid in the distinguishing of a six or seven factor solution (Stevens, 2009). The scree plot's slope suggested a six factor solution. As such, the factor analysis was performed again, this time with forced loading on six factors (Stevens, 2009). Because we chose varimax rotation, the resulting factors are uncorrelated (orthogonal), and this type of rotation will inform how we interpret results. All items loaded with at least .30, and some loaded above .70. We adhered to the rule of doubletons as less than five percent (we had three doubletons).

Composite variables. Once we identified the latent constructs within the questionnaire, we then constructed the composite variables. Methods for the composite variable construction are either non-refined or refined (DiStefano, Zhu, & Mindrila, 2009). Non-refined construction essentially calls for the researcher to sum scores from

the Likert scales answers and find a composite average (DiStefano et al., 2009). Advantages for this type of approach are that the scale and the variations in the data are preserved (DiStefano et al., 2009). Problems associated with non-refined composites are that items are given equal weight by virtue of the averaging when perhaps the loadings during the factor analysis may have been different (non equal). Regression-based scores are a common way, especially when utilizing SPSS, to construct composite scores in a "refined" method (DiStefano et al., 2009; Stevens, 2009). Regression procedures essentially predict a composite score. A standard score is produced with a mean of 0 and a standard deviation of 1, and reliability is maximized (DiStefano et al., 2009; Stevens, 2009). However, correlation of various composite scores becomes an issue, which is problematic because one of the goals of the factor analysis is to identify distinct constructs (Stevens, 2009). We used the regression method for composite score construction as we intended to avoid correlation.

Correlating composite scores with principal characteristics. To answer research question two, we utilized a second phase of the analysis. The scores from empirically derived leader practices from phase one serve as the outcome variable. All analyses use normalized analysis weights provided in the SASS to make the findings nationally representative.

We tested for associations between effective leader practices and the principal's experience, to include the number of years as a teacher:

$$Factor_i = \alpha + \beta_1 PrincEx_i + \beta_2 TchEx_i + \beta_3 PrincTen_i + \gamma' x_i + \varepsilon_{it}$$

where *Factor* is one of the six factors for principal *i*, *PrincEx* is a measure of the principal's total experience, *TchEx* is a measure of the principal's total years of teaching

experience, and *PrincTen* is the number of years the principal has been in his or her current school. The model also includes a vector of principal demographics *x*.

In a second set of models, we add the principal's prior roles to see whether they relate to each factor:

$$Factor_i = \alpha + \beta_1 PrincEx_i + \beta_2 TchEx_i + \beta_3 PrincTen_i + \delta' PR + \gamma' x_i + \varepsilon_{it}$$

where PR is a vector of the principal's prior roles (assistant principal, curriculum specialist, department coordinator, athletic coach, and counselor). All other variables are the same as defined above.

Because effective leader behaviors have been shown to influence student achievement through a body of research reviewed in the conceptual framework, associations with these practices are relevant and provide insight into how prior experience of principals may associate with student achievement, even though student achievement is not the outcome variable. This design is in keeping with the indirect effects that leadership has on student achievement. Because we employed varimax rotation in our factor analysis, we created six factors that are uncorrelated, which means that principals who score highly on one factor are no more likely to score highly on another factor than a principal with a non-high score on the factor.

Results

Because we want to generalize our findings to the population of United States principals, we analyzed data from the SASS. First, we would like to know if the data from SASS contain latent constructs that represent effective leader practice. Ultimately, we would like to know if principal use of effective leader practices is related to principal background factors.

Constructs in Effective Leader Practice

We found that the Public School Principal Questionnaire from the Schools and Staff Survey does contain latent constructs aligned with effective leader practices. We define effective leader practices through calling upon a blended framework of effective leader behavior that includes multiple leading scholars' versions of frameworks. These frameworks rest upon the field's assertions of how leaders are shown to influence student achievement.

The labeling of the six factors was derived from the blended framework of effective leader practice discussed elsewhere (Hitt & Tucker, 2014) with one modification. The factor solution suggested that one of the five domains from the blended framework was actually represented by two factors. Results of the factor analysis indicate that rather than one broad factor for "creating a supportive organization for learning," a more accurate expression of the dimension reduction process is to have one factor for "distributing leadership," and one factor for "collaborative processes." Both of these constructs compose the broader domain within the blended framework (Hitt & Tucker, 2014). As such, we proceeded with six factors. We named these six factors *Facilitating a High Quality Learning Experience for Students, Establishing and Conveying the Vision, Building Professional Capacity, Building Collaborative Decision Making Processes, Sharing and Distributing Leadership,* and *Connecting with External Partners* (see Table 1). Reliability statistics were computed for each factor (see Table 1).

Below, we discuss the factors in the order that they are presented within the literature of leadership frameworks (not in order of loadings, although loadings are noted parenthetically). Connecting with External Partners had the highest reliability (.873),

followed by Building Professional Capacity, Building Collaborative Decision Making Processes, Sharing and Distributing Leadership, and Facilitating A High Quality Student Experience. Establishing and Conveying the Mission and Vision had the lowest reliability (.643) of the six factors (see Table 1 for complete reliability results).

