School leadership and student outcomes: Identifying what works and why

Summary of the the Best Evidence Synthesis (BES) conducted by Viviane Robinson, Margie Hohepa and Claire Lloyd

The general perception among politicians, policy makers and the public at large is that head teachers can make a difference to the progress their students make at school. After all it is often head teachers who pay the ultimate price when schools are deemed to be failing. Whether such a view of the key role of leadership in schools is justified by the evidence is something the authors of this study set out to establish.

The findings are the outcome of a rigorous re-analysis and synthesis of research which explored direct and indirect links between leadership and student outcomes by focusing on:
• research for which there was reliable statistical evidence for links between the actions of leaders and learner outcomes, and
• studies of interventions in teacher professional learning which had a positive impact on student learning and then identifying the role played by leadership in creating the conditions which enabled those outcomes.

In total the researchers identified eight dimensions of leadership practices and activities linked to student outcomes. For five of the dimensions the researchers were able to use statistical data to establish an effect size in terms of impact on student learning. Effect sizes (ES) are measured on a scale of 0 – 1. As a general guide, anything below 0.2 shows a weak or no effect, and anything greater than 0.6 reveals a significant impact. The dimensions for which an effect size could be established in this synthesis are:
• Promoting and participating in teacher learning and development (ES 0.84)
• Planning, coordinating and evaluating teaching and the curriculum (ES 0.42)
• Establishing goals and expectations (ES 0.35)
• Strategic resourcing (ES 0.34)
• Ensuring an orderly and supportive environment (ES 0.27)

The three dimensions which are not assigned an effect size are derived from descriptions of leadership activity in studies of professional learning interventions which had a positive impact on student outcomes. These were:
• Creating educationally powerful connections
• Engaging in constructive problem talk
• Selecting, developing, and using smart tools

Promoting and participating in teacher learning and development (ES 0.84)
Of all the activities identified in the re-analysis, head teachers' leading of and active participation in professional learning and development had the largest impact on student outcomes. Their involvement could be in:
• formal contexts such as staff meetings and professional development sessions, and
• informal contexts such as discussions about specific teaching problems.

The author suggests several explanations for the power of leadership of CPD, emphasising the fact that leaders who promote and participate in teachers' professional learning:
• have a focus on teaching and learning
• learn more about what teachers are up against, and then give them more support in making changes required to embed their learning in their daily practice. This could mean providing necessary teaching resources, rearranging timetables and freeing up time from teaching, and
• have a deeper appreciation of the stages and duration of the change process.

Planning, coordinating and evaluating teaching and the curriculum (ES 0.42)
Direct involvement in the support and evaluation of teaching, through regular classroom visits and the provision of formative and summative feedback to teachers was found to have a moderate impact on student outcomes. Leaders in high performing schools were more likely to:
• be directly involved in coordinating the curriculum across year levels
• work with teachers to plan, coordinate and evaluate their teaching

- provide evaluations that teachers described as useful, and
- ensure that student progress is monitored and results are used to improve teaching programs.

Establishing goals and expectations (ES 0.35)

Setting, communicating and monitoring learning goals, standards and expectations were found to have a small but educationally significant impact on student outcomes. The researcher also found some evidence that involvement of staff and others in goal setting and reaching a consensus was an important factor. In higher achieving schools, the focus for academic goals was both:
- a property of leadership – the headteacher set the goal of improved student achievement as a priority, and
- a quality of school organisation – for example, the teaching of reading aligns with school-wide objectives.

Strategic resourcing (ES 0.34)

School leaders' strategic decisions concerning staffing and the provision of teaching resources had a small indirect impact on student outcomes. The researcher emphasised the importance of the term 'strategic' in this dimension. It was not the head teachers' skill in bringing in funding per se that was important, but rather the fact that the resources they secured were aligned with pedagogical goals.

Ensuring an orderly and supportive environment (ES 0.27)

While it is important for schools to create a safe, caring and orderly environment to enable staff to teach and students to learn, it was the dimension of leadership activity which showed the weakest effect on student outcomes. The type of interventions head teachers made to support teachers and learners included:
- developing and communicating a clear discipline code
- minimising disruption to teaching time
- protecting teachers from undue pressure from parents and officials, and
- being pro-active in resolving conflicts, rather than allowing it to fester.

Creating educationally powerful connections

This dimension comprises leadership activity around creating connections at individual, organisational and cultural levels. In practice, it means leaders helping ensure:
- students' starting points are taken into account when organising their learning, including conceptual understandings and previous experiences
- continuity of the student experience of learning as they move from lesson to lesson and from school to school, and
- good relationship building.

The synthesis highlighted the important role of leaders in promoting the planning and professional development teachers need to make effective links between the knowledge and experience learners come to school with and curriculum content.

The researchers carried out a further analysis of types of home-school liaison activity where the impact on learning could be established. The results showed some interventions to be much more powerful than others. This was particularly the case where parents developed skills in supporting their children and teachers engaged with family funds of knowledge (ES 1.81), and where teachers designed interactive homework with parents (ES 1.38). Other factors had only a modest impact by comparison, e.g. having a computer in the home (ES 0.27), and time spent on homework (ES 0.23).

The importance of establishing effective connections with the home and community was underlined by those studies which described impact in cases where this type of activity was missing. When parents helped with homework unguided, and when the teacher-parent relationship was less than good, then children's learning suffered. These factors had negative effect sizes of -0.24, and -0.26 respectively.

