BES Exemplar 3
Ngā Kete Raukura – He Tauira 3

Teacher and student use of learning goals

This is the third of a series of exemplars being prepared for Quality Teaching for Diverse (All) Learners in Schooling: Best Evidence Synthesis Iteration [BES]

He Ako Reikura, He Ākonga Rerekura (Te Katoa): Hei Kete Raukura [BES]

This publication, currently in development, is a second iteration of *Quality Teaching for Diverse Students in Schooling: Best Evidence Synthesis [BES]* (2003).

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Background to BES Exemplar 3: Teacher and student use of learning goals

BES Exemplar 3, 'Teacher and student use of learning goals', explains how student progress can be accelerated when teachers are supported to attend to learning goals. The exemplar illustrates the connection between the effective use of goals and effective feedback for students.

The context for this exemplar is primary school writing, but secondary teachers who have assisted with its development have also found it useful. Both primary and secondary teachers have commented that it could be used to help strengthen teaching across the curriculum.

BES exemplars celebrate and support teachers' work

This exemplar demonstrates how changes in teaching practice can support students to reflect on their own learning processes and to learn how to learn. Importantly, students and teachers reported that, following these changes in practice, they enjoyed the teaching and learning more. Students who had previously been disruptive, disengaged, or had worked at a superficial level were supported to sustain their engagement in thoughtful work.

The teaching improvements discussed in this exemplar were underpinned by the collaborative work of policy makers, researchers, project leaders, professional development facilitators, school leaders, and teachers involved in the Ministry of Education's Literacy Professional Development Project (2004– 2009). On average, progress for each cohort of students was equivalent to two years of business-as-usual for each year in the project.[1] Notably, progress among the lowest-achieving 20 percent of students was the equivalent of more than three years of schooling for each project year. In each subsequent cohort, the gains for the lowest 20 percent were greater; indicating more effective implementation of the project with time.

The professional learning process in this exemplar was respectful and did not bypass teachers' theories. Observations of classroom lessons and interviews with students were critical in motivating and informing improvements. Because the staff found the observations so useful, school leaders sought assistance in developing school-based expertise to continue them. The exemplar and the resources it references explain the 'how' of creating a high-trust environment for ongoing educational improvement.

The exemplar also illustrates the effective use of the professional inquiry and knowledge-building cycle. It demonstrates how this approach can promote educational improvement that is responsive to the needs of students and teachers. The project developed a set of 'smart tools'[2] that enabled shared learning encompassing all layers from national project leaders to facilitators to teachers and school leaders. These tools and the associated routines (for example, the observation templates and accompanying protocols) helped create an effective and reciprocal 'chain of influence'. Project manager Pam O'Connell reflected, "I think this was a key time in New Zealand when we moved from research with teachers to researching facilitators and their knowledge and practices so that the chain of influence was revealed more deliberately."[3] The exemplar illustrates another key finding of the Literacy Professional Development Project (LPDP) research – that facilitators play a key role in connecting learning across the layers of a professional development project. Because expertise matters, it is essential that professional learning for facilitators is an integral part of professional development design.

Addressing areas of need

The Education Review Office[4] (ERO) has found student understandings of learning goals to be a recurrent area of weakness in New Zealand teaching practice. ERO highlights the importance of involving students in goal setting, checking understandings, and providing the feed forward and scaffolding that students need.

While this exemplar has relevance across the curriculum, it has particular relevance for the teaching of writing. A 2006 national overview[5] of asTTle data revealed writing to be an area of relative weakness compared with reading and mathematics:

> The most striking result from the analysis of the writing data was the large number of students who wrote poorly and that this persisted throughout intermediate and secondary years. Although there were students who excelled at writing each year, the data suggests many students did not improve in writing over the years. This indicates a need for further explicit instruction in writing (Ministry of Education, p. 8).

A companion assessment[6] of achievement in tuhituhi by curriculum level concluded that the overall level of achievement was lower than what might be expected and that the quality of teaching in tuhituhi needed to improve.

National Education Monitoring Project (NEMP) findings for 2002 to 2006 showed substantial improvement in expressive writing at year 4 and modest improvement at year 8. Over these four years, disparities in English writing achievement for Māori students reduced at year 8 and disparities for Pasifika students reduced at years 4 and 8. Between 2004 and 2009, around 7 percent of New Zealand schools had access to writing-focused LPDP professional development.

The National Standards have been developed to indicate what students should be able to do in writing, reading, and mathematics. Systemic improvement will depend upon professional learning that supports teachers to accelerate progress in writing for diverse (all) learners. This exemplar illustrates the depth of professional support needed for such improvements to occur. Research from within the LPDP showed that, for any innovation to have a positive and sustained effect on student learning and achievement, it must be deliberately built on teachers' prior knowledge and skills and linked to effective practices developed through previous professional learning.

