

SCHOOL LEADERSHIP THAT WORKS

What we can learn from 25 years of research

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School Leadership That Works: What we can learn from 25 years of research

Introduction

Educators have long known that some principals are more effective leaders than others. Yet we have long struggled to define what exactly effective principals do. For many years, principals have been told they must be *instructional leaders*. This term, however, has remained an ill-defined concept, and one supported by, at best, anecdotal evidence. Similarly, we have struggled to define what training principals need to be effective. Most educators can point to examples of principals graduating from the same programs and receiving the same professional development, yet having different levels of success in schools. Likewise, we have seen principals' attempts to replicate others' successes in their schools having only minimal, or worse, negative results. Such observations have led some to question whether school leadership really does make a difference and others to conclude leadership is more art than science.

However, after examining quantitative research on school leadership spanning more than 25 years, Mid-continent Research for Education and Learning (McREL) has begun to establish what we believe is a true science of leadership. By examining rigorous, quantitative studies of leadership, we can identify which leadership qualities are most strongly correlated with improved student achievement. In doing so, we can begin to offer clear, practical guidance to school leaders to help them understand not only what to do, but how, when, and why to do it.

We believe this report could not be more timely. The No Child Left Behind Act will undoubtedly require schools across the nation to undertake dramatic improvement efforts to ensure the success of all students. Ultimately, these improvement efforts will rest on the shoulders of school principals, who will need proven, practical guidance to lead these changes.

What we know about leadership and student achievement

McREL's study of leadership is the third in a series of meta-analytic studies of classroom, school, and leadership practices that are highly correlated to student achievement. The first two analyses documented the school and classroom practices with the strongest relationships to student achievement. These results, published by ASCD in *What Works in Classroom Instruction* (2001), and in *What Works in Schools* (2003), provide specific guidance to principals and teachers on where to start and what to do with school policies and practices, as well as the instructional strategies that make the biggest difference in student achievement.

In our third meta-analysis, we focused on leadership, attempting to answer two questions: 1) Does the focus and quality of leadership have a significant relationship to student achievement? 2) What specific leadership responsibilities and practices make the biggest differences?

In this analysis, we reviewed more than 5,000 studies published since 1978 that purported to examine the effect of leadership on student achievement. Of these 5,000 studies, we found 70 that reported standardized, objective, quantitative measures of student achievement, with achievement as the dependent variable, and teacher perceptions of leadership as the independent variable. These 70 studies produced a sample of 2,894 schools, 14,000 teachers, and more than 1.1 million students; we believe this the largest sample ever used in a study of education leadership. From the resulting data, we reached the following conclusions:

- Leadership does make a difference in student achievement.
- The average correlation between leadership and student achievement is .25.

- Leadership can have a *negative* impact on student achievement.
- There are 21 leadership responsibilities with significant correlations to student achievement.
- Whether or not the use of the leadership practices associated with these 21 responsibilities have a positive impact or a negative impact on achievement is mitigated by the initiatives on which the leader is *focused* and accurately estimating the *implications* of these initiatives for stakeholders.

Our research findings indicate that this increase in leadership ability would translate into an expected mean student achievement at school B that is 10 percentile points higher than school A, as depicted below in Figure 2. Expressed differently, a one standard deviation improvement in leadership practices is associated with an increase in average student achievement from the 50th percentile to the 60th percentile. We view this difference in mean achievement as substantial.

The effect of leadership

The data from our meta-analysis demonstrate that there is, in fact, a substantial relationship between leadership and student achievement. We found that the average effect size (expressed as a correlation) between leadership and student achievement is .25.

To interpret this correlation, consider two schools (school A & school B) with similar student and teacher populations. Both demonstrate achievement on a standardized, norm-referenced test at the 50th percentile. Principals in both schools are also average — that is, their abilities in the 21 key leadership responsibilities are ranked at the 50th percentile. Now assume that the principal of school B improves her demonstrated abilities in all 21 responsibilities by exactly one standard deviation, as shown in Figure 1.

