

2007

# The impact of leadership on student outcomes: Making sense of the evidence

Viviane Robinson  
*University of Auckland*

Follow this and additional works at: [http://research.acer.edu.au/research\\_conference\\_2007](http://research.acer.edu.au/research_conference_2007)



Part of the [Educational Assessment, Evaluation, and Research Commons](#)

---

## Recommended Citation

Robinson, Viviane, "The impact of leadership on student outcomes: Making sense of the evidence" (2007).

[http://research.acer.edu.au/research\\_conference\\_2007/5](http://research.acer.edu.au/research_conference_2007/5)

# The impact of leadership on student outcomes: Making sense of the evidence



## Viviane M.J. Robinson

*The University of Auckland, Faculty of Education, School of Teaching, Learning and Development  
Auckland, New Zealand*

After completing her doctoral study at Harvard University, Viviane Robinson took up a position at the University of Auckland, New Zealand where she is now Professor in the Faculty of Education. She is an organisational psychologist, specialising in organisational effectiveness and improvement, leadership and the relationship between research and the improvement of practice. Her work has been published in international handbooks, and leading international journals such as *Educational Researcher* and *Educational Administration Quarterly*.

Viviane is also Director of the graduate programme in educational management at the University of Auckland, and Academic Director of the First-time Principals Programme – New Zealand's national induction programme for school principals. This programme prepares newly appointed principals through a programme of residential courses, online learning and mentoring.

She is passionate about doing research that makes a difference to practice, and it is this passion that motivates much of her research and writing. She has recently published a best-selling book, based on her experience teaching teachers how to do research that is both rigorous and relevant to their job situation (Robinson, V. M. J., & Lai, M. K. (2006). *Practitioner research for educators: A guide to improving classrooms and schools*. Corwin Press).

Viviane's keynote address will draw from her recent work as a writer of the Iterative Best Evidence Synthesis on Educational Leadership. This work is part of the New Zealand Ministry of Education's Best Evidence Synthesis programme which is designed to support a more evidence-based policy-making process as well as to make relevant research findings accessible to school practitioners (<http://www.minedu.govt.nz/goto/bestevidencesynthesis>). The leadership synthesis analyses national and international evidence on the impact of leadership on a wide range of student outcomes.

## Abstract

Published empirical research was used to synthesise the evidence about the impact of different types of leadership on students' academic and non-academic outcomes. The first analysis involved a comparison of the effects of transformational and instructional leadership on student outcomes. The second involved the inductive development of five sets of leadership practices and the estimation of the magnitude of their effects. The comparison of the effects of instructional and transformational leadership indicated that the effect of the former is consistently and notably larger than the effect of the latter type of leadership. The second analysis revealed five leadership dimensions that have moderate to large effects on outcomes: establishing goals and expectations; strategic resourcing; planning, coordinating and evaluating teaching and the curriculum; promoting and participating in teacher learning and development; and ensuring an orderly and supportive environment. The more leaders focus their professional relationships, their work and their learning on the core business of teaching and learning, the greater their influence on student outcomes. It is suggested that leadership theory, research and practice needs to be more closely linked to research on effective teaching, so that there is greater focus on what leaders need to know and do to support teachers in using the pedagogical practices that raise achievement and reduce disparity.

This paper was completed with the financial support of the Iterative Best Evidence Synthesis program of the New Zealand Ministry of Education (<http://educationcounts.edcentre.govt.nz/goto/BES?>). The assistance of Dr Ken Rowe of the Australian Council for Educational Research and Dr Claire Lloyd of the University of Auckland

in the preparation of this paper is gratefully acknowledged.

## Introduction

There is unprecedented international interest in the question of how educational leaders influence a range of student outcomes (Bell, Bolam, & Cubillo, 2003; Leithwood, Day, Sammons, Harris, & Hopkins, 2006; Leithwood, Seashore Louis, Anderson, & Wahlstrom, 2004; Marzano, Waters, & McNulty, 2005; Witziers, Bosker, & Krüger, 2003).

This interest reflects the conviction of the public and politicians that school leaders make a substantial difference to the quality of teaching, and hence the quality of learning, in their school. While this belief is supported by the qualitative research on the impact of leadership on school effectiveness and improvement (Edmonds, 1979; Maden, 2001; Scheurich, 1998), quantitative research suggests that public confidence in the capacity of school leaders to make a difference to student outcomes outstrips the available evidence (Hallinger & Heck, 1998; Marzano et al., 2005; Witziers et al., 2003).

The purpose of this paper is to address the paradoxical differences between the qualitative and quantitative evidence on leadership impacts by taking a fresh approach to the analysis of the quantitative evidence. Rather than conduct a further meta-analysis of the overall impact of leadership on student outcomes, we focused on identifying the relative impact of different types of leadership.