Acknowledgments

1 Usual progress was calculated from the asTTle normative sample achieved by students in writing in the matching year levels (years 4–8).

2 In the educational context, a smart tool is one that supports professional learning about how to advance student learning. Selecting, developing, and using smart tools was found to be a leadership practice that advanced valued student outcomes in the *School leadership/He kura rangatira BES*. Leaders select and design smart tools by ensuring they are based on valid theories and that they are well designed to serve their purpose. Tools are only designated 'smart' if the evidence indicates that they actually do advance valued outcomes for students.

3 O'Connell, P. (personal communication, formative quality assurance for BES Exemplar 3, (Teacher and student use of learning goals,) November 3, 2011). One example of this was the Ministry's Inservice Teacher Education Project (INSTEP), which took a nationwide collaborative inquiry approach to improving the practice and learning of teacher educators. One of INSTEP's outcomes was a set of learning materials for the use of inservice teacher educators across a range of contexts: Ministry of Education (2008). *Ki te Āoturoa: Improving inservice teacher educator learning and practice/Te Whakapakari i te Ratonga Whakangungu Kaiwhakaako.* Wellington: Learning Media. Available at http://instep.net.nz/

4 Education Review Office (2011). *Working with the National Standards: Raising student achievement in reading, writing and mathematics.* Wellington: Education Review Office. Available at www.ero.govt.nz/National-Reports
Education Review Office (2010). *Working with the National Standards: ERO's interim findings for Term 3, 2010*. Wellington: Education Review Office. Available at www.ero.govt.nz/National-Reports

5 Ministry of Education (2006). *In focus: Achievement in writing. Information kit: Student achievement in New Zealand*. Wellington: Research Division, Ministry of Education. Available at www.educationcounts.govt.nz/__data/assets/pdf_file/0019/6634/EM_InFocus_Writing_v2.pdf

6 Te Tāhuhu o te Mātauranga (2006). *In focus: Te paetae i roto i te tuhituhi. He kete rauranga.* Te Whanganui ā Tara: Wāhanga mahi rangahau. Available at www.educationcounts.govt.nz/__data/assets/pdf_file/0016/6622/MM_InFocus_TuhituhiEnglish_v2.pdf
Available in English at www.educationcounts.govt.nz/__data/assets/pdf_file/0016/6622/MM_InFocus_TuhituhiEnglish_v2.pdf

About the BES exemplars

This new series of BES exemplars is being prepared by the Iterative Best Evidence Synthesis (BES) Programme. Each exemplar has been selected because it illuminates highly effective teaching approaches that accelerate progress for diverse (all) learners in areas where improvement is needed. They exemplify the eleven dimensions of quality teaching using examples that come from across the curriculum and are relevant to primary, intermediate, and secondary levels of schooling.

The series has been given priority in response to requests from teachers and principals for real-life examples that make transparent the nature of highly effective teaching and the professional learning, leadership, and educationally powerful connections with families, whanāu, and communities that support such teaching. The exemplars are derived, where possible, from research and development carried out in New Zealand schools and kura. They celebrate the outstanding work of New Zealand educators.

While the BES exemplars show how significant improvements can be made through teaching, they are not 'magic bullets'. Rather, the exemplars illuminate the high-impact research and development that informed and developed the expertise of the teachers, facilitators, school leaders, and researchers they feature.

The BES exemplars are being progressively released online. They will be a core resource for the forthcoming:

> Quality Teaching for Diverse (All) Learners in Schooling: Best Evidence Synthesis Iteration [BES] He Ako Reikura, He Ākonga Rerekura (Te Katoa): Hei Kete Raukura [BES].

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While teachers are the primary audience for these BES exemplars, they are also intended as a resource for leaders, policy makers, and all those involved in supporting the work of teachers. To support their use in a variety of contexts, each exemplar incorporates the following features:

- A section on background information explains the significance of the exemplar. It highlights the expertise of the educators that enabled accelerated improvement and identifies the area of national need that they addressed in their work. You may prefer to read the exemplar before reading this background information.
- A list of supporting resources is provided for those who wish to investigate further. Full text copies of cited articles can be requested from the BES website.
- A 'Professional learning: Starter questions' tool is intended to support schools seeking to use the exemplars as catalysts for improvement. Specifically, it is intended to support an inquiry and a knowledge-building approach to improvement that is responsive to the unique needs of the students, teachers, and wider community in each context.
- An 'Implementation alerts' checklist highlights the complexity of change for improvement, emphasising the fact that 'how' change happens and is supported is critical to success.

