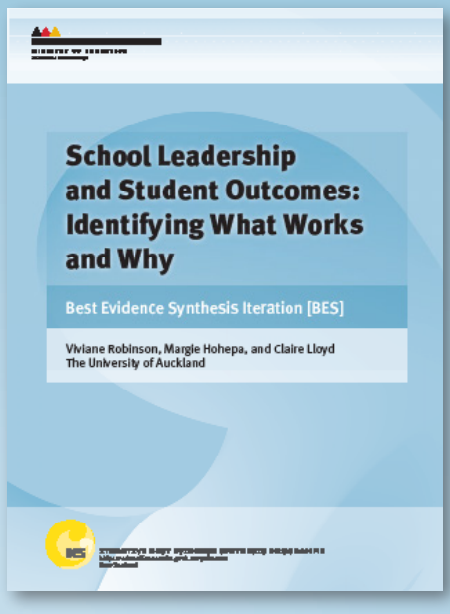
To improve learning, engage with teachers' beliefs about students and learning

This is one of a series of cases that illustrate the findings of the best evidence syntheses (BESs). Each is designed to support the professional learning of educators, leaders and policy makers.



BES cases: Insight into what works

The best evidence syntheses (BESs) bring together research evidence about 'what works' for diverse (all) learners in education. Recent BESs each include a number of cases that describe actual examples of professional practice and then analyse the findings. These cases support educators to grasp the big ideas behind effective practice at the same time as they provide vivid insight into their application.

Building as they do on the work of researchers and educators, the cases are trustworthy resources for professional learning.

Using the BES cases

The BES cases overview provides a brief introduction to each of the cases. It is designed to help you quickly decide which case or cases could be helpful in terms of your particular improvement priorities.

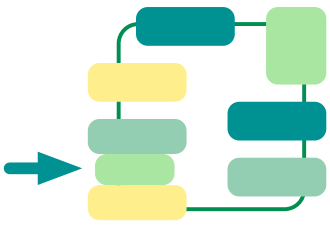
Use the cases with colleagues as catalysts for reflecting on your own professional practice and as starting points for delving into other sources of information, including related sections of the BESs. To request copies of the source studies, use the Research Behind the BES link on the BES website.

The conditions for effective professional learning are described in the Teacher Professional Learning and development BES and condensed into the ten principles found in the associated International Academy of Education summary (Timperley, 2008).

Note that, for the purpose of this series, the cases have been re-titled to more accurately signal their potential usefulness.

Responsiveness to diverse (all) learners

Use the BES cases and the appropriate curriculum documents to design a response that will improve student outcomes



The different BESs consistently find that any educational improvement initiative needs to be responsive to the diverse learners in the specific context. Use the inquiry and knowledge-building cycle tool to design a collaborative approach to improvement that is genuinely responsive to your learners

To improve learning, engage with teachers' beliefs about students and learning

It is through their leading of teacher professional learning and development that school leaders have their greatest impact on student outcomes. Most of this impact stems from the establishment of effective professional learning communities.

This case demonstrates* the importance of leaders engaging with teacher beliefs about students and teachers exploring the teaching–learning relationship in a professional learning community. These findings are applicable to any school improvement initiative.

The case focuses on teacher beliefs about reading in years 1–3 and using achievement data to inform teaching. It highlights the "wedge graph", a smart tool that can support teaching improvement.

See also BES Case 32: *Develop policy and curriculum documents that focus on student outcomes.*

2 An assistant principal improves teaching in her school

Introduction

This case describes how an assistant principal contributed to student achievement by providing her staff with professional learning in the use of achievement data to improve reading and writing. Although her teachers were collecting achievement data—diagnostic summaries for individual students (based on norm-referenced tests) and reading tracking sheets—the AP believed they were not using it to inform their teaching. She tried two approaches (one unsuccessful, the other successful) to encourage them to do so. The case highlights how important it is, when leading change, to discover the beliefs and assumptions that explain current practice and teacher reactions to proposed alternatives.