Engaging in constructive problem talk

Studies showed the importance of leaders identifying issues and fostering a collective, constructive approach to problem-solving as an effective school improvement strategy. This entails in particular a willingness among leaders and others to consider how they are contributing to a problem. Supporting teachers to engage with underpinning theory is important here as this helps them understand the factors which sustain current practice and clarifies the challenges involved in changing it.

The researchers put forward a model for engaging in constructive problem talk which begins with a dialogue between practitioners and leaders. This is an iterative process in which practitioners make explicit the underlying rationale for their approach to teaching, leaders clarify the theory behind proposed new practice, and all concerned consider and discuss the merits of both. On the basis of this dialogue leaders and practitioners come to a joint decision on whether change needs to take place or not. The process is illustrated in the diagram below.

Engaging teachers' theory of action
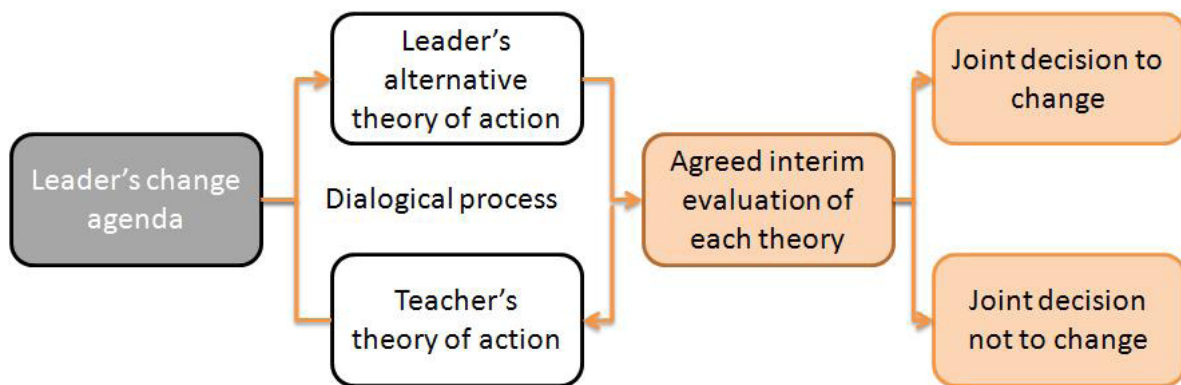
Selecting, developing and using smart tools

The researchers found that leaders had an important role in deploying tools to support teaching and learning. The kinds of tools for which the researchers found evidence of effectiveness include:
- progression frameworks showing learners developing levels of understanding in a particular subject
- standards frameworks against which teachers can assess their and their learners levels of performance, and
- software which, for example, plots learner progress against time spent in school.

According to the researchers the benefit of tools in supporting the leading of learning is their capacity to embody knowledge and ideas that can help teachers improve their practice in relation to a specific task. Formative assessment frameworks, for example, have built into them the specialist knowledge teachers need to assess their learners reliably. For this reason, it is important that tools are based on sound theories of how the learning they are designed to support can best be accomplished. In utilising smart tools, teachers thereby increase their own understanding of how to promote student learning.

The second feature that makes tools smart is their ease of use. The researchers illustrate this through the example of a piece of software which produces a graph of learner progress against the number of weeks they have been at school. Teachers can see at a glance how long a learner has been at school and rate of progress and tailor the individual programme accordingly.

What are the implications from this research for school leaders?

A strong message from the study was the link between student success and the active participation of leaders in professional learning and development with their staff.

- Are there ways you could role-model professional learning, perhaps by participating in a teaching and learning group?
- How many of the discussions you hold with your staff centre on teaching and learning? Might there be scope for securing more time to consider pedagogical issues with colleagues, perhaps by ensuring at least one teaching and learning item appears on staff/team meeting agendas and by identifying CPD processes and activities that can be fitted in to such meetings.

Leaders' involvement in helping teachers plan and evaluate their teaching was found to have a moderate impact on student outcomes.

- While school leaders arranging time to sit with each individual teacher to discuss their teaching plans will be unrealistic in many schools, are there ways that you can still listen in on and contribute to this process? Are there opportunities, for example, to participate in planning at departmental meetings or to join discussions with a cross-curricular group of teachers who are focussing on a whole-school objective?

Leaders in high performing schools were more likely to provide evaluations that teachers described as useful.

- How can you as a school leader ensure that evaluation of teaching and learning is embedded in a positive experience which helps colleagues move forward in their professional learning? Do you, for example, use open questions to encourage teachers' thinking on alternative approaches, or on why a certain approach did or didn't work for different groups of pupils?

What evidence did the researcher draw on?

To identify appropriate studies for this re-analysis, the researchers:

- searched electronic databases, using a combination of keywords around leadership and student outcomes, and
- scanned the table of contents and abstracts of specific leadership journals, as well as the reference lists of relevant articles.

In total 134 studies were included, based on their relevance and quality. Of these, 61 were from New Zealand, the others being sourced from the United States, Canada, Australia, England, Hong Kong, Israel, Netherlands and Singapore.

Twenty seven studies provided quantitative data on the relationship between leadership and student outcomes, and so formed the basis for calculating effect sizes. The researchers' analysis of these studies was based on a pooling of the leadership components described in the studies, which were grouped into the five dimensions, and a calculation of the average effect size based on the student outcomes reported in the studies.

The remaining studies provided rich qualitative evidence about aspects of leadership. The researchers identified from these studies programmes for improving teaching and learning which had been successful. They then drew inferences from the descriptive evidence about the role played by leadership which had produced these outcomes.

The full synthesis can be found at: www.educationcounts.govt.nz/publications/series/2515