The pedagogical approaches explained in these exemplars do need, of course, to be appropriately integrated into a comprehensive plan for improving teaching and learning.

Feedback to inform BES development

We will draw upon your feedback when finalising the exemplars for this new BES iteration. Please send any feedback to best.evidence@minedu.govt.nz

BES Exemplar 3. Teacher and student use of learning goals

Introduction

'Effect size' is a statistical measure of the impact of an intervention on an outcome. Hattie[1] shows that the average yearly effect of teaching in New Zealand in reading, mathematics, and writing from year 4 to year 13 is d = 0.35. Effect sizes above 0.40 represent an improvement on business-as-usual and effect sizes of d =0.60 are considered large.

This exemplar contrasts what does and does not work in two aspects of the teaching of writing: teacher use of learning goals and student access to success criteria. It exemplifies three of the most effective teaching practices identified across Hattie's[2] meta-analyses: feedback[3] (*d* = 0.73), teacher clarity[4] (*d* = 0.75), and the scaffolding[5] of student metacognitive strategies[6] (*d* = 0.69).

The exemplar shows the effective use of formative assessment to support student self-regulation and success in writing. In particular, it demonstrates that teachers need to explain learning goals clearly and ensure that students understand them. It also shows how teachers and students can work smarter rather than harder to make learning to write more enjoyable and successful.

The exemplar is not about good teachers; it is about good teaching practices. The final part of the exemplar features a literacy facilitator who worked effectively with two teachers whose practice was, initially, not supporting student success. This exemplar shows how ineffective teaching can be dramatically transformed through the use of external expertise, collaborative inquiry, and evidence to support teacher learning. The intervention resulted in significant improvements in student achievement in just four months.

Research and development underpinning the intervention

The teachers featured in this exemplar participated in the first cohort of the Literacy Professional Development Project (LPDP). The LPDP was implemented by Learning Media on behalf of the Ministry of Education from 2004 to 2009. In that time, the project provided literacy professional development to 386 schools. Half of the schools chose to focus primarily on writing and the other half on reading. Schools in each cohort participated for two years.

On average, progress for each cohort of students was equivalent to two years of business-as-usual for each year in the LPDP.[7] Notably, progress among the lowest-achieving 20 percent of students was the equivalent of more than three years of schooling for each project year. With each subsequent cohort, the gains for the lowest 20 percent were larger. In the final cohort (2008–9), these students in the writing focus schools made progress at six times the rate of a comparable group of students.[8]

The LPDP took a collaborative research and development approach to the provision of whole-school professional development. It characterised itself as a 'learning project' in which all participants (project leaders, policy makers, and facilitators, as well as teachers and school leaders) collected and analysed a range of evidence to identify:

- the learning needs of the learners for whom they were responsible;
- their own learning needs; and
- the impact of any changes resulting from new learning.

The presence of Timperley and Parr as embedded researchers within the project team was a significant feature. The researchers were members of the leadership team, worked closely with facilitators in selected research schools, and participated in the project's national seminars. They shared emerging data with the wider project team, engaged with their colleagues' theories of practice (ideas, values, and beliefs) as they worked collectively to make sense of the findings, and ensured that the focus remained squarely on student outcomes. The reciprocal nature of the relationship is exemplified by the fact that a facilitator co-authored with the researchers one of the source documents for this exemplar.[9]

The inquiry and knowledge-building cycle diagram on page 7 of this exemplar is based on one that was developed by Timperley and refined within the LPDP. It provides a framework to support continuous improvement, a framework in which teacher, school leader, facilitator, project leader, and policy maker are involved in reciprocal learning and together create a 'chain of influence'.[10] The project developed a range of smart tools[11] to facilitate implementation of the cycle, including a set of observation protocols and a project outcome matrix that schools could use to monitor their progress and plan their next steps. Over time, the project also developed a set of shared understandings about what is required to sustain ongoing school improvement. Along with evidence-based inquiry, coherence emerged as a critical dimension of sustainability.[12]

