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What 30 Years of Research Tells Us About the Effect of Leadership on Student Achievement

Background:

Mid-Continent Research for Education and Learning's (McREL) research meta-analysis examines the effects of leadership practices on student achievement. After analyzing studies conducted over a 30-year period, McREL identified 21 leadership responsibilities that are significantly associated with student achievement. They have translated these results into a balanced leadership framework, which describes the knowledge, skills, strategies, and tools leaders need to positively impact student achievement.

Why Another Leadership Framework?

Educators have long heard that school leadership makes a difference. Many early studies on school effectiveness, for example, reported that leadership, specifically instructional leadership, was one of several defining characteristics of successful schools. Nonetheless, this notion of instructional leadership remained a vague and imprecise concept for many district and school leaders charged with providing it. Since the early 1970s, many thoughtful, experienced, and competent scholars and practitioners have offered theories, anecdotes, and personal perspectives concerning instructional leadership. None of this advice for leaders, however, was derived from the analysis of a large sample of quantitative data. As a result, it remained largely theoretical and failed to provide school leaders with practical guidance for becoming effective leaders.

McREL's balanced leadership framework is predicated on the notion that effective leadership means more than simply knowing what to do—it's knowing when, how, and why to do it. Effective leaders understand how to balance pushing for change, while, at the same time, protecting aspects of culture, values, and norms worth preserving. They know which policies, practices, resources, and incentives to align and how to align them with organizational priorities. They know how to gauge the magnitude of change they are calling for and how to tailor their leadership strategies accordingly. Finally, they understand and value the people in the organization. They know when, how, and why to create learning environments that support people, connect them with one another, and provide the knowledge, skills, and resources they need to succeed. This combination of knowledge and skills is the essence of balanced leadership.

Methodology:

As a first step in developing the leadership framework, McREL conducted a systematic, meta-analysis of nearly every available study that purported to examine the effects of leadership on student achievement reported since the early 1970s. From a total of more than 5,000 studies completed during this period, 70 (see Appendix A in the full report) met the following criteria for design, controls, data analysis, and rigor:

- Quantitative student achievement data;
- Student achievement measured on standardized, norm-referenced tests or some other objective measure of achievement;
- Student achievement as the dependent variable; and
- Teacher perceptions of leadership as the independent variable.

These 70 studies involved 2,894 schools, approximately 1.1 million students, and 14,000 teachers. In addition, McREL's research team applied insights from their own professional wisdom and exhaustive review of leadership literature—including institutional theory, systems theory, organizational learning theory, transition theory, change theory and diffusion theory.

Findings:

The data from the meta-analysis demonstrate that there is, in fact, a substantial relationship between leadership and student achievement. McREL 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 and 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. Research findings indicated that this increase in leadership ability would translate into mean student achievement at school B that is 10 percentile points higher than school A.

In addition to the general impact of leadership, McREL found 21 specific leadership responsibilities significantly correlated with student achievement. They are the extent to which the principal:

1. Fosters shared beliefs and a sense of community and cooperation.

2. Establishes a set of standard operating procedures and routines.
3. Protects teachers from issues and influences that would detract from their teaching time and focus.
4. Provides teachers with materials and professional development necessary for the successful execution of their jobs.
5. Is directly involved in the design and implementation of curriculum, instruction, and assessment practices.
6. Establishes clear goals and keeps those goals in the forefront of the school's attention.
7. Is knowledgeable about current curriculum, instruction, and assessment practices.
8. Has quality contact and interactions with teachers and students.
9. Recognizes and rewards individual accomplishments.
10. Establishes strong lines of communication with teachers and among students.
11. Is an advocate and spokesperson for the school to all stakeholders.
12. Involves teachers in the design and implementation of important decisions and policies.
13. Recognizes and celebrates school accomplishments and acknowledges failures.
14. Demonstrates an awareness of the personal aspects of teachers and staff.
15. Is willing to and actively challenges the status quo.
16. Inspires and leads new and challenging innovations.
17. Communicates and operates from strong ideals and beliefs about schooling.
18. Monitors the effectiveness of school practices and their impact on student learning.
19. Adapts leadership behaviors to the needs of the current situation and is comfortable with dissent.
20. Is aware of the details and undercurrents in the running of the school and uses this information to address current and potential problems.
21. Ensures that faculty and staff are aware of the most current theories and practices and makes the discussion of these a regular aspect of the school culture.

