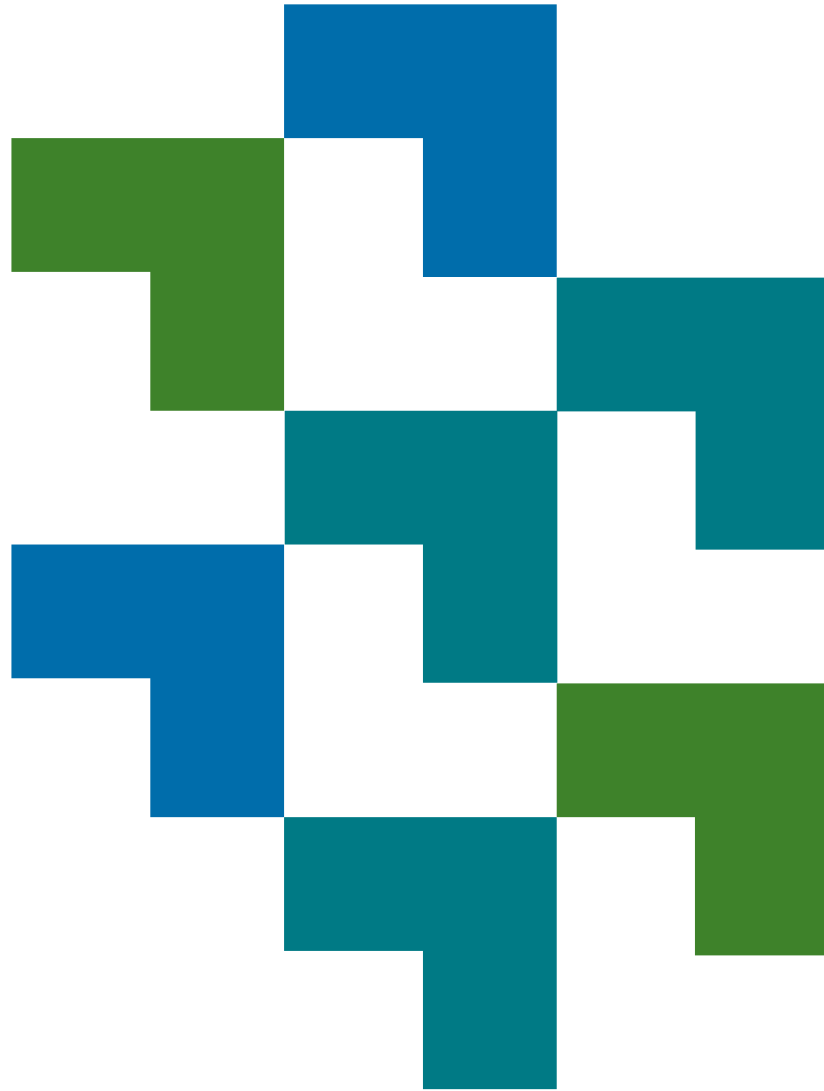


Executive summary **How leadership influences student learning**

Kenneth Leithwood, Karen Seashore Louis, Stephen Anderson and Kyla Wahlstrom



carei

Center for Applied Research
and Educational Improvement
UNIVERSITY OF MINNESOTA

OISEUT

Ontario Institute for Studies in
Education at The University of Toronto



The Wallace Foundation™

Supporting ideas.
Sharing solutions.
Expanding opportunities.™

Taking stock in education leadership: **How does it really matter?**

Effective education leadership makes a difference in improving learning. There's nothing new or especially controversial about that idea. What's far less clear, even after several decades of school renewal efforts, is just how leadership matters, how important those effects are in promoting the learning of all children, and what the essential ingredients of successful leadership are. Lacking solid evidence to answer these questions, those who have sought to make the case for greater attention and investment in leadership as a pathway for large-scale education improvement have had to rely more on faith than fact.

This report by researchers from the Universities of Minnesota and Toronto examines the available evidence and offers educators, policymakers and all citizens interested in promoting successful schools, some answers to these vitally important questions. It is the first in a series of such publications commissioned by The Wallace Foundation that will probe the role of leadership in improving learning.

It turns out that leadership not only matters: it is second only to teaching among school-related factors in its impact on student learning, according to the evidence compiled and analyzed

by the authors. And, say the authors, the impact of leadership tends to be greatest in schools where the learning needs of students are most acute.

How do high-quality leaders achieve this impact?