Establishing and conveying the vision. The first factor we identify is establishing and conveying the vision. As shown in Table 1, the items comprising this factor, with reliability coefficients in parentheses, are setting educational goals (.656), setting organizational goals (.634), establishing an assessment system (.513), and establishing a secure financial base (.324). Almost 82% of principals see themselves as "almost there" or "we've reached our goals" in terms of establishing educational goals. Yet, 18% see themselves as low in this practice and rate themselves as "just beginning" or "a long way to go." Principals' assessment of their dexterity in accomplishing organizational goals displays a similar pattern. Sixty-one percent see themselves as "almost there," but not "we've reached our goals," with the remaining 39% split between high and low levels of accomplishment. About 50% of principals report that they are "almost there" in terms of developing high quality student assessment systems. The remaining 50% is almost evenly split between high and low self scores. The item with the most variation within this factor pertains to managing the finances, which supports vision attainment. In aggregate, almost 30% of principals report they either "have just begun" or "have a long way to go." Only 25% judge themselves as reaching their goal for managing finances. We interpret the frequencies to which principals attend to these four behaviors comprising the vision building domain as follows: the higher scores within organizational and educational goal development indicate that principals are facile in collaboratively

setting forth these important aspirations. However, principals perceive themselves as less able to enact the processes needed to reach these goals. The establishment of assessment systems provides much needed insight into progress toward educational and organizational goals. And, mastery of finances is certainly implicated in terms of resource allocation to scaffold the organization's pursuit of the vision.

Facilitating a high quality learning experience for students. The second factor we identify is facilitating a high quality learning experience for students. As shown in Table 1, items that load on this factor are maintaining a safe and orderly environment (.682), managing school facilities (.608), facilitating student learning (.520), and guiding curriculum development (.385). In keeping with the literature of safe schools and what is known about human needs, school safety appears to be an important contributor to the development of a high functioning learning environment. Over 85% of principals gave themselves the highest rating on this item, which suggests that the vast majority of principals direct their efforts and attention daily in ways conducive to the provision of physical safety. Almost nine percent of principals give themselves the second highest rating on this item, which means that less than seven percent of principals judge themselves as infrequently tending to physical safety. Principals approach managing school facilities with a similar level of effort. Ninety-four percent of principals report that they expend daily effort toward the condition of the facilities.

We observe some discrimination within this factor in examining the self-report scores for amount of time devoted to facilitation of student learning. Here, only half (50.5%) report that they spend time each day fostering student learning. As such, almost 50% of principals see themselves tending to student learning less than daily, and do so

either once or twice per week (30.6%) or once or twice per month (17.8%). The item on which principals score themselves the lowest within this domain is that of time spent on guiding curriculum development. Only 24% of principals see themselves spending time each day engaging in this process. Thirty-nine percent report devoting some time to curriculum each week, and 34% give time once or twice per month to this critical area of instructional leadership. Overall within this factor, we observe that principals judge themselves as spending generous amounts of time on issues related to safety, security, and facility. However, in terms of efforts associated with instructional leadership, principals report less frequent and less intensive efforts. Because this factor comprises the practices associated with enhancing the student experience, we conclude that principals give generously of the time to basic human needs yet fall short of engaging in the instructional and results-oriented and student achievement oriented aspects of the factor.

Building professional capacity. Our third factor, building professional capacity, comprises the items associated with principals' effort in providing a meaningful and effective program of learning for teachers. This is our most robust factor in that nine items load on to it. The first item measures how important their schools' improvement plan is in the design of professional development (.703). Eighty-nine percent of the principals reported that such alignment is of average importance or higher. We would expect principals to report in a parallel fashion for the item measuring alignment of professional development with student needs (.695); however, 57% report that the development program takes the student performance data into consideration either frequently or always. In terms of teacher learning and school goals (.590), 86% of principals judge themselves as either frequently or always engaged in one of the two.

Sixty-one percent of principals say that they frequently or always include teachers in the planning process for faculty development in a meaningful way (.555). Some principal strengths in this factor include regular provision of resources (.545) and frequently calling upon teachers to present professional development to their fellow teachers (.501). As for finances, only 12% of principals report that they rarely give funding and resources to teacher learning. Principals consider themselves as frequent co-participants in teacher learning (90%). Ninety-one percent of principals feel that they frequently rely on teachers to take a lead role in the "teaching of teachers." And, 98% of principals interpret their development programs as aligned with their school's improvement plans to be important (.397). Seventy-one percent of principals report that professional development is either frequently or always part of teachers' job description (.470). We observe that principals report themselves as adept in deciding the focus for professional development, funding professional development, participating in professional development, and calling upon teachers to enact their learning opportunities, yet lower in their adeptness in including teachers in the decisions about the content of the development as well as providing "job embedded" learning.

Sharing and distributing leadership with teachers. The fourth factor we identify is sharing and distributing leadership with teachers. The items measuring this construct are teacher influence on curriculum (.769), teacher influence on standards (.679), teacher influence on the professional development program (.580), teacher influence on the discipline policy (.461), teacher preferences included in the design of the professional development program (.378), and teacher influence on evaluation of their peers (.304). In terms of the extent to which principals judge themselves to consult and

involve teachers in various facets of the school program, we observe that principals see themselves as capable practitioners of distributive leadership. For the first four items listed about, at least 73% (influence on standards) rated themselves as either a 4 or 5 on the five point scale. Principals see themselves as particularly adept in including teachers' perspectives in discipline policies (82% 4 and above on a 5 point scale).