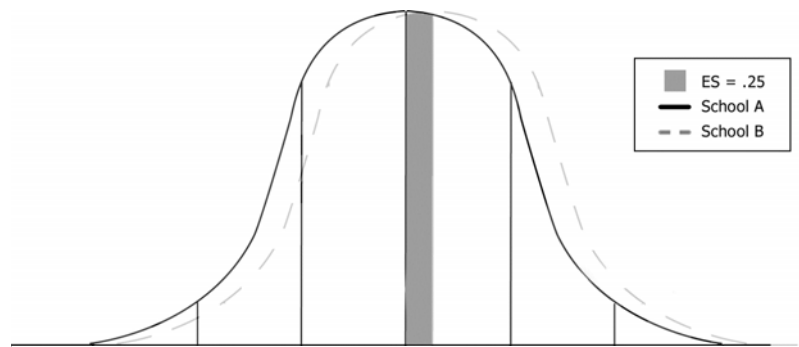


Figure 2: Impact of leadership on student achievement

Leadership responsibilities

In addition to the general impact of leadership, we found 21 specific leadership responsibilities significantly correlated with student achievement, as shown in Figure 3 on the following page.

Figure 1: Standard deviations on a normal distribution curve

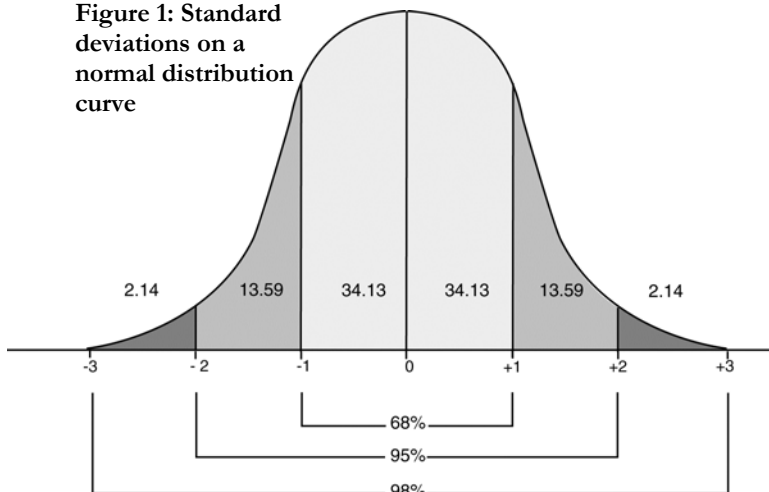


Figure 3: Principal leadership responsibilities: Average r and 95% Confidence Intervals

Characteristic / Behavior	The extent to which the principal ...	Avg r	N schools	N studies	95% (CI)
Culture	fosters shared beliefs & a sense of community & cooperation	.29	709	13	.23–.37
Order	establishes a set of standard operating procedures & routines	.26	456	17	.17–.35
Discipline	protects teachers from issues & influences that would detract from their teaching time or focus	.24	397	10	.14–.33
Resources	provides teachers with the material & professional development necessary for the successful execution of their jobs	.26	570	17	.18–.34
Curriculum, instruction, & assessment	is directly involved in the design & implementation of curriculum, instruction, & assessment practices	.16	636	19	.08–.24
Focus	establishes clear goals & keeps those goals in the forefront of the school's attention	.24	1109	30	.18–.29
Knowledge of curriculum, instruction, & assessment	is knowledgeable about current curriculum, instruction, & assessment practices	.24	327	8	.13–.35
Visibility	has quality contact & interactions with teachers & students	.16	432	11	.06–.25
Contingent rewards	recognizes & rewards individual accomplishments	.15	420	7	.05–.24
Communication	establishes strong lines of communication with teachers & among students	.23	245	10	.10–.35
Outreach	is an advocate & spokesperson for the school to all stakeholders	.28	478	14	.19–.35
Input	involves teachers in the design & implementation of important decisions & policies	.30	504	13	.21–.38
Affirmation	recognizes & celebrates school accomplishments & acknowledges failures	.25	345	7	.14–.35
Relationship	demonstrates an awareness of the personal aspects of teachers & staff	.19	497	12	.10–.24
Change agent	is willing to & actively challenges the status quo	.30	479	7	.22–.38
Optimizer	inspires & leads new & challenging innovations	.20	444	9	.11–.29
Ideals/ Beliefs	communicates & operates from strong ideals & beliefs about schooling	.25	526	8	.17–.33
Monitors/ Evaluates	monitors the effectiveness of school practices & their impact on student learning	.28	1071	30	.23–.34
Flexibility	adapts his or her leadership behavior to the needs of the current situation & is comfortable with dissent	.22	151	2	.05–.37
Situational awareness	is aware of the details & undercurrents in the running of the school & uses this information to address current & potential problems	.33	91	5	.11–.51
Intellectual stimulation	ensures that faculty & staff are aware of the most current theories & practices & makes the discussion of these a regular aspect of the school's culture	.32	321	5	.22–.42