Research context

The study took place in a large South Auckland primary school with a high percentage of Māori and Pasifika students. Although the school had participated in a government-funded initiative to improve literacy, no improvement was discerned. The AP, who was responsible for literacy leadership in the junior school, asked a researcher to work with her for a year to help teachers learn how to use student achievement data to improve their teaching. The researcher and an assistant observed four staff meetings chaired by the AP and attended by seven teachers. After each meeting, the researchers interviewed three or four teachers and relayed their feedback to the AP so that she could take it into account when planning the next stage of the intervention. By the end of the year, the students of the participating teachers had doubled their writing vocabulary. In the second year, when the focus shifted to reading, there were significant improvements in student reading levels.

Leadership dimension 4

Promoting and participating in teacher learning and development

Generally speaking, leaders make their most powerful impact on student outcomes through their leadership of teacher learning and development, and much of this impact comes down to how successfully they establish the conditions for effective professional learning communities. In Chapter 6, we identified two such conditions: an intensive focus on the teaching–learning relationship and collective responsibility for student achievement and well-being. Leaders of team, departmental, and syndicate meetings can strengthen these conditions by:

- focusing teacher talk on the teaching–achievement relationship;
- using outcomes data to determine effective teaching practice;
- fostering collective responsibility and accountability for student learning and well-being;
- sharing effective teaching practices and creating opportunities for teachers to learn from each other.

Supported by the researcher, the AP in this case worked with her teachers to develop a shared understanding of how to improve the low literacy levels.

Leadership dimension 7

Engaging in constructive problem talk

When a proposed change challenges teachers' existing beliefs and practices, leaders are more effective when they discover and discuss those beliefs than when they ignore them (Chapter 6). This case clearly contrasts these two different approaches.

1. A first, unsuccessful effort to create a learning community

Bypassing teachers' theories of action

The AP wanted teachers to use the data they had collected about their students' reading as a basis for their planning. She believed that these data (from the Observation Survey and tracking sheets[518]) were the most reliable evidence available and that, by using them, teachers could better align their lessons with the learning needs of their students, leading to enhanced achievement.

The teachers disagreed. They preferred to base their planning on their own, anecdotal observations. They believed that these were more relevant and trustworthy than formal data. In fact, two of three teachers interviewed explained that they did not even look at the formal data that they personally collected:

> *Teacher 1: They [Observation Survey data] go into the file but you don't have time to look at it.*
>
> *Teacher 2: I don't use it [tracking sheet] very often—just fill it in.*

[518] Clay, M. M. (1993). *An observation survey of early literacy achievement.* Auckland: Heinemann Education.

Leadership dimension 7

The AP believed that the teachers were dismissive of the formal data for two reasons:

- They did not realise its potential to help them improve their teaching.
- They did not 'own' it.

Her challenge, therefore, was to help them appreciate its value. With this aim in mind, she presented graphs of Observation Survey data at a team meeting and pointed out how their students were achieving in relation to national benchmarks.

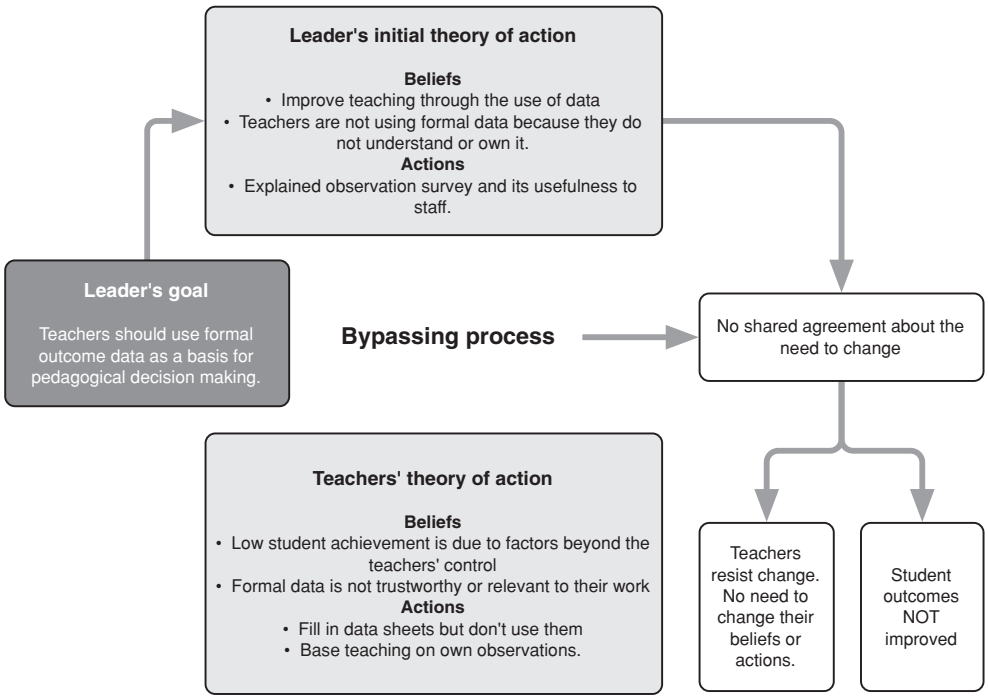
When asked by the researchers for feedback on the value of this presentation, the teachers generally agreed that it had not been very helpful. They already knew that many of their students were reading below expectations, and they believed that this was largely due to contextual factors that were beyond their control. They suggested that national expectations were unrealistic for their students.