The Differential Impact of Leadership:

As important as these findings are, there is another finding that is equally important. That is, just as leaders can have a positive impact on achievement, they also can have a marginal, or worse, a negative impact on achievement. McREL concluded there are two primary variables that determine whether or not leadership will have a positive or a negative impact on achievement. The first is the focus of change—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 Focus of Change:

Through two previous meta-analyses of classroom and school practices, McREL identified "the right things to do" in school improvement. The school and classroom practices associated with increased student achievement identified in these publications are:

■ School

1. Guaranteed and viable curriculum
2. Challenging goals and effective feedback
3. Parent and community involvement
4. Safe and orderly environment
5. Collegiality and professionalism

■ Teacher

1. Instructional Strategies
2. Classroom management
3. Classroom curriculum design

■ Student

1. Home environment
2. Learned intelligence / background knowledge
3. Motivation

These earlier analyses document an even stronger relationship between these school and teacher practices and student factors and student achievement. The school and classroom practices above count for 20 percent of the variance in student achievement.

The Magnitude or "Order" of Change:

The theoretical literature on leadership, change, and the adoption of new ideas (including Heifetz, Fullan, Beckard, Pritchard, Hesselbein, Johnson, Kanter, Bridges, Rogers, Nadler, Shaw, and Walton) makes the case that not all change is of the same magnitude. Some changes have greater implications than others for staff members, students, parents and other stakeholders. Although there are a variety of labels given to differing magnitudes of change, McREL has used the terms "first order" and "second order" change to make this distinction.

It is important to note that not all changes represent the same order of change for each individual or

stakeholder group. What will be experienced as a "first order" change for some may be a "second order" change for others. 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 "order" of the change they are leading. The implications of the change for individuals, organizations, and institutions determines the order of change.

A change becomes second order when it is not obvious how it will make things better for people with similar interests, it requires individuals or groups of stakeholders to learn new approaches, or it conflicts with prevailing values and norms. 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 student achievement. Failing to do so will just as likely result in a negative impact on achievement.

Ongoing Development of the "Balanced Leadership" Framework:

McREL's work on this framework continues through the development of a "knowledge taxonomy" to organize the theoretical research mentioned earlier. The taxonomy organizes this literature into the following four types of knowledge, which can be applied to the 21 leadership responsibilities and associated practices:

- Experiential knowledge—knowing why this is important;
- Declarative knowledge—knowing what to do;
- Procedural knowledge—knowing how to do it; and
- Contextual knowledge—knowing when to do it.

The value of the taxonomy is in organizing the knowledge in the theoretical research on leadership, change, systems, organizational learning, diffusion, supervision, and institutions so it can be applied to the 21 leadership responsibilities.

The meta-analysis gives us 21 research-based responsibilities and associated practices that are significantly associated with student achievement. These responsibilities and practices make up one half of a "balanced leadership framework." The taxonomy is McREL's tool for organizing the experiential, declarative, procedural, and contextual knowledge in the theoretical research, to be applied to the 21 responsibilities and associated practices found in quantitative research. This is the other half of the "balanced leadership framework."

In addition to pulling the theoretical research into the framework using the knowledge taxonomy, McREL continues to collect data on the 21 leadership responsibilities. Assuming that the 21 responsibilities are highly interrelated, McREL is currently collecting data from practitioners, which they will use to conduct factor analyses. Additionally, they will use these data for the purpose of structural equation modeling. In subsequent reports, they anticipate sharing these results, which they expect will produce a smaller number of responsibilities after "teasing out" the underlying factor structure.

References:

Excerpted from Waters, J.T., Marzano, R.J., McNulty, B.A. *Balanced leadership: What 30 years of research tells us about the effect of leadership on student achievement*. Aurora, CO: Mid-continent Research for Education and Learning. Copyright 2003. Reprinted by Permission of McREL.

To read the full report (complete with figures and appendices), go to www.mcrel.org/topics/productdetail.asp?topicsid=7&productid=144.

■ Research Bibliography

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