Two quite different strategies were used to identify types of leadership and their impact. The first involved a comparison between the impact of transformational and instructional leadership (Hallinger, 2005; Hallinger & Heck, 1998; Leithwood, Tomlinson, & Genge, 1996; Leithwood & Jantzi, 2005). The second strategy for

---

determining leadership type was grounded in particular leadership practices, as described by the survey items used in the relevant research, rather than in abstract leadership theory.

## Research methods

A search of the international literature yielded 24 studies, published between 1985 and 2006, that provided evidence about the links between leadership and student outcomes. The majority of studies (15 of 24) were conducted in schools in the United States of America. Two studies were conducted in Canada and one only in each of Australia, England, Hong Kong, Israel, the Netherlands, New Zealand and Singapore.

Fourteen studies examined leadership in elementary school contexts, three in high schools, and seven studies included a mix of elementary, middle and high schools. Thirteen of the 24 studies confined their analysis of school leadership to the principal only, while eleven took a broader, more distributed view of leadership. Twenty studies examined academic outcomes, three examined non-academic outcomes, and one included both.

## Analytic strategies

Relevant information from the 24 studies identified was entered into a spreadsheet under headings concerning the context, sample, leadership theory and measure, research design, and main findings. It was possible to identify and estimate the magnitude of effects for 19 of the 24 studies. A decision was made not to calculate an overall leadership effect size, as the wide variety of leadership constructs, measures and research designs employed across the 24 studies, makes such a calculation problematic in terms of both comparability and precision. Average effect size estimates were calculated,

however, for more homogenous subsets of the studies.

The relative impact of transformational and instructional leadership was determined by computing three different average effect sizes – one for the transformational leadership studies and two for the instructional leadership studies. The latter was necessary in order to ensure that transformational leadership studies were compared with instructional leadership studies that employed similar research designs.

The first step in determining the relative impact of different types of leadership practice (henceforth called 'leadership dimensions') involved inductively deriving the relevant dimensions. This was done by inspecting the author's descriptions of the components of their composite leadership variables, and of the wording of their leadership indicators (survey items). Five dimensions captured the common meaning of the components and indicators. Each study was then coded against the five leadership dimensions and, where the data were available, effect sizes were calculated for each leadership indicator or component. The result was an average effect size for each of the five leadership dimensions, thus providing a second answer to the question of the impact of different types of leadership on student outcomes.

## Findings

The results of our comparison of transformational leadership and instructional leadership are presented first, followed by the analysis of the impact of particular leadership dimensions.

## Impact of transformational and instructional leadership

Transformational leadership has weak (<.2 ES) indirect effects on student outcomes. While it has moderate effects on teacher attitudes and perceptions of the school climate and organisation, these effects do not, on the whole, flow through to students. Those instructional leadership studies that used similar designs to those used in the transformational leadership group, showed effect sizes that were, on average, three times larger than those found in transformational leadership studies. The second group of instructional leadership studies (i.e., those that sampled schools where students were achieving above and below expected levels, rather than from the full range of outcomes) showed even larger effects of instructional leadership. These latter studies suggest that the leadership of otherwise similar high- and low-performing schools is very different and that those differences matter for student academic outcomes.

In summary, two different analyses suggest that the impact of instructional leadership on student outcomes is considerably greater than that of transformational leadership. Admittedly, these findings are based on a small number of studies and effect size statistics.

## Impact of particular leadership dimensions

As a result of a detailed analysis of the published research, we identified five leadership dimensions that had a particularly powerful impact on students. The five, along with brief descriptions, are listed in Table 1.

The list of dimensions is unusual in that it does not include the typical distinction between leading tasks and leading people or relationships. This

**Table 1:** Leadership practices derived from studies of effects of leadership on students

Leadership practice	Meaning of dimension
Establishing goals and expectations	Includes the setting, communicating and monitoring of learning goals, standards and expectations, and the involvement of staff and others in the process so that there is clarity and consensus about goals.
Strategic resourcing	Involves aligning resource selection and allocation to priority teaching goals. Includes provision of appropriate expertise through staff recruitment.
Planning, Coordinating and evaluating teaching and the curriculum	Direct involvement in the support and evaluation of teaching through regular classroom visits and provision of formative and summative feedback to teachers. Direct oversight of curriculum through school-wide coordination across classes and year levels and alignment to school goals.
Promoting and participating in teacher learning and development	Leadership that not only promotes but directly participates with teachers in formal or informal professional learning.
Ensuring an orderly and supportive environment	Protecting time for teaching and learning by reducing external pressures and interruptions and establishing an orderly and supportive environment both inside and outside classrooms.

distinction has been eschewed here because close examination of the leadership indicators used in these studies shows that relationship skills are embedded in every dimension.