By setting directions – charting a clear course that everyone understands, establishing high expectations and using data to track progress and performance.

By developing people – providing teachers and others in the system with the necessary support and training to succeed.

And by making the organization work – ensuring that the entire range of conditions and incentives in districts and schools fully supports rather than inhibits teaching and learning.


There is still much more to learn about the essentials of quality leadership, how to harness its benefits, and how to ensure that we don't continue to throw good leaders into bad systems that will grind down even the best of them. I'm confident that the knowledge in this report, and subsequent publications by this team of researchers, will help lead to more effective policy and practice at a time of fully justified public impatience for school improvement.



M. Christine DeVita
President
The Wallace Foundation

How leadership influences student learning

All current school reform efforts aim to improve teaching and learning. But there are huge differences in how they go about it. Some reforms, for example, attempt to improve all schools in a district, stateⁱ or countryⁱⁱ at the same time. Other reformsⁱⁱⁱ attempt to influence the overall approach to teaching and learning within a school, but do so one school at a time. Still others, focused on innovative curricula (in science and mathematics, for example), typically address one part of a school's program and aim for widespread implementation, while innovative approaches to instruction, such as cooperative learning, hope to change teachers' practices one teacher at a time.



The chance of any reform improving student learning is remote unless district and school leaders agree with its purposes and appreciate what is required to make it work.

As different as these approaches to school reform are, however, they all depend for their success on the motivations and capacities of local leadership. The chance of any reform improving student learning is remote unless district and school leaders agree with its purposes and appreciate what is required to make it work. Local leaders must also, for example, be able to help their colleagues understand how the externally-initiated reform might be integrated into local improvement efforts, provide the necessary supports for those whose practices must change and must win the cooperation and support of parents and others in the local community. So “effective” or “successful” leadership is critical to school reform. This is why we need to know what it looks like and understand a great deal more about how it works.

As the first step in a major research project aimed at further building the knowledge base about effective educational leadership, we reviewed available evidence in response to five questions:

- ◆ What effects does successful leadership have on student learning?
- ◆ How should the competing forms of leadership visible in the literature be reconciled?
- ◆ Is there a common set of “basic” leadership practices used by successful leaders in most circumstances?
- ◆ What else, beyond the basics, is required for successful leadership?
- ◆ How does successful leadership exercise its influence on the learning of students?

Leadership effects on student learning

Our review of the evidence suggests that successful leadership can play a highly significant – and frequently underestimated – role in improving student learning. Specifically, the available evidence about the size and nature of the effects of successful leadership on student learning justifies two important claims:

1. Leadership is second only to classroom instruction among all school-related factors that contribute to what students learn at school.

While evidence about leadership effects on student learning can be confusing to interpret, much of the existing research actually underestimates its effects. The total (direct and indirect) effects of leadership on student learning account for about a quarter of total school effects.^{iv}

This evidence supports the present widespread interest in improving leadership as a key to the successful implementation of large-scale reform.

2. Leadership effects are usually largest where and when they are needed most.

Especially when we think of leaders in formal administrative roles, the greater the challenge the greater the impact of their actions on learning. While the evidence shows small but significant effects of leadership actions on student learning across the spectrum of schools, existing research also shows that demonstrated effects of successful leadership are considerably greater in schools that are in more difficult circumstances. Indeed, there are virtually no documented instances of troubled schools being turned around without intervention by a powerful leader. Many other factors may contribute to such turnarounds, but leadership is the catalyst.

These results, therefore, point to the value of changing, or adding to, the leadership capacities of underperforming schools as part of their improvement efforts or as part of school reconstitution.



The total (direct and indirect) effects of leadership on student learning account for about a quarter of total school effects.

Leadership:

Forms and fads

When we think about “successful” leadership, it is easy to become confused by the current evidence about what that really means. Three conclusions are warranted about the different forms of leadership reflected in that literature.

1. Many labels used in the literature to signify different forms or styles of leadership mask the generic functions of leadership.

Different forms of leadership are described in the literature using adjectives such as “instructional,” “participative,” “democratic,” “transformational,” “moral,” “strategic” and the like. But these labels primarily capture different stylistic or methodological approaches to accomplishing the same two essential objectives critical to any organization’s effectiveness: helping the organization set a defensible set of directions and influencing members to move in those directions. Leadership is both this simple and this complex.