Learners and learning context	The context for the first part of this exemplar is the writing lessons of 15 teachers from seven schools who taught students at a range of levels spanning years 2 to 8. Timperley and Parr[13] gathered observational data to illuminate the extent to which the lesson goals and success criteria were shared with, and understood by, the students. They found that despite their belief that they were sharing goals and criteria with their students, most teachers were not actually doing this. Only in seven of the 15 classes could half or more of the students identify the lesson goals. In four lessons, the lesson goals were never shared with the students. The first part of the exemplar focuses on three teachers in particular, contrasting the teaching of teachers 1 and 2, who did not share goals with students, with that of Teacher 15, who did share goals with students. Teacher 1 taught students in years 2–3, Teacher 2 taught years 4–5, and Teacher 15 taught years 3–4. The exemplar then draws on an illustrative case[14] to describe how teachers 1 and 2 worked with their colleagues and an LPDP facilitator to improve goal-setting and feedback so they could support their students to become self-regulated learners. The researchers selected this school for their case because it was typical of many New Zealand schools, being relatively small (96 students) and located in a community of average socio-economic status. Its staff consisted of three full-time teachers, a teaching principal, and a part-time teacher. Between them, they taught four multiple-level classes ranging from year 1 to year 6.
Outcomes	In just one four-month period, the intervention resulted in large achievement gains for the students of teachers 1 and 2 (as assessed by asTTle), with an effect size of $d = 1.04$. Although the lesson goals focused on deeper features, equally great gains were obtained for surface features. (Deeper features include audience awareness and purpose, content and ideas, structure and organisation, and language resources; surface features include spelling, punctuation, grammar, and layout.) In the final interviews, the researchers found enthusiastic and well-informed teachers and students who could clearly explain what they were learning and the criteria for success. The students reported they enjoyed the lessons more when they understood the goals and success criteria.
Curriculum relevance:[15] **New Zealand Curriculum**	The curriculum expects that teachers will encourage all students to reflect on their own learning processes and that they will support them to learn how to learn. Students need to develop the competencies of thinking; managing self; and using languages, symbols, and text. Language is central to learning and the essence of culture. Students create meaning for themselves and others through writing. As they progress through school, they are required to write for an increasing range of purposes.
Te Marautanga o Aotearoa	Ka pai ake te ako a ngā ākonga mehemea e mārama ana rātou ki tā rātou e ako ana, e whai take ana hoki ki a rātou. Learners do better if they understand what they are learning and if the learning is meaningful.

The Quality Teaching Dimensions

Outcomes focus **Hua te ako, hua te ākonga** Quality teaching is focused on valued outcomes and facilitates high standards for diverse learners.	Teacher 15 focused on specific valued student outcomes, engaging students in understanding and pursuing these outcomes in the context of a task they enjoyed. Most of the other teachers observed by the researchers and facilitator did not translate a focus on valued student outcomes into action. This exemplar describes what did and did not work in the teachers' communications about learning goals and the consequences of teachers' practices in terms of their teaching effectiveness. It then describes how teachers 1 and 2 responded to targeted professional development by reorienting their practice so that it had a stronger focus on outcomes.

What worked

Assessment for learning

He aromatawai i roto i te ako

Teachers and students engage constructively in goal-oriented assessment.

Teacher 15 was teaching the fourth lesson in a series about writing an argument. He outlined the following aims:

> *Arguments: Persuasive writing – main components of an argument. Opening statement and opinion. Reasons and examples to support. Sequencing from strongest to weakest.*

The topic for the argument was whether a much-loved story character, Greedy Cat, who was very overweight, should go on a diet. In a previous class, these students had worked with the teacher to establish a set of success criteria for a written argument. The teacher displayed these criteria on the board. They included:

- You need an opening statement that gives your opinion
- Give reasons for your opinion and examples to support your reasons
- Put your reasons in order from strongest to weakest.

The teacher began by checking that the students understood their purpose: to express an opinion with reasons and to organise the reasons in a hierarchy. These were demanding, worthwhile instructional goals:

Teacher: What are the main parts of an argument? The main things we were working on, [student's name]? One of them?

Student 1: Make sure your opinion is what you want to say.

Teacher: Say what you want to say, you write your opinion, [student's name]. What else?

Student 2: You give your reasons.

Teacher: What do we give reasons for?

Student 2: So they know why or why not to agree with us or agree with [our opinion].

Following the lesson, the researchers and facilitator interviewed individual students and asked them to describe what effective persuasive writing looks like. All the students in Teacher 15's class referred to the previously agreed criteria.

Scaffolding

Te ako poutama

Pedagogy scaffolds, and provides appropriate feed forward and feedback on, learning.

Teacher 15 provided feedback or feed forward on 16 occasions during the 45-minute lesson. In seven instances, the feedback connected to the learning goals. For example, having read one student's list of reasons as to why Greedy Cat should go on a diet, he confirmed, "Yes, the reasons support why he had to go on a diet." Looking at another student's list, he provided feed forward: "You need to put these [the reasons] from strongest to weakest." Interviewed after the lesson, the students talked about their teacher's feedback in terms of the deeper features of writing associated with the learning goals.

The researchers explain how such teaching promotes student self-regulation: "as learners are scaffolded into gaining greater control of the ideas, they are increasingly able to guide, plan and monitor their own activities".[16] When students are clear about the goals, and when they have continuing access to those goals and clear information about what it will take to achieve them, they can keep checking and monitoring their own progress.