We do also observe discrimination in principal self perception of distributed leadership in this factor. Only 66% of principals regard teacher preferences as important to reflect when designing the professional development program. And, only 38% of principals allow higher levels of teacher influence on the teacher evaluation system.

Building Collaborative Decision-Making Processes

Our fifth factor comprises the construct of involving multiple perspectives and sources of input for decision making, and we term it Building Collaborative Decision-Making Processes. Each of the items loading on this factor measure the extent to which the school's council is consulted. Areas for input are discipline policy (.784), spending (.742), professional development (.707), curriculum (.637), hiring (.583), and standards (.324). Across all six of these items, we observe principals scoring themselves substantially lower than on the items measured in school council influence on the processes noted above in our previous (fourth) factor. Principals judged themselves lowest in their efforts to include their council's input on issues of teacher hiring (86% scored a 3 or lower on a five point scale for level of influence) and standards (83% scored a 3 or lower on a five point scale for level of influence). Principals judged themselves as having relative strength in seeking input from their council on discipline (37% received a 4 or 5 for level of influence).

Connecting with External Partners

The final factor that emerged from our factor analysis is comprised by nine items measuring parent and university partner influence. These items were parent influence on: professional development (.734), curriculum (.716), teacher evaluation (.709), standards (.644), hiring of teachers (.632), spending (.626), and discipline policy (.619). Also included was an item measuring local college involvement in professional development of teachers (.395). Across all items, we see extremely limited evidence for high levels of attention to parents. In terms of scoring themselves as a five, the range is .8%- 5.8%. Numbers do not substantially improve when we examine principals who score themselves as a four or five (3% for teacher evaluation system to 20% for discipline policy). Overall, we see weak evidence for high levels of principal-initiated external stakeholder involvement in the schooling process.

Associations Between Prior Experience and Principal Use of Effective Leader Practices

To answer research question two, we enter into the second phase of the analysis. The scores from empirically derived leader practices from phase one serve as the outcome variable. We tested for associations between effective leader practices and the principal's prior experience, to include the number of years as a teacher, and prior role.

Years experience. For research question two, we would like to inquire if certain prior characteristics of principals are related to principals' use of six different effective leader practices. We are seeking to explore whether a relationship exists, and not to establish a causal relationship between the two. We acknowledge that causal links cannot be identified in the current study. In our model above we acknowledge at least four

factors that exercise influence on principal's practice of effective leader practice: disposition, academic preparation program, school context, and prior experience. We begin by examining descriptive statistics for experience (see Table 2).

Table 2

Principals' Time in Prior Educational Roles

Role	Mean, in Years
Teaching	13.94
Principal	8.89
Principal, Current School	4.87

Because of the nature of the Public School Principal Questionnaire, the statistical model in this study can control for some important aspects of school context that could be correlated with principal behaviors. However, we do not have data regarding principal disposition or meaningful insight regarding quality of the principal preparation experience. As such, we include two of the four factors as controls, which were discussed in our conceptual framework. We use measures of experience as independent variables. And, we control for principal school level, principal gender, principal race/ethnicity, percent minority teachers and students as a way to account for differences in the schools' contexts that could influence the type of leadership principals see themselves as exerting (Hallinger, Bickman, & Davis, 1996; Louis, Leithwood, Wahlstrom, Anderson, Michlin, Mascall, & Moore, 2002). For example, high school principals usually lead larger faculties with more hierarchical structures (departments). We control for student demographics because they are often used as proxy for socioeconomic status and school culture, and because prior work demonstrates good reason to do so (Halinger et al., 1996; Louis et al., 2002).

Table 3 conveys that experience, as defined by at least one of the three variables measuring experience, is important in five domains. It is the type of experience, or the combination of types of experience, that differ by domains. Three domains (building professional capacity, building collaborative processes, and connecting with external partners) associate with experience as a classroom teacher. Two domains (building professional capacity and connecting with external partners) associate with both experience as a classroom teacher and overall experience in education. Two domains (establishing the mission and building collaborative processes) have a relationship with the principals' level of experience in her/his current position.

Table 3

Correlations of Principals' Prior Experience and Scores for Effective Leader Practices

	Establishing and Conveying the Vision	Facilitating a High Quality Learning Experience for Students	Building Professional Capacity	Distributing Leadership	Building Collaborative Processes	Connecting with External Partners
Total Years as Principal	.041* (.002)	-.006 (.002)	.080** (.002)	.010 (.002)	-.025 (.002)	.058 (.002)
Total Years Teaching	.036* (.002)	.004 (.002)	.030* (.002)	-.013 (.002)	-.036* (.002)	.060** (.002)
Years as Principal in Current School	.130** (.003)	.031 (.003)	-.004 (.003)	.034 (.003)	-.025 (.004)	-.020 (-.004)
R^2 for model by factor	.035	.033	.065	.024	.043	.027
R^2 with only control variables	.010	.032	.059	.023	.040	.023

Note. Standard errors in parentheses. Models control for principal race/ethnicity, principal gender, school level, school size, percent minority faculty, and percent minority students.
*$p < .05$, ** $p < .01$