> *Teacher 1: I don't know if I agree on the national averages … There's the ones that don't come to school every day, there's the ones who don't have lunch, there's the ones who are scared when they come to school so they are running round and they're scared when they go home because they won't do their books at home.*
>
> *Teacher 2: I've got a vague idea off the top of my head and I just tend to teach them the best I can and I mean if they're below and I'm teaching as much as I can and to the best of my ability—I don't see that knowing exactly where they should be, or how much below they are, is going to do anything.*

Why were initial efforts to create a learning community largely unsuccessful?

The initial team meeting highlighted a mismatch between the AP's and teachers' assumptions about low achievement and what to do about it. As the diagram shows, the AP's theory of action bypassed rather than engaged the teachers' theories of action; the result was resistance.

Bypassing teachers' theory of action



The AP's attempt to make the issue (low student achievement) explicit by graphing the data did not increase the teachers' ownership of the problem because they did not trust the data, nor did they believe that they could make a bigger difference to student achievement. As the AP bypassed rather than engaged these beliefs, nothing changed for either teachers or students.

2. A second, successful effort to create a learning community

Engaging with teachers' theories of action

After discussions with the researchers, the AP decided to make the relationship between teaching and student achievement more explicit. She would challenge the teachers' view that their students' literacy was constrained by factors beyond their control. At the next team meeting, she presented results from two sub-tests of the Observation Survey. These showed that, while the students' ability to hear and record sounds in words approached national norms, their writing vocabulary was falling far behind. In this way, the AP challenged the teachers' theories, not by directly confronting them, but by giving them a means of testing their validity. She then worked with the teachers to identify why the students' word-writing scores were so low and asked them to consider teaching strategies that might improve them.

The discussion at this meeting was very different from the discussion at the previous meeting. While the teachers still struggled to grasp the meaning of the data, they adopted a problem-solving approach this time. For example, one teacher, struggling with the discrepancy revealed by the data, said, "I don't understand why—they're hearing and recording sounds—and they can't link it to the writing vocab."

Teachers continued to express doubts about whether national benchmarks were realistic for their students. But they now expressed these doubts in ways that could be more constructively challenged in terms of teaching practice.

> *Teacher: … writing the words for themselves, they will never be able to do the work by themselves.*
>
> *Assistant Principal: [After one year at school] … they need to write more words and it is about how do we help them to do that?*

The teachers agreed on some strategies they could use to help their students use their letter-level knowledge to write words.

Agreed evaluation of existing practice

Leadership dimension 7

Despite agreeing to use the new strategies, some teachers still doubted this would improve student achievement. For example, one teacher suggested that progress was unlikely until students "achieved a certain stage in development". To evaluate the effectiveness of the new strategies, the AP suggested that, once each week, the teachers should ask their students to write as many words as they could in five minutes. A month later, the AP collected the data and graphed the difference between the first and second scores for a random sample of students from each class. The graphs showed that the students in some classes made only small gains, while the students in others made large gains. The AP shared these results with her teachers at a team meeting. The group noted that one of their number was particularly successful in raising their students' achievement. The others were very keen to discuss the strategies used by this teacher.