Students' working memories cannot retain complex information or instructions without opportunities to revisit the details. Teacher 15 provided those opportunities by writing the goals and success criteria on the board as well as discussing them.

At the same time as it gives students greater control of their own learning, scaffolding student self-regulation takes pressure off teachers, meaning they have time to be more strategic. When students are self-regulating, the teacher has more time to notice, reflect, and diagnose where further scaffolding is needed to support deeper learning. They can then provide that scaffolding as and when required.

Alignment

Tatarite

Curriculum goals, resources, task design, teaching, school practices, and home support are effectively aligned.

It is not enough to begin a lesson with goals set out on the whiteboard, even if they are clearly expressed and referenced to success criteria; goals, task design, and teaching need to be kept in alignment throughout the lesson.

The extract above shows how Teacher 15 questioned his students at the start of the lesson. In addition to confirming that the students understood the purpose of the lesson, he used the exchange to help them connect the learning purpose to their prior knowledge. That is, he ensured that the students realised they should use what they had learned in previous lessons about structured argument as the basis for developing arguments of their own.

The focus of the lesson was on the use of the previously-developed criteria to develop arguments for or against a diet for Greedy Cat. The task design was explicitly related to the criteria: students were told to begin by stating their position, then provide their reasons, and finally organise their reasons in order from strongest to weakest. As can be seen from the transcript above, the teacher's feedback was directly linked to the criteria.

Quality teaching: Other aspects	While the focus of this exemplar is on goal setting, teacher clarity, and effective scaffolding through feedback, Teacher 15's practice exemplifies other dimensions of effective teaching, for example: • By building the writing lesson around a familiar book, Teacher 15 made a *connection* to the students' prior knowledge and to a topic that interested them. • The potential for the students to work as a *learning community* was maximised by the fact that the reading was a shared experience and that they had developed their success criteria together. • The clear learning goals and success criteria supported the students to regulate their own learning through the development of more *thoughtful learning strategies*. • Because the students were clear about the learning goals, they spent much more time writing, resulting in more *opportunity to learn*. Furthermore, the lesson was the fourth in a series, allowing increased opportunities for the students to practise and embed the new learning.

What was not effective

Assessment for learning **He aromatawai i roto i te ako** Teachers and students engage constructively in goal-oriented assessment.	Teacher 1's goal for her lesson was "to help children to start their stories using an interesting beginning", but this goal was never communicated to the students. In her extensive introduction to the task, she spent most of the time focused on story content, telling stories about getting lost. She did give a general instruction to write the first sentence and then write about an experience of being lost. During the lesson, her assistance to individual students consisted mostly of prompting content. When asked by the researcher about what they were trying to achieve, the students did not know what the goal was, so gave very general responses (for example, "learning to write good stories") or responses that related to surface features of writing, such as punctuation and spelling. Teacher 2's goal was "Using English matrices from NZ curriculum exemplars 'Audience purpose' (impact and voice) at Levels 1iii, 2 & 3". These goals were never shared or clarified with the students. Rather, when introducing the task, in the activities themselves, and when assisting individual students, the teacher focused very generally on generating content (again about the experience of being lost). When interviewed, these students also made general comments or commented about the surface features of their writing, which had no relationship to the concepts of 'audience', 'purpose', 'impact', or 'voice'. Although these teachers may have intended to have quality goals, the students focused on surface features rather than demanding instructional goals.
Scaffolding **Te ako poutama** Pedagogy scaffolds, and provides appropriate feed forward and feedback on, learning.	Teacher 1 instructed her students to "think of an interesting beginning to your story". When assisting individual students, she suggested that their stories "should start with a bang", and on three occasions made specific wording suggestions. She also suggested to two students that they should use some direct speech in their first sentence. She advised two others that they should not start with "once upon a time" because that was for fairy tales. Most of her feedback related to the mechanics of the writing, with some general praise. When asked about the feedback they received, the students explained that their teacher "doesn't talk to us about improving work". Good writing, they believed, was neat and had a title, capital letters, and full stops. Teacher 2 provided lots of general praise (ten instances during the lesson) and feedback about the mechanics of writing (six instances), with one further comment about words used. According to the students, teacher feedback related to mechanical details and content.
Alignment **Tatarite** Curriculum goals, resources, task design, teaching, school practices, and home support are effectively aligned.	Despite their different learning goals, teachers 1 and 2 designed similar sequences of tasks. Both asked their students to write an account of a personal experience of being lost. Both then spent most of the lesson time engaging their students in introductory activities designed to motivate them to write their accounts. They began their lessons by reading their students a story about a lost child. They then recounted an experience of their own and asked the students to recall a personal experience and share it with a partner. One difference was that Teacher 1 modelled writing an introductory sentence. But instead of focusing on her stated aim (writing interesting beginnings), she focused attention on the mechanics of constructing words (using letters and letter blends to write unfamiliar words). Teacher 2's stated aim was to build awareness of and attention to audience, but none of her tasks were aligned with this goal.

