### What is this research about?

The research sought to evaluate the effects of principal leadership on student achievement.

### What did the researchers do?

Ross and Gray (2006) re-analyzed results of data that had previously been reported in other articles in order to test the influence of leadership, including professional commitment and collective teacher efficacy, on student achievement.

In the previous report of their analysis of two models examining the mediating effect of collective teacher efficacy on the leadership-teacher outcome relationship, Ross and Gray found that principals who espouse transformational leadership behaviours contribute to teachers’ professional commitment directly and indirectly through collective teacher efficacy.

In this study, the researchers used knowledge obtained through past research on leadership, social cognitive theory, and school improvement, to expand the model and examine indirect leadership effects on student achievement.

### What you need to know

The researchers found no direct relationship between leadership and student achievement, however findings indicated that principals do have an impact on student achievement indirectly through two mediating factors: teacher efficacy and teacher professional commitment.

Specifically, the researchers reported that principals who demonstrate a high level of transformational leadership behaviors within their schools, increase the likelihood of positively impacting collective teacher efficacy, teacher commitment to school goals, teacher engagement to community partnership and increased student achievement.
Data for the study was drawn from surveys of 3,042 grades 3 and 6 teachers in 205 elementary schools in Ontario. Responses to items on the survey were measured using a Likert scale, with responses ranging from strongly disagree (1) to strongly agree (6). The researchers adopted all items on the survey from past research.

Transformational leadership (TL) which describes teachers’ perceptions of their principals’ ability to raise the organization’s capacity as well as member’s morale to succumb and survive environmental changes, was represented by 12 items. Collective teacher efficacy was represented by 14 items. Three variables represented teacher commitment; commitment to school mission, commitment to the school as a professional community, and commitment to school-community partnerships. These variables contained twelve, five and four items respectively, measuring different aspects of teacher commitment.

Current student achievement involved a measure of the mean percentages of students achieving Level 3 or above (provincial standard) in mandated assessment grades 3 and 6 reading, writing, and mathematics tests, administered in May of 2001. Prior student achievement involved mean percentages of students scoring at the provincial standards in May of 2000. Student achievement was represented by the results of regressing 2001 test scores over 2000 scores.

Finally socio-economic status (SES) was represented by the mean family income identified through the schools’ postal code. The researchers used path analysis methods to test the model (a hypothesized linkage of leadership to student achievement through teacher capacity building) under investigation.

**What did the researchers find?**

The researchers found that:

- There was no statistically significant direct effect of leadership on achievement. However, through indirect (mediating) effects of teachers’ beliefs about their capacity and professional commitment, principals impacted on student achievement. Specifically, principals who demonstrated transformational leadership behaviours increased their likelihood of having significant positive
effects on teacher beliefs about their collective efficacy and on teacher commitment to professional values.

- The strongest impact on achievement occurred through teacher commitment to school-community partnerships. This finding suggests that principals’ influence on teachers’ ability and enthusiasm to collaborate with community partners was mediated by collective teacher efficacy and not by way of principal’s direct influence on teachers’ community commitment.

How can you use this research?

The research provides empirical evidence of principals’ indirect influence on student achievement through their impact on teacher beliefs and teacher commitment.

The researchers outlined leadership strategies on how principals could strengthen teachers’ beliefs (collective teacher efficacy) in their instructional capacity. One of the means identified is through observation of other teacher colleagues. These leadership strategies according to the researchers have a high potential of increasing student achievement, increasing teacher confidence and commitment.

About the researchers

Dr. John A. Ross is Professor Emeritus of Curriculum, Teaching and Learning at the Ontario Institute for Studies in Education of the University of Toronto and head of the Institute’s field centre in Peterborough, Ontario. His research interests are mathematics education, student assessment and program evaluation.

Dr. Peter Gray was a doctoral student at the time this research was conducted. His research interests are in student assessment and models of school change.
References

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About this summary
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