### Dimension one: Establishing goals and expectations

Leadership makes a difference to students through its emphasis on clear academic and learning goals. In a work environment where multiple conflicting demands can make everything seem equally important, goals establish what is relatively more or less important and focus staff and student attention and effort accordingly. The importance of relationships in this leadership dimension is apparent from the fact that leaders who give more emphasis to communicating goals and expectations (Heck, Larsen, & Marcoulides, 1990; Heck, Marcoulides, & Lang, 1991), informing the community of academic accomplishments and recognising academic achievement (Heck et al., 1991) are found in higher performing schools. There is also some evidence

that the degree of staff consensus about school goals is a significant discriminator between otherwise similar high- and low-performing schools (Goldring & Pasternak, 1994).

In schools with high achievement or high achievement gains, the goal focus is not only articulated by leaders but embedded in school and classroom routines and procedures. Successful leadership influences both interpersonally and by structuring the way that teachers do their work (Ogawa & Bossert, 1995).

### Dimension two: Strategic resourcing

The word 'strategic' in the description of this dimension signals that this leadership dimension is about securing and allocating material and staffing resources that are aligned to pedagogical purposes, rather than leadership skill in securing resources per se. Thus, this measure should not be interpreted as an indicator of skill in fundraising, grant writing or partnering with business, as those skills

may or may not be applied in ways that serve key pedagogical purposes. There is some evidence that this type of leadership has a moderate indirect effect on students and that it may be particularly important in regions where there is a chronic resource shortage.

### Dimension three: Planning, coordinating and evaluating teaching and the curriculum

There was considerable evidence that this leadership dimension makes a strong impact on student outcomes. It involves four types of leadership practice:

- 1 Involving staff in discussions of teaching, including its impact on students;
- 2 Working with staff to coordinate and review the curriculum, e.g., developing progressions of objectives for the teaching of writing across year levels;
- 3 Providing feedback to teachers, based on classroom observations that they report as useful in improving their teaching;
- 4 Systematic monitoring of student progress for the purpose of improvement at school department and class level.

Even though the measures of leadership in these studies included more than the principal, the effect of these leadership practices appears to be smaller in high schools than in primary schools. Clearly we need to know much more about the pathways through which leadership makes a difference to students in high schools.

### Dimension four: Promoting and participating in teacher learning and development

This leadership dimension is described as both promoting and participating, because more is involved here than just

---

supporting or sponsoring other staff in their learning. The leader participates in the learning as leader, learner or both. The contexts for such learning are both formal (staff meetings and professional development) and informal (discussions about specific teaching problems).

This leadership dimension had a strong impact on school performance. In high-achieving and high-gain schools, teachers report their school leaders (usually the principal) to be more active participants in teacher learning and development than in otherwise similar low-achieving or low-gain schools (Andrews & Soder, 1987; Bamburg & Andrews, 1991). Leaders are more likely to promote and participate in staff discussion of teaching and teaching problems than principals in low gain/low achievement schools (Heck et al., 1990; Heck et al., 1991). The principal is also more likely to be seen by staff as a source of instructional advice, which suggests that they are both more accessible and more knowledgeable about instructional matters than their counterparts in otherwise similar lower achieving schools (Friedkin & Slater, 1994).

### **Dimension five: Ensuring an orderly and supportive environment**

This dimension describes those leadership practices that ensure that teachers can focus on teaching and students can focus on learning. The findings for this dimension suggest that the leadership of high-performing schools is distinguished by its emphasis on and success in establishing a safe and supportive environment through clear and consistently enforced social expectations and discipline codes (Heck et al., 1991). The leadership of high-performing schools is also judged by teachers to be significantly more successful than the leadership of low-performing schools in protecting teachers from undue pressure from education officials and from parents

(Heck et al., 1990; Heck et al., 1991). An orderly and supportive environment is also one in which staff conflict is quickly and effectively addressed (Eberts & Stone, 1986).

## **Discussion**

The main conclusion to be drawn from the present analyses is that particular types of school leadership have substantial impacts on student outcomes. The more leaders focus their influence, their learning, and their relationships with teachers on the core business of teaching and learning, the greater their likely influence on student outcomes.

Instructional leadership, as described by the five dimensions of Table 1, makes an impact on students because it has a strong focus on the quality of teachers and teaching, and these variables explain more of the within-school residual variance in student achievement than any other school variable (Darling-Hammond, 2000).

The more generic nature of transformational leadership theory, with its focus on leader–follower relations rather than on the work of improving learning and teaching, may be responsible for its weaker effect on student outcomes. Transformational leadership theory predicts teacher attitudes and satisfaction, but, on the whole, its positive impacts on staff do not flow through to students.