“Instructional leadership,” for example, encourages a focus on improving the classroom practices of teachers as the direction for the school. “Transformational leadership,” on the other hand, draws attention to a broader array of school and classroom conditions that may need to be changed if learning is to improve. Both “democratic” and “participative leadership” are especially concerned with how decisions are made about both school priorities and how to pursue them.

The lesson here is that we need to be skeptical about the “leadership by adjective” literature. Sometimes these adjectives have real meaning, but sometimes they mask the more important underlying themes common to successful leadership, regardless of the style being advocated.

2. Principals, superintendents and teachers are all being admonished to be “instructional leaders” without much clarity about what that means.

The term “instructional leader” has been in vogue for decades as the desired model for education leaders – principals especially. Yet the term is often more a slogan than a well-defined set of leadership practices. While it certainly conveys the importance of keeping teaching and learning at the forefront of decision making, it is no more meaningful, in and of itself, than admonishing the leader of any organization to keep his or her eye on the organizational “ball” – in this case, the core objective of making schools work better for kids.

Sloganic uses of the term “instructional leadership” notwithstanding, there are several quite well-developed models carrying the title of “instructional leadership” that do specify particular leadership practices and provide evidence of the impact of these practices on both organizations and students. Hallinger’s model^v has been the most researched; it consists of three sets of leadership dimensions (Defining the School’s Mission, Managing the Instructional Program and Promoting a Positive Learning Climate), within which are 10 specific leadership practices. Both Duke^{vi} and Andrews and Sodder^{vii} provide other well-developed but less-researched models of instructional leadership.



The same two essential objectives are critical to any organization’s effectiveness: helping the organization set a defensible set of directions and influencing members to move in those directions.

Displacing the sloganistic uses of the term “instructional leadership” with the more precise leadership practices specified by well-developed leadership models is much to be desired.



It is helpful for some leadership functions to be performed at every level in the organization; for example, stimulating people to think differently about their work.

3. “Distributed leadership” is in danger of becoming no more than a slogan unless it is given more thorough and thoughtful consideration.

As it is frequently used in the field and in education leadership research dating back nearly 70 years, the ideas underlying the term “distributed leadership” have mainly commonsense meanings and connotations that are not disputed. Neither superintendents nor principals can do the whole leadership task by themselves. Successful leaders develop and count on contributions from many others in their organizations. Principals typically count on key teachers for such leadership, along with their local administrative colleagues. In site-based management contexts, parent leaders are often crucial to the school’s success. Superintendents rely for leadership on many central-office and school-based people, along with elected board members. Effective school and district leaders make savvy use of external assistance to enhance their influence.

While many in the education field use the term “distributed leadership” reverentially, there is substantial overlap with such other well-developed, longstanding conceptions of leadership as “shared,” “collaborative,” “democratic” and “participative.” Furthermore, when viewed in terms of the definition of leadership suggested here, practical applications of leadership distribution may easily get confounded with the mere distribution of management responsibilities.

Promising efforts have recently begun to extend the concept of distributed leadership beyond its commonsense uses and provide evidence about its nature and effects (e.g., Gronn, 2002; Spillane, in press; Leithwood et al, 2004). These efforts suggest, for example, that it is helpful for some leadership functions to be performed at every level in the organization; for example, stimulating people to think differently about their work. On the other hand, it is important for other functions to be carried out at a particular level. For example, it seems critical that leaders in formal positions of authority retain responsibility for building a shared vision for their organizations. Also, it seems likely that different patterns of leadership distribution throughout districts and schools, for example, might be associated with different levels of effects on students. This is a promising line of research that may prevent distributed leadership from becoming just another “leadership flavor of the month.”

Given the state of our understanding about distributed leadership, therefore, policymakers and leadership developers would do well to adopt a more conservative attitude toward the concept until more evidence is developed to move the term beyond the obvious and provide a clearer understanding of its actual impact on schools and students.

The basics of successful leadership

In organizational sectors as different as schools and the military, and in national cultures as different as The Netherlands, Canada, Hong Kong and the United States, there is compelling evidence of a common core of practices that any successful leader calls on, as needed. Many of these practices are common to different models of leadership, as well.

These practices can be thought of as the “basics” of successful leadership. Rarely are such practices sufficient for leaders aiming to significantly improve student learning in their schools. But without them, not much would happen.

Three sets of practices make up this basic core of successful leadership practices: setting directions, developing people, and redesigning the organization.



Often cited as helping set directions are such specific leadership practices as identifying and articulating a vision, fostering the acceptance of group goals and creating high performance expectations.