When we look across types of experience, we observe several points. First, of all of the forms of experience, total years experience as a teacher relates to the highest amount of effective leader practices: establishing and conveying the vision, building professional capacity, and connecting with external partners. However, in terms of magnitude, experience as principal relates to coefficients that improve faster per year. As principals' experience as a teacher increases, so does principals' perception of their effort toward practices that comprise the factor encompassing vision which includes effectively setting organizational goals, designing organizational assessment practices, and aligning

resources. For every year of experience as a teacher, principals' self-reported efforts toward establishing and conveying the vision increases by 3.6% of a standard deviation ($p < .001$) while for every year as a principal efforts in this domain increase by 4.1% of a standard deviation ($p < .05$). For every year of experience a principal has, their score for building professional capacity increases by 8.0% of a standard deviation ($p < .001$) while for every year of experience a principal has as a teacher, their score increases by 3.0% of a standard deviation ($p < .05$). One domain that delineates teacher experience from principal experience is connecting with external partners. Here, we do not observe a relationship with for principal experience but we do see that each year of teaching experience is related to an increase of 6.0% of a standard deviation ($p < .001$).

The strongest relationship we observe overall in this model exists between principals' self perceptions of vision and length of tenure at the principal's school. For every year that a principal remains in their current position, their score for establishing the vision increases by 13.0% of a standard deviation ($p < .001$). As for the second strongest relationship, we see that for every year a principal has experience as a principal, their score in building professional capacity improves by 8.0% of a standard deviation. Experience as a classroom teacher is also related to building professional capacity, but to a lesser degree. Both of these improvements are noteworthy because this is the domain largely comprised of designing effective learning experience for teachers. Principals who were teachers longer, as well as those who have been principals longer, score higher on designing effective learning for teachers (respectively 8.8%, $p < .001$, 3.0% $p < .05$).

When we look within effective leader practices, Table 3 reveals that three types of experience relate to establishing the vision. Two types of experience relate to building

professional capacity and connecting with external partners. One type relates to building collaborative processes.

As we discussed above, within the description of the factors, principals overall were weak in connecting with external partners. When we look at the relationship between experience as a teacher and connecting with external partners, we show that this type of experience correlates with higher scores on involving stakeholders (6.0% of a standard deviation, $p < .001$).

We observe that there is not a form of experience that seems to be correlated with improvement in facilitating a high quality learning experience for students, distributing leadership, or distributing leadership. We pay particular attention to these factors as we enter the second phase of our correlation analysis.

Prior roles. To answer the other part of research question two, we would like to know if the prior role of principals is related to principals' use of six different effective leader practices. We hypothesize that prior roles leading adults associate with effective leader practice because these type of positions call for interaction with adults. Experience leading adults, and not just a classroom of students, could have implications for how well a principal fares. To begin this examination, we first reference frequencies to find how many principals served in these prior roles (see Table 4).

Table 4

Numbers and Percents of Principals in Prior Role

Assistant Principal	Curriculum Specialist	Department Coordinator	Athletic Coach	Guidance Counselor
5805 (68.1)	1898 (22.3)	3514 (41.2)	3582 (42)	754 (8.8)

We observe that not all, and in fact only about two-thirds, of principals served as assistant principals. The next most frequent role was athletic coach, followed closely by department coordinator. Less than a quarter of principals were curriculum specialists. Less than ten percent of principals formerly were guidance counselors.

Then, we use the same model discussed above for years experience and add prior roles that involved principals interacting with and leading adults. In general, we find seventeen statistically significant relationships, ten of which include prior role. Table 5 indicates that the addition of prior role in our model in all cases but two improves coefficients. And, standard errors improve or remain the same across the board. Overall, prior role, in conjunction with experience, has a stronger relationship with effective leader practice scores than does experience alone. We reference the R^2 values (see Tables 3 and 5) and see that they increase for all models.

Table 5

Principal's Prior Roles and Scores for Effective Leader Practices

	Establishing and Conveying the Vision	Facilitating a High Quality Learning Experience for Students	Building Professional Capacity	Distributing Leadership	Building Collaborative Processes	Connecting with External Partners
Total Years as Principal	.045* (.002)	-.003 (.002)	.084** (.002)	.008 (.002)	-.017 (.002)	.047** (.002)
Total Years Teaching	.034* (.002)	-.001 (.002)	.023 (.002)	-.015 (.002)	-.044* (.002)	.053** (.001)
Years as Principal in Current School	.132** (.003)	.039 (.003)	-.001 (.003)	.031 (.003)	-.019 (.004)	-.023 (.004)
Assistant Principal	.030 (.028)	.101** (.028)	.023 (.031)	-.064** (.031)	.062** (.031)	.020 (.031)
Curriculum Specialist	-.001 (.031)	.020 .031	.040** (.033)	.016 (.033)	.057** (.034)	.061** (.034)
Department Coordinator	.026 (.028)	.024 (.027)	.046** (.029)	.001 (.030)	.027* (.030)	.020 (.030)
Athletic Coach	-.010 (.031)	-.011 (.031)	-.038** (.033)	.050** (.034)	-.010 (.034)	.028 (.034)
Guidance Counselor	.014 (.047)	-.018 (.047)	-.014 (.051)	.008 (.051)	-.005 (.052)	.027 (.034)
R^2 for model	.037	.044	.071	.030	.052	.033
R^2 with only control variables	.035	.033	.065	.024	.043	.027

Note. Standard errors in parentheses. Models also control for principal race/ethnicity, principal gender, school level, school size, percent minority faculty, and percent minority students. *$p < .05$, ** $p < .01$