These findings hold important challenges for both policy makers and educational leadership researchers. For the former, the challenge is to understand more about why school leaders, and principals in particular, do not spend more time on instructional leadership activities (Mullis, Martin, Gonzalez, & Kennedy, 2003). The even bigger policy challenge is how to create the conditions in schools that enable school leaders to do this important work.

For educational leadership researchers, the challenge is to focus more closely on how leaders influence the teaching practices that matter. There is much to be gained from a closer integration of leadership theory and research with demonstrably effective pedagogical practices and teacher learning.

## **References**

- Andrews, R., & Soder, R. (1987). Principal leadership and student achievement. *Educational Leadership*, 44(6), 9–11.
- Bamburg, J. D., & Andrews, R. L. (1991). School goals, principals and achievement. *School Effectiveness & School Improvement*, 2, 175–191.
- Bell, L., Bolam, R., & Cubillo, L. (2003). *A systematic review of the impact of school headteachers and principals on student outcomes*. London: EPPI-Centre, Social Science Research Unit, Institute of Education.
- Darling-Hammond, L. (2000). Teacher quality and student achievement: A review of state policy evidence. *Education Policy Analysis Archives*, 8(1). Retrieved 20 April, 2006, from <http://epaa.asu.edu/epaa/v8n1>
- Eberts, R. W., & Stone, J. A. (1986). Student achievement in public schools: Do principals make a difference? *Economics of Education Review*, 7(3), 291–299.
- Edmonds, R. (1979). Effective schools for the urban poor. *Educational Leadership*, 37, 15–24.
- Friedkin, N. E., & Slater, M. R. (1994). School leadership and performance: A social network approach. *Sociology of Education*, 67(2), 139–157.
- Goldring, E. B., & Pasternak, R. (1994). Principals' coordinating strategies and school effectiveness. *School Effectiveness & School Improvement*, 5, 237–251.

- Hallinger, P. (2005). Instructional leadership and the school principal: A passing fancy that refuses to fade away. *Leadership and Policy in Schools*, 4(3), 221–239.
- Hallinger, P., & Heck, R. H. (1998). Exploring the principal's contribution to school effectiveness: 1980–1995. *School Effectiveness and School Improvement*, 9, 157–191.
- Heck, R. H., Larsen, T. J., & Marcoulides, G. A. (1990). Instructional leadership and school achievement: Validation of a causal model. *Educational Administration Quarterly*, 26(2), 94–125.
- Heck, R. H., Marcoulides, G. A., & Lang, P. (1991). Principal instructional leadership and school achievement: The application of discriminant techniques. *School Effectiveness and School Improvement*, 2(2), 115–135.
- Leithwood, K., Day, C., Sammons, P., Harris, A., & Hopkins, D. (2006). *Seven strong claims about successful school leadership*. Nottingham, England: National College of School Leadership.
- Leithwood, K., & Jantzi, D. (2005). A review of transformational school leadership research 1996–2005. *Leadership and Policy in Schools*, 4(3), 177–199.
- Leithwood, K., Seashore Louis, K., Anderson, S., & Wahlstrom, K. (2004, September). *How leadership influences student learning*. Retrieved June, 2005, from <http://www.wallacefoundation.org/NR/rdonlyres/E3BCCFA5-A88B-45D3-8E27-B973732283C9/0/ReviewofResearchLearningFromLeadership.pdf>
- Leithwood, K., Tomlinson, D., & Genge, M. (1996). Transformational school leadership. In K. Leithwood, J. Chapman, D. Corson, P. Hallinger, & A. Hart (Eds.), *International handbook of educational leadership and administration* (pp. 785–840). Dordrecht: Kluwer Academic.
- Maden, M. (Ed.). (2001). *Success against the odds, five years on: Revisiting effective schools in disadvantaged areas*. London: Routledge Falmer.
- Marzano, R. J., Waters, T., & McNulty, B. (2005). *School leadership that works: From research to results*. Aurora, CO: ASCD and McREL.
- Mullis, I. V. S., Martin, M. O., Gonzalez, E. J., & Kennedy, A. M. (2003). *PIRLS 2001 International Report*. Boston College, MA: International Study Center, Lynch School of Education.
- Ogawa, R. T., & Bossert, S. T. (1995). Leadership as an organizational quality. *Educational Administration Quarterly*, 31, 224–243.
- Scheurich, J. J. (1998). Highly successful and loving, public elementary schools populated mainly by low-SES children of color: Core beliefs and cultural characteristics. *Urban Education*, 33(4), 451–491.
- Witziers, B., Bosker, R. J., & Krüger, M. L. (2003). Educational leadership and student achievement: The elusive search for an association. *Educational Administration Quarterly*, 39(3), 398–425.