1. Setting Directions

Evidence suggests that those leadership practices included in Setting Directions account for the largest proportion of a leader’s impact. This set of practices is aimed at helping one’s colleagues develop shared understandings about the organization and its activities and goals that can under gird a sense of purpose or vision. People are motivated by goals which they find personally compelling, as well as challenging but achievable. Having such goals helps people make sense of their work and enables them to find a sense of identity for themselves within their work context.

Often cited as helping set directions are such specific leadership practices as identifying and articulating a vision, fostering the acceptance of group goals and creating high performance expectations. Monitoring organizational performance and promoting effective communication throughout the organization also assist in the development of shared organizational purposes.

2. Developing People

Evidence collected in both school and nonschool organizations about the contribution of this set of practices to leaders’ effects is substantial. While clear and compelling organizational directions contribute significantly to members’ work-related motivations, they are not the only conditions to do so. Nor do such directions contribute to the capacities members often need in order to productively move in those directions. Such capacities and motivations are influenced by the direct experiences organizational members have with those in leadership roles, as well as the organizational context within which people work.

More-specific sets of leadership practices significantly and positively influencing these direct experiences include, for example: offering intellectual stimulation, providing individualized support and providing appropriate models of best practice and beliefs considered fundamental to the organization.



In some contexts, for example, high-stakes testing has encouraged a drill-and-practice form of instruction among teachers who are perfectly capable of developing deep understanding on the part of their students.

3. Redesigning the Organization

The contribution of schools to student learning most certainly depends on the motivations and capacities of teachers and administrators, acting both individually and collectively. But organizational conditions sometimes blunt or wear down educators' good intentions and actually prevent the use of effective practices. In some contexts, for example, high-stakes testing has encouraged a drill-and-practice form of instruction among teachers who are perfectly capable of developing deep understanding on the part of their students. And extrinsic financial incentives for achieving school performance targets, under some conditions, can erode teachers' intrinsic commitments to the welfare of their students.

Successful educational leaders develop their districts and schools as effective organizations that support and sustain the performance of administrators and teachers, as well as students. Specific practices typically associated with this set of basics include strengthening district and school cultures, modifying organizational structures and building collaborative processes. Such practices assume that the purpose behind the redesign of organizational cultures and structures is to facilitate the work of organizational members and that the malleability of structures should match the changing nature of the school's improvement agenda.

Beyond the basics of successful leadership:

Understanding the context

Like experts in most fields, successful leaders have mastered not only “the basics,” but also productive responses to the unique demands of the contexts in which they find themselves. In this sense, all successful leadership is “contingent” at its roots. Indeed, impressive evidence suggests that individual leaders actually behave quite differently (and productively) depending on the circumstances they are facing and the people with whom they are working. This calls into question the common belief in habitual leadership “styles” and the search for a single best model or style. We need to be developing leaders with large repertoires of practices and the capacity to choose from that repertoire as needed, not leaders trained in the delivery of one “ideal” set of practices.

We believe this evidence argues for further research aimed less at the development of particular leadership models and more at discovering how such flexibility is exercised by those in various leadership roles.

1. Organizational Context

There is a rich body of evidence about the relevance to leaders of such features of the organizational context as geographic location (urban, suburban, rural), level of schooling (elementary, secondary) and both school and district size. Each of these features has important implications for what it means to offer successful leadership. For example, successful principals in inner-city schools often find it necessary to engage in more direct and top-down forms of leadership than do successful principals in suburban settings. The curricular knowledge of successful elementary principals frequently rivals the curricular knowledge of their teachers; in contrast, secondary principals will typically rely on their department heads for such knowledge. Similarly, small schools allow for quite direct engagement of leaders in modeling desirable forms of instruction and monitoring the practices of teachers, whereas equally successful leaders of large schools typically influence their teachers in more indirect ways; for example, through planned professional development experiences.

This evidence challenges the wisdom of leadership development initiatives that attempt to be all things to all leaders or refuse to acknowledge differences in leadership practices required by differences in organizational context. Being the principal of a large secondary school, for example, really does require quite different capacities than being the principal of a small elementary school.



This evidence challenges the wisdom of leadership development initiatives that attempt to be all things to all leaders or refuse to acknowledge differences in leadership practices required by differences in organizational context.