In terms of specific prior roles, we see that principals who were assistant principals have higher scores in two domains and this includes the coefficient with the largest magnitude in the model (10.1%, $p < .001$, for facilitating a high quality student experience). Former department coordinators associate with higher scores in two

domains. Former curriculum specialists associate with higher scores in three domains. While no role is associated with increased scores across all six factors, we see former curriculum specialists and assistant principals approximating the fullest expression of integrated leadership by demonstrating strength in multiple domains across the spectrum of this blended framework. Because curriculum specialists do show increases in scores in three domains, but do not associate with the key area of vision building, we see them as demonstrating strength in domains related to a partial version of the blended framework oriented toward instructional leadership. Because we observe prior assistant principals as demonstrating strength in facilitating a high quality student experience and building collaborative processes, we see them as expressing a partial version of the blended framework oriented toward organizational leadership. Former department coordinators demonstrate a partial and abbreviated expression of leadership as they associate with two domains (building professional capacity and building collaborative processes) that do not include the critical areas of vision or external partners. Principals who were athletic coaches have an extremely limited expression of leadership in that this role associates with only distributing leadership (5.0%, $p < .001$) and we observe a statistically significant inverse relationship with building professional capacity (-3.8%, $p < .001$). We do not observe any relationship between prior role as a guidance counselor and principals' scores on effective leader practices. (Note: Because prior roles are not mutually exclusive, we also tested for relationships between combinations of roles but no combination met statistical significance requirements, likely because the numbers of principals in these combinations are much smaller in comparison to the overall sample size as demonstrated by cross tabulations.)

As shown in Table 5, we observe that no prior role associates with improved scores across all domains. Each prior role is defined by specific sets of improved scores. We observe that a combination of assistant principal with curriculum specialist in prior roles would yield a fuller expression of the model (although none of these five prior roles demonstrates improvement in establishing the vision or distributing leadership). Former curriculum specialists are the only roles that show improved scores in connecting with external partners. Further, the magnitude of the coefficients for prior assistant principals is larger than the three coefficients for curriculum specialist or the two coefficients for department coordinators. Department coordinators and curriculum specialist share domains with statistically significant coefficients in common, yet curriculum specialists have a third statistically significant relationship with connecting with the external environment that department coordinators do not. And, the magnitude of one of the shared coefficients is substantially larger for curriculum specialists (5.7% of a standard deviation versus 2.7% of a standard deviation for building collaborative processes). The other shared coefficient is similar in magnitude (4.0% of a standard deviation for curriculum specialists versus 4.6% of a standard deviation for department coordinators on building professional capacity).

In terms of the largest relationships in this model, principals who were assistant principals score over 10% higher on facilitating a high quality student experience ($p < .05$). Total principal experience also has a large, statistically significant relationship with building professional capacity (8.4% of a standard deviation, $p < .001$), which is larger in this model than the first. No other role to shows improved scores on the student learning factor. Perhaps because this factor encompasses items including both curriculum and

instruction as well as student safety and individualization, former department coordinators' and curriculum specialists' scores do not associate with the domain as the latter items are not traditionally in their purview.

As for building professional capacity, department coordinators and curriculum specialists are the two prior roles that associate with improved principal scores (4.0 % of a standard deviation, $p <. 001$ and 4.6% of a standard deviation, $p <. 001$, respectively). These two roles generally engage in the design of teacher learning programs, so it makes sense that principals who spent time in these former roles might self report better scores.

In terms of distributing leadership, former athletic coaches are the only group who see an increase in their scores (5.0% of a standard deviation, $p < .05$) while former assistant principals' scores actually go down in this domain (-6.4% of a standard deviation, $p < .001$.

Former assistant principals, former curriculum specialists, and former department coordinators all show strength in the domain of building collaborative processes, although former assistant principals have the highest scores (6.2% of a standard deviation, $p < .001$). We find the discrepancies between two similar constructs, distributing leadership and building collaborative processes, as cause for consideration. In turning back to the items that comprise the composite variables, we demonstrate that the factor for sharing and distributing leadership includes items about teacher inclusion while the factor for collaborative decision making includes items for school council inclusion. Thus, perhaps former assistant principals, curriculum coordinators and department heads demonstrate facility with calling upon formally arranged and traditional school mechanisms for stakeholder input (the "council"). Perhaps former athletic coaches are

more adept at gathering teacher input because of their backgrounds in team-based approaches to management and decision making.

Curriculum specialists are the only group to associate with increased scores for connecting with external partners. This is one of four domains in which former assistant principals do not see an increase, and one of the three domains that department coordinators do not demonstrate an increase. Former curriculum specialists have scores 6.1% of a standard deviation higher than otherwise similar principals (p <.001).

Discussion and Conclusion

Our study offers insight into effective leader practice of principals in three main ways. Our first contribution is of primary interest to researchers, as we find that the public school principal questionnaire contains latent constructs that reflect what we know about effective leader frameworks. While the items comprising each factor do not completely capture the breadth of practices encompassed by the domains, we do observe broad alignment with domains that has not been formerly available for measurement and analysis on a large scale. As such, we do not measure specific practices but instead leader efforts toward a general organization of similar leader practices, known as domains. Because we find that data from this questionnaire reflects what we know about effective leaders, we see that future research requiring resource and effort-intensive work to link student achievement results to schools may be warranted.