The differential impact of leadership

It is important to note that we found a wide range of variance in the impact of leadership. Some studies reported the effect size for leadership and achievement as high as .50, which translates mathematically into a one standard deviation difference in demonstrated leadership ability being correlated with a 19 percentile point increase in student achievement.

Other studies, however, reported that leaders who displayed the very same leadership qualities had an only a marginal, or worse, a *negative* impact on achievement. Specifically, as shown in Figure 4, some studies reported correlations as low as -.02. This indicates that a one standard deviation improvement in leadership practices was correlated with a one percentile point *decrease* in student achievement.

Figure 4: Differential impact of leadership

Range	Correlation	Change from 50th P for 1 SD Increase in Leadership
Mean	.25	60 th
Highest	.50	69 th
Lowest	-.02	49 th

Our interpretation of these data — based on an exhaustive review of theoretical literature on leadership and extensive professional wisdom — is that there are two primary mitigating factors that determine whether or not leadership will have a positive or a negative impact on achievement.

The first is the **focus of change** — that is, whether leaders properly identify and focus on improving the school and classroom practices that are most likely to have a positive impact on student achievement in their school. The second variable is whether leaders properly understand the magnitude or

“order” of change they are leading and adjust their leadership practices accordingly.

The leader’s focus

Harvard scholar Richard Elmore, in a study commissioned by the National Governor’s Association (NGA), concluded that having the right focus of change is a key to improving schools and increasing student achievement. In his NGA report, *Knowing the Right Things to Do: School Improvement and Performance-Based Accountability*, Elmore states

Knowing the right thing to do is the central problem of school improvement. Holding schools accountable for their performance depends on having people in schools with the knowledge, skill, and judgement to make the improvements that will increase student performance. (p. 9)

We reached the same conclusion in our current study of leadership. We believe that the school and classroom practices which we identified in our two previous meta-analytic studies¹ and provide below in Figure 5, can, in fact, help leaders identify the “right things to do” in school improvement.

Figure 5: School & teacher practices & student factors influencing student achievement

School	Guaranteed and viable curriculum Challenging goals and effective feedback Parent and community involvement Safe and orderly environment Collegiality and professionalism
Teacher	Instructional strategies Classroom management Classroom curriculum design
Student	Home environment Learned intelligence / background knowledge Motivation

¹ Both McREL research reports are available online: *A Theory-based Meta-Analysis of Research on Instruction* can be downloaded at www.mcrel.org/PDF/Instruction/5982RR_InstructionMeta_Analysis.pdf; *A New Era of School Reform* is available at www.mcrel.org/PDF/SchoolImprovementReform/5002RR_NewEraSchoolReform.pdf.

Implications for stakeholders: order of change

Many educators can point to examples of leaders who knew the right things to do in one setting or with one initiative, but who were unable to replicate their successes in other settings or with other initiatives. The theoretical literature on leadership, change, and the adoption of new ideas provides some insights into why this may occur. Several theorists¹ have made the case that not all changes are of the same magnitude. Some have greater implications than others for staff members, students, parents, and other stakeholders. These writers use different labels to describe these magnitudes of change (technical vs. adaptive challenges, incremental vs. fundamental, continuous vs. discontinuous); we use the terms “first order” and “second order” to make this distinction, which is further defined in Figure 6.