Improving practice

Teacher knowledge and inquiry

Te mōhio o te kaiako, te tikanga uiui

Teachers work smarter, not harder, through the use of evidence for continuous improvement.

Using the inquiry and knowledge-building cycle

Identifying, understanding, and linking student and teacher learning needs

The school at which teachers 1 and 2 taught had entered the LPDP because it was concerned about low levels of writing achievement. As in all LPDP schools, the first phase involved a detailed needs analysis that sought to identify students' literacy learning needs and what teachers needed to know and do to address them. The needs analysis included observations of teacher practice and student responses.

The school's LPDP facilitator presented the results of the observations and student interviews to all teachers at a staff meeting. The teachers were surprised that the students had not understood the goals and criteria. They had believed that what the students had to learn was transparent and that their teaching had been goals-focused. They now realised that the students were getting conflicting messages.

The next phase involved the teachers reflecting on the question, 'How have we contributed to existing student outcomes?' The facilitator used the observational and interview data to help the teachers examine their practice and its impact on students. This deep reflection was crucial for professional learning. As the *Teacher professional learning and development BES* demonstrates, if teachers' theories are bypassed, professional development is unlikely to be effective.

The principal described this professional learning process as developing a sense of ownership in the staff:

> *It gave staff a voice and a chance to discuss what their beliefs were and their practices, and that's been half of it with the growth that has happened here … It's just that openness, that's probably been the biggest thing. And the fact that sometimes we've thought what children know is not what children know and what we think they can do sometimes they can't* (Timperley, Parr, & Bertanees, 2009, p. 239).

The teachers realised that their focus had been on motivating students to write rather than teaching the knowledge, understandings, and self-monitoring strategies involved in learning to write.

Engaging in professional learning

The evidence of the difficulties their students were experiencing challenged the teachers' assumptions about their practice and provided the catalyst for them to seek more effective strategies. They realised they needed to deepen their pedagogical content knowledge.[17] Along with their colleagues, teachers 1 and 2 entered into a cyclical change process in which they set and monitored progress against two closely linked goals:

- For the students: To understand the purpose and success criteria for writing lessons

- For the teachers: To better scaffold student self-regulation.

The facilitator worked with staff to develop a targeted action plan based on the initial analysis and the new understandings. The teachers asked for further observations of their lessons so that they could obtain feedback on the changes they were trying to make. The literacy leader and principal were trained to carry out observations so that feedback could continue to be given when the school's time in the project had ended. Regular and frequent checks on student understanding were built into the feedback loop. The action plan also included a programme of professional reading.

Changing the interactions with students

The researchers went back four months later to observe the lessons and interview the students. The researchers noted the following changes to the teachers' practice:

- Both teachers were now setting clear learning goals and success criteria, and one of the teachers was co-constructing the criteria with the students.

- The teaching and task design were aligned and coherent with the learning goals and success criteria. For example, Teacher 1's lesson was focused on the structure and order of events. Using birthday parties as the context, she outlined the structure of an account and explained what is meant by 'sequence' and why it is important. She then worked with the whole class to practise structuring some of the students' stories so they could understand that stories need a beginning, a middle, and an end. Finally, she set the main task, which was to write an account of going to a birthday party.

- In both classes, the students spent the majority of the time actually writing.

Checking the impact on students

The researchers found that the students were much clearer about the goals and success criteria and were focused on the deeper features of the writing. Both the students and their teachers spontaneously commented that they were enjoying their writing lessons more. For the teachers, there were still some challenges ahead in providing focused feedback rather than generalised praise. However, the achievement gains from the four-month period as assessed by asTTle were $d = 1.04$.

Building trust

The research and development team reflected on the crucial role of trust in the improvement process:

> Any inquiry approach requires trust in both the broader policy environment and the immediate professional learning environment to be successful … If teachers are to identify and discuss their professional learning needs in ways that lead to their improvement, they must feel safe to make mistakes and have supported opportunities to learn from them. In the illustrative case, this trust was built through teachers sharing their responsibility for a problem to solve and trusting that the facilitator would lead them through a process that respected their professionalism while supporting their learning. The facilitator trusted them with the bad news as well as the good news, supported them to make changes while at the same time assisting them to become aware of the process in which they were engaging. In an environment of blame or limited support, it is unlikely that the process would have been successful (Timperley, Parr, & Bertanees, 2009, p. 241).