Second, we see that principals with more experience as a teacher demonstrate higher levels of aptitude in effective leader practice. In fact, we see that when examined collectively, experience as a teacher experience is the most important type of experience. Experience teaching contributes improvement to three effective leader practice domains.

We situate this finding about experience teaching and effective leadership within the gap discussed in literature review. For instance, we recall that the breadth of studies relating to candidates in educational administration has been termed slim. As such, we position our findings with what little we currently know about prior experience of school leaders. Authors of the small number studies examining experience call upon qualitative analytic approaches to assert findings (Browne-Ferrigno & Muth, 2004; Browne-Ferrigno & Muth, 2006; Browne-Ferrigno & Muth, 2009). We see our study as providing some level of confirmation about the amount of particular types of experience through quantitative analysis. We acknowledge that the size of the effects we find would be considered small. However, we note that because this work is largely unchartered territory, and because leadership's effects generally are small due to their indirect nature (Grissom & Loeb, 2011), we are not sure that conventional effect size standards should preclude the potential importance of our findings.

And, we underscore one final point about years of experience. The descriptive statistics of the items comprising the factor for connecting with external partners reveal weak evidence for principal inclusion of parents in schools, particularly in terms of influence afforded. Home life is one of the most important out-of-school factors in a student's achievement. If this is the case, what we would like to see is the inverse of the picture portrayed by the principal self reports. One way to approach the problem of principal weakness in this domain is to consider our finding for experience. The relationship we observe estimates twelve years of experience as teacher associates with more that a full standard deviation increase in score, a critical improvement in this domain with negligible principal strength but important potential for student

achievement. Yet, when we reference statistics about years of classroom experience for principals, we see that only 47% of principals were teachers for at least 12 years. This may not allow enough time for those principals who are improving to fully realize the effect.

Third, because we observe that type of role matters across five of the six effective leader practices, we find that prior role, in conjunction with years of experience matters. This finding is in keeping with what other qualitative studies assert using principal self report data, however our findings suggest with more specificity the ways in which prior role is important (Browne-Ferrigno 2001; Browne-Ferrigno & Muth, 2004; Browne-Ferrigno & Muth, 2006; Browne-Ferrigno & Muth, 2009; Browne-Ferrigno & Shoho, 2004). For instance, we find that there is not one type of role that fully associates with all effective leader practices, at least in terms of leader reported use, but the role of assistant principal surfaces as a potentially critical gatekeeper for effective leader practice given its effect sizes on two factors.

Further, in practical terms, if we are interested in providing insight for preparation program design and admissions, and for district hiring practices, we emphasize the prior roles of curriculum specialist and assistant principal. We note that when research has struggled to define the relationships between experience and principal effectiveness, our finding can be seen as providing some clarity. Less than one quarter of US principals are former curriculum specialists, but this prior role associates with the greatest number of effective leader practices. Curriculum specialists can be seen to have experience and relative expertise in both instruction and leadership of teachers in their subject area. Curriculum specialists' leadership maybe considered by some to be instructional in

nature, but our study shows that principals who were curriculum specialists actually do well in other domains, to include connecting with the external environment, which is typically not a curriculum specialist responsibility, but does entail ability to work with adults. While we cannot be sure in this study of the exact reasons that curriculum specialists seem to have the highest number of associations with effective leader scores, we can say that this prior role matters in terms of, building professional capacity, building collaborative processes, and connecting with the external environment (even when we account for the small amount of principals who were both curriculum specialists and assistant principals). We see this finding as helpful for preparation programs and districts, perhaps when they are faced with applicants with otherwise equivalent resumes.

We can also tell by our analyses that when preparation programs do admit department coordinators and curriculum specialists and who do not also have experience as an assistant principal, they may need additional support facilitating a high quality student experience. All three roles will need substantial support in establishing and conveying the mission and vision and distributing leadership. Such additive preparation in organizational leadership would serve to enhance what we observe as apparent strength in instructional leadership for the roles of curriculum specialist and department coordinator.

As for prior role as assistant principal, there are implications for preparation program curriculum and district hiring alike even though many assistant principals have already completed their preparation programs. For example, there are ways that preparation programs could draw from the responsibilities assistant principalships typically entail and include exposure to that type of work in the overall preparation

program design. For instance, some districts have created administrative aide and administrative assistant positions that allow students of school leadership to participate in a limited way in the role of assistant principal. This sort of arrangement might be a way to adjust preparation program experiences to be reflective of our finding. The importance of creating ways to expose aspiring school leaders to the assistant principalship are underscored by the descriptive statistics (see Table 2). We recall that only about two thirds of principals were assistant principals. If more than one third of US principals have not served in this role associated with higher rates of improvement for some effective leader practices, we may need to consider how we can find ways for all aspiring school leaders to gain exposure to the duties and responsibilities, if not the full position, of assistant principal. Grissom and Loeb (2011) find that principals who were one standard deviation higher in organizational management had nearly "half the average impact on a student's math score as does being a subsidized lunch recipient" (p. 1118). In their analysis, the construct of organizational management comprised many of the practices associated with the assistant principalship (facility management, school safety). We see this as in keeping with our finding about prior role as an assistant principal. We hope to further test the importance of the prior role as an assistant principal through including student achievement data in our model in a future study.