2. Student Population

There is still much to be learned about how leaders can successfully meet the educational needs of diverse student populations. But there has been a great deal of research concerning both school and classroom conditions that are helpful for students from economically disadvantaged families and those with diverse racial and ethnic backgrounds. Almost all of the early research conducted as part of the “effective schools” movement aimed to identify such conditions. In addition, a very large proportion of educational policy research concerning, for example, class size, forms of instruction, student grouping practices and school size has been conducted using evidence about and from such students. This evidence suggests, for example, that economically disadvantaged primary students will learn more in relatively small schools (250 to 300 students) and classrooms (15 to 20 students) when their teachers engage in active forms of instruction focused on rich, meaningful, curricular content using heterogeneous student-grouping strategies.



The major shortcoming in much of this research, however, is that it does not identify leadership practices that are successful in improving conditions in the school and classroom.

At a minimum, then, such evidence suggests that to increase the achievement of diverse student populations, leaders should assist their staffs in implementing the school and classroom conditions warranted by this research – “school leader as policy implementer.” This evidence also encourages leaders to engage with other agencies able to provide support for students and their families, but without diverting leaders’ attention and influence on teacher learning.

The major shortcoming in much of this research, however, is that it does not identify leadership practices that are successful in improving conditions in the school and classroom suggested by this research, nor does it help unpack the skills, a leader needs to wade through an often complex and not altogether coherent body of research evidence to determine which policies to implement. For example, on student grouping in particular, we ought to know more about how a leader can generate high expectations, foster a faster pace of instruction, encourage sharing of effective learning among peers and adopt a more challenging curriculum.

3. The Policy Context

Policy contexts change substantially over time but tend to be the same for many leaders at the same time. At the moment, large-scale, accountability-oriented policy contexts are pervasive for educational leaders across the country.

States are key actors in the enactment of educational leadership. Currently, the focus on state standards and accountability systems is driving local decisions and policies in ways that are unprecedented. In addition, the funding of local school districts has, in many states, shifted increasingly to the state, while in others it remains a largely local responsibility.



Empowering others to make significant decisions is a key goal for leaders when accountability mechanisms include giving a greater voice to community stakeholders.

Whether state or local, changes in state economies also drive many local decisions, as superintendents and principals grapple with day-to-day questions about resource allocation. How these two enduring trends are managed, both at the state and local levels, is also determined by the state’s “political culture” – a term that is frequently applied but rarely studied, except in the area of recent welfare reform.

Research about successful school and district leadership practices in contexts such as these is still in its infancy, even though the capacities and motivations of local leaders will significantly determine the effects of such contexts on students. At best, the available evidence allows us to infer some broad goals that successful leadership will need to adopt, acknowledging that additional research will be needed to identify leadership practices that are successful in achieving such goals:

- ▶ **Creating and sustaining a competitive school:** This is a goal for district and school leaders when they find themselves in competition for students, for example, in education “markets” that include alternatives to public schools such as charter, magnet and private schools, perhaps supported through tuition tax credits.
- ▶ **Empowering others to make significant decisions:** This is a key goal for leaders when accountability mechanisms include giving a greater voice to community stakeholders, as in the case of parent-controlled school councils; encouraging data-informed decision making should be a part of this goal.
- ▶ **Providing instructional guidance:** This is an important goal for leaders in almost all districts and schools aiming to improve student learning. But it takes on a special character in the context of more explicit grounds for assessing the work of educators, as, for example, in the setting of professional standards and their use for purposes of ongoing professional development and personnel evaluation.
- ▶ **Developing and implementing strategic and school-improvement plans:** When schools are required to have school-improvement plans, as in most school districts now, school leaders need to master skills associated with productive planning and the implementation of such plans. Virtually all district leaders need to be proficient in large-scale strategic-planning processes.

How successful leadership influences student learning

Our review of the evidence leads to three conclusions about how successful leadership influences student achievement:

1. Mostly leaders contribute to student learning indirectly, through their influence on other people or features of their organizations.

This should be self evident by simply reminding ourselves about how leaders of all but the smallest districts and schools spend the bulk of their time and with whom they spend it – whether successful or not. But a considerable amount of research concerning leadership effects on students has tried to measure direct effects; rarely does this form of research find any effects at all.

It is only when research designs start with a more sophisticated view of the chain of “variables” linking leadership practices to student learning that the effects of leaders become evident. These linkages typically get longer the larger the organization. And, on the whole, these chains of variables are much longer for district leaders than for school leaders. Leaders’ contributions to student learning, then, depend a great deal on their judicious choice of what parts of their organization to spend time and attention on. Some choices (illustrated below) will pay off much more than others.