The importance of relational trust in improvement processes is a core finding of the *School leadership/He kura rangatira BES*. Trust is crucially important when observing, analysing, and providing feedback on teachers' classroom practice. Over time, the LPDP developed a 'practice analysis framework' to guide these interactions. This is described in other research to emerge from the project.[18]

Resources

Full text copies of cited articles can be requested by New Zealand schools through the Ministry of Education's Research Behind BES service: www.educationcounts. govt.nz/goto/BES

English, C., Bareta, L., O'Connell, P. (April 2010). *Literacy Professional Development Project. Milestone Report to the Ministry of Education, April 1, 2010.* Wellington: Learning Media.

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Timperley, H., Wilson, A., Barrar, H., & Fung. I. (2007). *Teacher professional learning and development: Best evidence synthesis iteration.* Wellington, New Zealand: Ministry of Education. http://educationcounts.govt.nz/goto/BES

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Wiliam, D. (2010). The role of formative assessment in effective learning environments. In H. Dumont, D. Istance, & F. Benavides. *The nature of learning – using research to inspire practice*, chapter 6. Paris: OECD.

Professional leaders and facilitators seeking a deeper understanding of how these change processes were facilitated can see Chapter 8 of the *School leadership/He kura rangatira BES* and 'Case 1: A needs analysis approach' in the *Teacher Professional Learning and Development BES*.

The LPDP was a participant in Ministry of Education's Inservice Teacher Education Project (INSTEP). The INSTEP materials (Ministry of Education, 2008) include six learning cases that illustrate examples of inservice teacher educators inquiring into their work and its impact on teacher and student learning. 'Case 4: Supporting teachers to be self-regulatory/Te tautoko i nga kaiako kia' shows an experienced LPDP facilitator applying the theory of practice analysis as she supports a teacher to examine and improve her teaching of writing. You can access this case at http://instep.net.nz/learning_cases

The studies described in this exemplar emerged from the research embedded within the LPDP. Summaries of some of this research are available at http://literacyonline.tki.org.nz and at www.learningmedia.co.nz/our-services/focus-areas/research The research summaries emphasise two of the project's key findings about professional learning that has a real and ongoing effect on student learning outcomes. These are that professional learning initiatives should enable all participants (from national leadership teams to teachers to students) to:

- develop the skills of self-regulatory inquiry;
- build content knowledge, pedagogical knowledge, and pedagogical content knowledge.

Professional learning: BES Exemplar 3 starter questions

What educational outcomes are valued for our *students* and how are our students doing in relation to those outcomes?

How can we activate educationally powerful connections for *all* of our students?

What knowledge and skills do we need as *teachers* to improve student outcomes?

How can we as *leaders* promote our own learning and the learning of our teachers to bridge the gap for our students?

What has been the impact of our changed actions on our students?

Engagement of students in new learning experiences

Design or redesign of learning tasks, activities, and experiences

Engagement of teachers in further learning to deepen professional knowledge and refine skills

Teachers

How do we check that our students understand the instructional goals? How often do we do this?

When we work with students on success criteria, how do we make the criteria accessible for them to refer back to as they work?

Are we providing sufficient scaffolding to support our students to become self-regulated learners?

Are we providing effective scaffolding and feedback for students who have not made the hoped-for progress and for students with special needs?

How well do we provide feed forward and feedback?

What can we learn from our students and from classroom observations that can help improve our teaching?

What other sources of knowledge and support can we access?

Leaders

How can we ensure appropriate conditions to support productive professional learning from this exemplar?

How can we use this exemplar to strengthen our practice across the curriculum?

Who can provide the expertise to facilitate professional learning opportunities for teachers to use this exemplar to strengthen their practice?

What are the next steps for teacher planning? How can the school leadership team help?

How can we make productive links between this exemplar and the implications for our own practice of the findings about goal setting in the *School leadership/He kura rangatira BES*?

Are we focusing on the kinds of goals that will advance the outcomes we seek for our students?

How can we strengthen our own knowledge about goals and feedback?

How can we create opportunities for teachers to process these ideas with their colleagues and integrate the new learning into practice?

How can we support teachers to discuss their theories and beliefs and the impact of their practice on their students?

What impact have the changes in practice had on our students?

Can we use the findings about goal-setting in the *School leadership/He kura rangatira BES* to strengthen our school practices around goal-setting for staff as well as students?