Figure 6: Traits of 1st & 2nd order changes

First order change	Second order change
An extension of the past	A break with the past
Within existing paradigms	Outside of existing paradigms
Consistent with prevailing values & norms	Conflicted with prevailing values & norms
Focused	Emergent
Bounded	Unbounded
Incremental	Complex
Linear	Nonlinear
Marginal	A disturbance to every element of a system
Implemented with existing knowledge & skills	Requires new knowledge & skills to implement
Problem- & solution-oriented	Neither problem- nor solution-oriented
Implemented by experts	Implemented by stakeholders

¹ See Heifetz, Fullan, Beckard, Pritchard, Hessebein, Johnson, Kanter, Bridges, Rogers, Nadler, Shaw, and Walton

It is important to note that not all changes represent the same order of change for all individuals or stakeholder groups. What will be experienced as a “first order” change for some may be a “second order” change for others. Assuming that all change will have the same implications for all stakeholders, and/or using practices that might be appropriate for a first order change when a second order change is actually implied for stakeholders, will likely result in a negative impact on student achievement. Thus, in addition to focusing leadership efforts on school and classroom practices associated with improved student achievement, leaders also must tailor their own leadership practices based on the magnitude or “order” of change they are leading.

What determines the magnitude or order of change for individuals, organizations, and institutions are the implications of the change for each. On both individual and collective levels, changes that are consistent with existing values and norms, create advantages for individuals or stakeholder groups with similar interests, can be implemented with existing knowledge and resources, and where agreement exists on what changes are needed and on how the changes should be implemented can be considered first order. In an educational context, these might be new classroom instructional practices, instructional materials, curricular programs, or data collection and reporting systems that build on established patterns and utilize existing knowledge.

A change becomes second order when it is not obvious how it will make things better for people with similar interests, requires individuals or groups of stakeholders to learn new approaches, or conflicts with prevailing values and norms. To the degree that individuals and/or stakeholder groups in the school or school system hold conflicting values, seek different norms, have different knowledge, or operate with varying mental models of schooling, a proposed change might represent a first order change for some and a second order change for others.

Different perceptions about the implications of change can lead to one person's solution becoming someone else's problem. That is, if a change has first order implications for one person or group of individuals, yet has second order implications for another person or group, this latter group may view the change as a problem rather than a solution. This is true of nearly every educational reform introduced over the last 20 years. The shift from focusing on the inputs of schooling to the outputs of schooling, which was the core concept in "outcome-based" education, is a classic and dramatic example of one person's solution being someone else's problem.

There are many more current examples. The role and use of content standards, high-stakes testing and accountability, adjustments in school days, weeks, and years, non-graded classrooms, home schooling, and school vouchers are for some educators, policymakers, and parents, first order changes; that is, they are appropriate responses to what these individuals see as problems with schools. It is a solution that is consistent with these stakeholders' prevailing values and norms and thus, seen as natural extensions of their ongoing efforts to improve schools.

Other policymakers, educators, and parents, however, may see these same changes as dramatic and undesirable breaks with the past that conflict sharply with their prevailing values and norms. For these stakeholders, these improvement efforts are "second order" changes. Instead of viewing them as solutions, these stakeholders may view these changes as new problems facing schools and school systems — problems which have far greater implications for students and stakeholder groups than the ones being addressed.

Recognizing which changes are first and second order for which individuals and stakeholder groups helps leaders to select leadership practices and strategies appropriate for their initiatives. Doing so enhances the likelihood of sustainable initiatives and a positive impact on achievement. Failing to do so will just as likely result in negative impact on achievement.

Conclusion

There are no fail-safe solutions to educational and organizational problems. This is as true in the area of leadership as it is in other areas of educational effectiveness. However, research findings that are organized, accessible, and easily applied by practitioners can enhance the likelihood of effective education leadership. We believe our leadership framework is the most comprehensive, rigorous, and useful integration of research and theory into a practical format available to education leaders today. McREL's framework is not a silver bullet. It can become, however, a tool that will help leaders and leadership teams add value to the work of all stakeholders to improve student achievement.

For information about the status of these efforts, and the release of future reports, readers can access McREL's Resource Center at info@mcrel.org.

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