The final implication for prior role we consider are those related to the athletic coach. As noted, curriculum specialists show considerable adeptness with effective leader practices, as do department coordinators, both of which are above and beyond the number displayed by principals who were formerly athletic coaches. Again, we recall descriptive statistics to emphasize that less than one quarter of all US principals served as curriculum

specialists but more than forty percent were athletic coaches. And, although former department coordinators demonstrate improved scores beyond that of former athletic coaches by one domain, they are essentially equal in terms of percent occupying the role of principal. This also may be a point for preparation programs to consider as we see that principals who were curriculum specialists scored better than those who were coaches, yet hiring (and therefore likely preparation program admission) practices indicate that former coaches are hired (and prepared) more often than former curriculum specialists (even when we account for the minute number of principals who were both coaches and curriculum specialists).

Now, we consider the practical significance of our findings. As noted above, we found 23 statistically significant relationships within the two models. To enhance usefulness and utility of our study, we have attempted to highlight above the practically significant relationships from both models, but add that because the first model estimates a linear relationship between years experience and effective leaders scores, it may be worth considering how longevity of experience is implicated. We acknowledge that score improvement could be because these principals changed over time, or it could be that lower scoring principals leave the profession while the higher scoring principals stay.

For every twelve years that a principal is a principal, we would expect to see their competency in building professional capacity to increase by a full standard deviation, and we would expect to see their competency in establishing and conveying the vision increase by half a standard deviation. Even after five years as a principal, we estimate considerable improvement in these domains. Yet, when we reference the mean experience for principals of about eight years, we see that the mean falls short of the ten

years needed to achieve a standard deviation increase. And 66% of principals have less than ten years of experience. Even more compelling is that 42% of principals have five or less years of experience. Only one third of our principals have enough experience to gain a full standard deviation for their scores in vision and building professional capacity. This finding about principal longevity could be a function of poor principals leaving the profession, which is desirable. And, some may be promoted, or retiring. The exact reasons for leaving are beyond the scope of this study, but the question certainly does deserve future consideration. If we are losing capable and qualified principals, or even if we are promoting them before they fully realize their potential as a principal, we may want to reconsider the support structures in place for retention and development, as well as human resource practices. While the factors at play for principals leaving the positions are not clear, the current study does illuminate that too many principals do not gain enough experience to realize the association with effective leader practice.

Currently, most districts require or expect that educators spend three years in the classroom as a teacher before becoming principals. We estimate that principals who spend 12 years in the classroom prior to becoming a principal would have a score increase of full a standard deviation for building professional capacity rather than just 24% of a standard deviation for those meeting the basic teaching experience requirement. Since teacher effectiveness is the most important school related factor in student achievement, and professional development is one of the only known avenues toward enhancement of the inservice teacher, we interpret this finding as practically significant. As future principals have more time leading the technical core of schools, the classroom,

we see that their ability to create effective learning environments for teachers improving by a noticeable degree.

Another practically significant finding is that when a principal is leader of their school for four years, their adeptness in establishing and conveying the vision increases by half a standard deviation. This observation indicates that it may take some time for principals to situate themselves in a particular context before they become adept at collaboratively designing their school's direction. Yet, only 40% of principals have four or more years of experience in a their current school. This observation does not have a direct implication for preparation programs or hiring practices, it is, nonetheless, the strongest relationship we observe. While we do observe an effect for teacher and principal experience in this domain of about one-quarter and one-third, respectively, the size of "current" school experience. Neither teaching experience nor experience as a principal matter in the way that longevity does when it comes to skillful vision development.

Because of the magnitude of the sample size, and the sampling procedure, we are able to assert findings from the results that generalize to the population of United States principals, which is a rarity in research on educational leadership. However, such advantages do not come without tradeoffs. As mentioned above, our factor analysis accurately represents the variables present in the public school principal questionnaire, but the resulting factors are not fully reflective of the scope of each specific effective leader practice within the domains. Also, as discussed elsewhere, we made a decision to use the 1999-2000 survey data because it included important variables not included in future administrations of the questionnaire. We note that the age of the data could be a

limitation, especially since the accountability environment has changed substantially, but we doubt that the factor analysis would change if there were recent data from equivalent items, as the factor analysis examines how leader practices share variance. We do not see a strong argument for how the accountability environment would influence the shared variance of these items. Further, we note that the relationships we observe between effective leader practice and professional background variables would not change; we would simply be estimating the relationship with a different sample. Because we are not the only study in recent years to see the value of the items in the 1999-2000 questionnaire, we note that if educational leadership researchers need these items to investigate relevant questions, like effective leader practice, perhaps NCES should consider including the items about school culture from the 1999-2000 questionnaire in future administrations of the questionnaire.

We do see that these findings, when taken in consideration with other data, could be a way for those involved in selection for preparation programs, and hiring, development, and support, in school districts to inform their work in selection, assignment, and program design processes, particularly when tough decisions must be made among applicants and about resources to support those who are chosen. We also urge districts to consider how they might refine support mechanisms for principals so that we retain those who occupy this critical role long enough to grow into effective leaders.