2. The evidence provides very good clues about who or what educational leaders should pay the most attention to within their organizations.

Teachers are key, of course, and impressive evidence suggests that their “pedagogical content knowledge” (knowledge about how to teach particular subject matter content) is central to their effectiveness. So, too, is the professional community teachers often form with colleagues inside and outside their own schools. At the classroom level, substantial evidence suggests that student learning varies as a consequence of, for example, class size, student-grouping practices, the instructional practices of teachers, and the nature and extent of monitoring of student progress.

At the school level, evidence is quite strong in identifying, for example, school mission and goals, culture, teachers’ participation in decision making, and relationships with parents and the wider community as potentially powerful determinants of student learning. District conditions that are known to influence student learning include, for example, district culture, the provision of professional development opportunities for teachers aligned with school and district priorities and policies governing the leadership succession. Districts also contribute to student learning by ensuring alignment among goals, programs, policies and professional development.



At the classroom level, substantial evidence suggests that student learning varies as a consequence of, for example, class size, student-grouping practices, the instructional practices of teachers, and the nature and extent of monitoring of student progress.

At a minimum, then, this extensive body of research provides direction for leaders' attention and time. It should also serve as the basis for the further development of leaders. Leaders need to know which features of their organizations should be a priority for their attention. They also need to know what the ideal condition of each of these features is, in order to positively influence the learning of students.

3. We need to know much more about what leaders do to further develop those high-priority parts of their organizations.

No doubt, many of the basic and context-specific leadership practices alluded to above will be part of what leaders need to do. But evidence about the nature and influence of those practices is not yet sufficiently fine-grained to know how a carefully selected feature of a district or school could be systematically improved through planned intervention on the part of someone in a leadership role.



There seems little doubt that both district and school leadership provides a critical bridge between most educational-reform initiatives, and having those reforms make a genuine difference for all students.

Conclusion

There seems little doubt that both district and school leadership provides a critical bridge between most educational-reform initiatives, and having those reforms make a genuine difference for all students. Such leadership comes from many sources, not just superintendents and principals. But those in formal positions of authority in school systems are likely still the most influential. Efforts to improve their recruitment, training, evaluation and ongoing development should be considered highly cost-effective approaches to successful school improvement.

These efforts will be increasingly productive as research provides us with more robust understandings of how successful leaders make sense of and productively respond to both external policy initiatives and local needs and priorities. Such efforts will also benefit considerably from more fine-grained understandings than we currently have of successful leadership practices; and much richer appreciations of how those practices seep into the fabric of the education system, improving its overall quality and substantially adding value to our students' learning.

References

- Andrews, R., Sodder, R. (1987). Principal instructional leadership and student achievement. *Educational Leadership*, 44, 9-11.
- Duke, D. (1987). *School leadership and instructional improvement*. New York: Random House.
- Earl, L., Watson, N., Levin, B., Leithwood, K., Fullan, M. (2003). *Watching and Learning 3: Final report of the evaluation of England's National Literacy and Numeracy Strategies*. Toronto: OISE/University of Toronto, January.
- Gronn, P. (2002). Distributed leadership, In K. Leithwood & P. Hallinger (Eds.), *Second International Handbook on Educational Leadership and Administration*. Dordrecht, The Netherlands: Kluwer Publishers (p. 653-696).
- Hallinger, P. (2000). *A review of two decades of research on the principalship using the "Principal Instructional Management Rating Scale"*. Paper presented at the annual meeting of the American Educational Research Association, Seattle, Washington, April.
- Hallinger, P., Heck, R. (1996). Reassessing the principal's role in school effectiveness: A review of empirical research, 1980-95, *Educational Administration Quarterly*, 32, 1, 5-44.
- Herman, R. (1999). *An educators guide to schoolwide reform*. Washington, DC: American Institute for Research.
- Leithwood, K., Jantzi, D. Earl, L. Watson, N., Fullan, M. (2004). Strategic leadership on a large scale: the case of England's National Literacy and Numeracy Strategies, *Journal of School Management and Leadership*, 24, 1, 57-79.
- Leithwood, K., Jantzi, D. (2000). The effects of transformation leadership on student engagement with school, *Journal of Educational Administration*, 38, 2, 112-129.
- Mintrop, H. (2004). *Schools on probation: How accountability works (and doesn't work)*. New York: Teachers College Press.
- Spillane, J. (in press). *Distributed leadership*. San Francisco: Jossey-Bass Publisher.