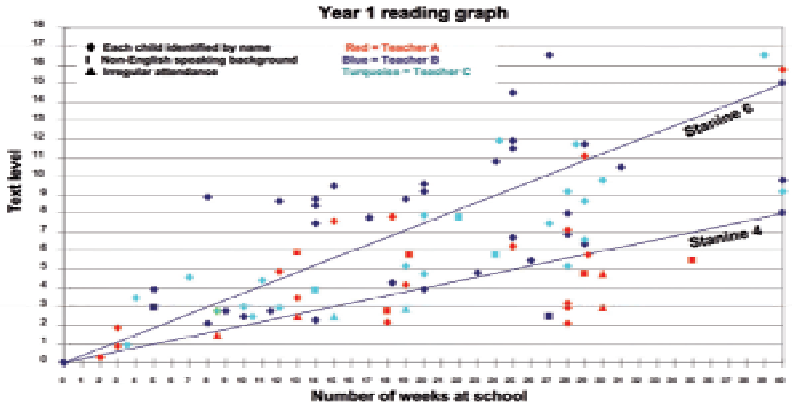
Improved practice

The final round of interviews revealed three key changes in teaching practice:

Change	Example
Data-based inquiry	*I've never really looked at the Observation Survey data before so I didn't really know that it was a problem … You know the performance was actually below average. It didn't click with me that those were the strategies we should be using. Once we started putting strategies into place, we could see it working. (Teacher)*
Evidence-based practices	*Teachers described how they now contextualised the teaching of words in their reading and writing programmes.*
Increased expectations	*One teacher described how, while writing five words was acceptable to her before, she now expected 30.*

The evidence collected by the teachers suggested that the changes they made were effective in improving student outcomes. The students' three-monthly test scores improved considerably. Teachers also reported anecdotal evidence of greater word use in student stories and greater student independence in trying new words.

A follow-up visit to a team meeting one year later showed that the norms and content of team meetings had changed, with the focus now on helping teachers teach particular students more effectively. The teachers plotted each student's text-reading level on a nationally benchmarked graph that was colour-coded so that students' teachers could be readily identified:

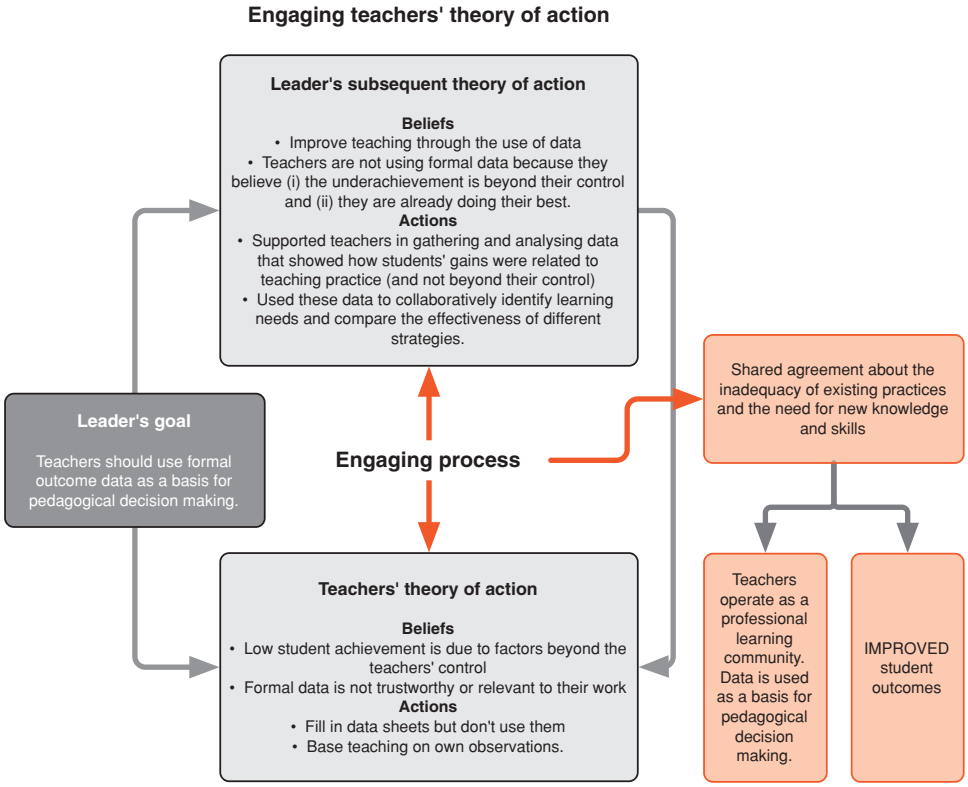


The teachers then discussed how to progress those who had failed to reach that quarter's benchmark. They agreed that it was helpful to be able to identify students they should target and strategies they could use to improve achievement. One teacher explained:

> *You can identify where you need to put more effort in … We all support each other—we ask, "Hey, what are you doing to get yours [text levels] up?" and "What do we need to do?"*

A noticeable shift had occurred in the course of the year. The teachers now focused on what they could do to assist struggling students to reach national benchmarks. The use of student data helped promote inquiry into the teaching–learning relationship. The diagram below summarises this second, more successful change strategy. With the help of the external research partner, the AP had revised her theory about how to promote change. With the help of the AP, the teachers had tested and revised their theories about the usefulness of data—and what they could achieve with their students.

Leadership dimension 7



Leadership dimension 4

Creating a learning community

These findings illustrate the conditions that contribute to the creation of a learning community. By challenging her teachers' beliefs about the use of student data and their low expectations in terms of student achievement and by simultaneously helping them develop relevant knowledge and skills, the AP was able to create a community focused on learning to improve student performance. A summary of her strategies follows:

Strategy	What happened as a result
Shift the focus from discussion of students to discussion of the teaching–achievement relationship	The meetings were organised as opportunities to discuss the links between teaching and student achievement. This discussion was supported by relevant achievement data and the AP's ability to challenge the teachers' low expectations and their tendency to attribute poor student performance to external factors. They began to focus instead on classroom factors that were within their control.
Use student outcomes data to inform decisions about effective teaching practice	The AP created multiple opportunities for the teachers to make connections between their teaching and their students' learning (for example, by identifying the problem with the word-writing scores and getting teachers to agree to track progress). Utilising these opportunities, the teachers were able to test their original beliefs about what they could influence and what their students could achieve. As they learned to use student outcome data to distinguish between more and less effective practices, they started discussing how they might change their teaching in order to raise achievement.
Actively foster collective responsibility by sharing effective teaching practice and creating opportunities for teachers to learn from one another	By setting up opportunities for group discussion of data, the AP helped create an atmosphere of shared responsibility and accountability. In this changed environment, the needs of low-achieving students could be identified and addressed and colleagues who were using more successful teaching practices could be identified.

Key questions

1. Think of an aspect of teachers' practice that you would like to change. How might you find out what beliefs underpin that practice?
2. How do you explain the consequences that flow from engaging or bypassing teachers' theories of action?
3. How is student achievement data currently used by teachers in your school, department, or team? Do leaders and teachers agree that current practice is satisfactory? If not, how might you make your differing views the subject of professional discussion?

Source

Timperley, H. S. (2005). Instructional leadership challenges: The case of using student achievement information for instructional improvement. *Leadership and Policy in Schools, 4*(1), pp. 3–22.

Further reading

Annan, B., Lai, M. K., & Robinson, V. (2003). Teacher talk to improve teaching practices. *SET: Research Information for Teachers*, 1, pp. 31–35.

Earl, L., & Katz, S. (2002). Leading schools in a data-rich world. In K. Leithwood & P. Hallinger (Eds.), *Second international handbook of leadership and administration* (pp. 1003–1022). Dordrecht: Kluwer Academic.

Timperley, H. S., & Robinson, V. M. J. (2001). Achieving school improvement through challenging and changing teachers' schema. *Journal of Educational Change, 2*, pp. 281–300.