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Appendix A

Factor Loadings for Items Organized by Domain

	1 (8.363)	2 (3.082)	3 (2.211)	4 (1.818)	5 (1.756)	6 (1.650)
Establishing and Conveying the Mission and Vision						
Setting educational goals	.08	.05	.01	.07	.04	.68
Setting organizational goals	.01	.05	.03	.08	.03	.65
Establishing an assessment system	.03	.13	.06	-.01	.03	.51
Establishing a secure financial base	-.05	.05	-.02	.02	-.01	.34
Facilitating a High Quality Learning Experience for Students						
Maintaining physical security	.01	.07	.03	.02	.69	.03
Managing school facilities	-.02	.034	.06	.05	.61	.01
Facilitating student learning	.05	.21	.04	.03	.52	.03
Guiding development of curriculum	.10	.26	.07	-.03	.40	.02
Building Professional Capacity						
Linking professional development to improvement needs	.2	.71	.03	-.00	.05	.11
Linking professional development to student achievement	.21	.71	.06	-.03	.07	.12
Aligning professional development to support school goals	.02	.59	.14	.08	.14	.04
Teachers participating in planning of professional development	.07	.56	.11	.26	-.01	.041
Allocating resources for professional development	.11	.56	.06	.15	.02	.11
Teachers presenting professional development	.11	.51	.12	.13	.04	.02
Embedding professional development in teacher work	.02	.47	.04	.08	.07	.06
Aligning professional development with school improvement plan	.07	.38	.13	.16	.15	.03
Principal participating in professional development with teachers	-.01	.33	.07	.02	.17	-.01
Sharing and Distributing Leadership						
Teacher influence on curriculum	.12	.04	.03	.77	-.02	.04
Teacher influence on standards	.14	.05	.03	.68	.02	.10
Teacher influence on professional development	.11	.27	.14	.57	.01	.03
Teacher influence on discipline policy	.10	.15	.17	.45	.09	.02
Teacher preferences included in design of professional development	.11	.26	.09	.38	.05	.03
Teacher influence on teacher evaluation program	.30	.11	.02	.30	-.05	.01
Building Collaborative Processes						
School council's influence on discipline policy	.25	.12	.79	.10	.10	.01
School council's influence on spending	.26	.18	.73	.02	.07	.001
School council's influence on professional development	.29	.17	.71	.14	.05	.05
School council's influence on curriculum	.36	.13	.63	.26	.06	.08
School council's influence hiring	.39	.09	.57	.03	-.02	.001
School council's influence on standards	.15	.11	.32	.10	.06	.03
Connecting with External Partners						
Parent influence on content of professional development	.73	.15	.23	.12	.04	.02
Parent influence on curriculum	.71	.10	.16	.28	.09	.08
Parent influence on teacher evaluation	.72	.08	.12	.04	-.03	.002
Parent influence on standards	.62	.12	.14	.30	.11	.11
Parent influence on hiring	.64	.03	.20	.01	-.02	-.30
Parent influence on spending	.61	.13	.28	-.01	.07	-.02
Parent influence on discipline policy	.61	.10	.28	.12	.10	-.02
College/university influence on professional development	.42	.11	.15	.14	-.00	-.03

Note. Initial Eigenvalues are in parantheses under the corresponding factor

Appendix B

Descriptive Statistics for Items Organized by Domain

	Min	Max	Mean	SD
Establishing and Conveying the Mission and Vision				
Setting educational goals	1	5	2.91	.632
Setting organizational goals	1	5	3.04	.788
Establishing an assessment system	1	5	3.03	.815
Establishing a secure financial base	1	5	3.19	1.058
Facilitating a High Quality Learning Experience for Students				
Maintaining physical security	1	4	3.80	.549
Managing school facilities	1	4	3.76	.560
Facilitating student learning	1	4	3.35	.782
Guiding development of curriculum	1	4	2.90	.822
Building Professional Capacity				
Linking professional development to improvement needs	1	5	3.56	.957
Linking professional development to student achievement	1	5	3.67	.966
Aligning professional development to support school goals	1	5	4.21	.688
Teachers participating in planning of professional development	1	5	3.70	.865
Allocating resources for professional development	1	5	3.51	.863
Teachers presenting professional development	1	5	3.47	.781
Embedding professional development in teacher work	1	5	3.92	.948
Aligning professional development with school improvement plan	1	5	4.46	.746
Principal participating in professional development with teachers	1	4	3.38	.682
Sharing and Distributing Leadership				
Teacher influence on curriculum	1	5	4.06	.937
Teacher influence on standards	1	5	4.03	.962
Teacher influence on professional development	1	5	4.07	.905
Teacher influence on discipline policy	1	5	4.27	.853
Teacher preferences included in design of professional development	1	5	3.86	.890
Teacher influence on teacher evaluation program	1	5	3.02	1.257
Building Collaborative Processes				
School council's influence on discipline policy	1	5	2.94	1.414
School council's influence on spending	1	5	2.70	1.390
School council's influence on professional development	1	5	2.62	1.283
School council's influence on curriculum	1	5	2.80	1.245
School council's influence hiring	1	5	2.08	1.250
School council's influence on standards	1	5	1.93	1.318
Connecting with External Partners				
Parent influence on content of professional development	1	5	1.98	.943
Parent influence on curriculum	1	5	2.48	1.049
Parent influence on teacher evaluation	1	5	1.60	.850
Parent influence on standards	1	5	2.69	1.076
Parent influence on hiring	1	5	1.70	.975
Parent influence on spending	1	5	2.48	1.200
Parent influence on discipline policy	1	5	2.48	1.200
College/university influence on professional development	1	5	2.27	1.057