Notes

- ⁱ Mintrop (2004) describes large-scale reform in two U.S. states.
- ⁱⁱ England provides the most ambitious example of country-wide large scale reform at present (see Earl, et al, 2003)
- ⁱⁱⁱ Herman (1999) provides a description and summary of evidence about these initiatives.
- ^{iv} (Hallinger & Heck, 1996; Leithwood, Jantzi, 2000)
- ^v (e.g., Hallinger, 2000)
- ^{vi} (Duke, 1987)
- ^{vii} (Andrews and Sodder, 1987)

About the authors

Kenneth Leithwood is Professor of Educational Leadership and Policy at OISE/University of Toronto. His research and writing about school leadership, educational policy and organizational change is widely known and respected by educators throughout the English-speaking world. Dr. Leithwood has published more than 70 refereed journal articles and authored or edited two-dozen books.

Karen Seashore Louis is Professor of Educational Policy and Administration at the University of Minnesota, and past vice-president for Division A of the American Educational Research Association. Her research focuses on school organization and improvement, with a recent emphasis on teachers' work and creating more democratic school environments. Her books include *Improving the Urban High School: What Works and Why* (with Matthew B. Miles), *Leadership for change and school improvement: International perspectives* (with Kathryn Riley) and *Organizing for School Change* (in press).

Stephen Anderson is an Associate Professor in the Department of Theory and Policy Studies in Education at OISE/University of Toronto. His research and publications feature case studies and evaluations of government, school district and school-level efforts to develop teaching and leadership capacity to improve student learning in the United States, Canada, Africa and South Asia. He co-authored a recent research report for The Learning First Alliance on the school district role in improving teaching and learning (*Beyond Islands of Excellence*) and edited and contributed to a book of case studies of school improvement projects in East Africa, *Improving Schools Through Teacher Development*.

Kyla Wahlstrom is Director of CAREI at the University of Minnesota. Her research focuses on the impact of change initiatives on teaching and learning, and leadership behavior in the work lives of teachers. A former teacher and principal, Dr. Wahlstrom's findings on later start times for high schools have influenced school policies across the United States. Her research has been featured in a variety of media, ranging from the *Congressional Quarterly* to *Rolling Stone Magazine* to *Newsweek* and PBS' *Frontline*.

The Center for Applied Research and Educational Improvement (CAREI)

conducts studies that provide empirical information about challenges confronting schools and practices that lead to educational improvement. To do our work evaluating educational change, CAREI marshals the resources of the College of Education and Human Development and those of the University of Minnesota.

For information on our programs, reports and resources, visit our Web site:

www.education.umn.edu/carei

The Ontario Institute for Studies in Education at the University of Toronto (OISE/UT)

is the largest professional school of education in Canada and among the largest in the world. It offers initial teacher education, continuing education, and graduate programs, all sustained by faculty who are involved in research across the spectrum of issues connected with learning.

Please visit our Web site for more information:

www.oise.utoronto.ca

The Wallace Foundation

The Wallace Foundation is an independent, national private foundation established by DeWitt and Lila Acheson Wallace, the founders of The Reader's Digest Association. Its mission is to enable institutions to expand learning and enrichment opportunities for all people. It does this by supporting and sharing effective ideas and practices.

To achieve this mission, The Wallace Foundation has three objectives:

- Strengthen education leadership to improve student achievement
- Improve after-school learning opportunities
- Expand participation in arts and culture

For more information and research on education leadership:

www.wallacefoundation.org

<https://doi.org/10.59656/EL-SB5787.002>

University of Minnesota

Center for Applied Research
and Educational Improvement

College of Education
and Human Development

275 Peik Hall / 159 Pillsbury Dr. S.E.
Minneapolis, MN 55455-0208

Tel: 612-624-0300
Fax: 612-625-3086

www.education.umn.edu/carei

University of Toronto

Ontario Institute for
Studies in Education

252 Bloor St. West
Toronto, Ontario, Canada M5S 1V6

Tel: 416-978-2011
Fax: 416-926-4752

www.oise.utoronto.ca

The Wallace Foundation

Two Park Avenue, 23rd Floor
New York, NY 10016

Tel: 212-251-9711
Fax: 212-679-6984

www.wallacefoundation.org