Appendix A. Effective and ineffective teaching practices: Goals and feedback

Teacher knowledge: Effective goals	Timperley and Parr[19] reviewed evidence about the qualities of goals and feedback that are most likely to foster self-regulated learning. Eventually, self-regulated learners formulate their own goals. "[Mastery learning] involves the learner having an understanding of what success in that task might look like and receiving instruction and feedback directly related to it" (p. 45).	
	Effective goals	**Ineffective goals**
	Clear goals with associated criteria or examples enable learners to judge their progress against the goal and give feedback to themselves.	Unclear goals are likely to result in students being unsure about their learning, constructing alternative goals, wasting time, and experiencing continuing confusion about what the task requires.
	Specific goals focus students' attention, develop greater commitment, and allow more directed feedback.[20]	General goals do not focus attention so are less useful for orienting feedback.
	'Learning goals' focus on understanding how to tackle new problems and learn new things.	'Performance goals' focus on grades and can lead to students focusing their attention on their ability and how they compare with others rather than on monitoring their personal progress. Performance goals can develop less effective questioning patterns and poorer problem-solving ability than learning goals.[21]
Teacher knowledge: Effective feedback	The quality of the information fed back to students by the teacher or other students is critical for learning. Timperley and Parr[22] reviewed qualities of feedback that is effective or ineffective in supporting self-regulated learning. In this exemplar, the focus was on teacher–student interaction and student self-regulation. Explicitly teaching students how to provide effective feedback to their peers can intensify supports for learning and increase the achievement of those both giving and receiving effective feedback.	
	Effective feedback	**Ineffective feedback**
	Task-related feedback supports the student to make progress with the task.	Feedback about the personal qualities of the learner invites a focus on social relationships rather than cognitive processes and can be detrimental to the achievement of learning goals.
	'Process feedback' that is cognitively oriented can help students identify cues that indicate progress towards particular goals, monitor task engagement, and assess the value of those cues in achieving task success.	'Outcome feedback' about whether a learner has an incorrect or correct response can be problematic. This kind of feedback alone may not provide sufficient information to guide a learner in how to improve and self-regulate their own learning.
	Feed forward: The quality of the information given by the teacher is sufficient to support the student in using effective processes or strategies to make progress towards the goal.	Feedback without support. Feedback about progress towards a goal that is not linked to a corrective strategy.
	Feedback for deep learning assists in understanding, strategy development, and self-regulation.	Feedback for minimal learning orients the learner to surface features alone rather than thoughtfulness, strategy use, and self-regulation.

Appendix B. BES Exemplar 3 implementation alerts

	Not recommended	What the research shows about more effective implementation
Teachers	Selecting learning goals based on what you think students need to learn rather than what the evidence shows they need to learn Setting unrealistic goals where the gap between what the students can already do and the goals for achievement are too big Presenting and repeating the learning goal without ensuring that the students understand what it actually means Presenting a new learning goal without linking it to students' learning in other contexts (including other learning areas) Simply telling students to 'think about their learning' without showing them how	Base learning goals on what the evidence says the students need to learn and make sure the students understand why this particular learning intention is important. Ensure students understand the purpose of learning before the learning experience begins. Return to the learning purpose repeatedly, prompting students to think about why they are doing what they are doing. Show the students how smaller learning goals link together from lesson to lesson to help them reach their long-term goals. Share the 'secrets of learning success' with the students. Talk to them about the concept of 'metacognition' and what it means to be a metacognitive learner. Talk out loud about your own learning strategies. Co-construct success criteria with the students and make sure they know how to use the criteria to monitor their learning. Ensure that the success criteria and task design are aligned with the learning intentions. Be prepared to modify the task and/or the criteria if they are not. Be open about this with the students so that they can see that it is okay to try different approaches when one is not working. Teach students the language of learning. Trust them to learn and understand key terms. Take time to find out about and understand the aspirations of parents, whānau, and the community for their children. Work with them to ensure shared understandings of the learning steps required to achieve those aspirations. Try to ensure children experience continuity between their learning at home and at school.
Leaders of professional learning	Treating teachers as 'empty vessels' to be filled with new knowledge Avoiding conflict by not addressing important issues Working through a programme of professional learning activities that is not tailored to specific needs Setting learning tasks that are unrealistic in terms of time or unrelated to the teachers' goals Assuming without checking that you are having a positive impact on teachers and their students	Take a strengths-based approach to professional learning. Find out about the knowledge and experiences teachers bring and make deliberate connections to that knowledge. Help teachers to surface gaps in their knowledge and provide them with learning opportunities that enable them to address those gaps. Build teacher ownership of professional learning goals by negotiating them with the teachers. Ensure that the goals are worthwhile in that they will contribute to improved student outcomes. Provide teachers with opportunities to check whether they have been successful in applying their professional learning to their practice by monitoring the impact on students. Support teachers to do this both independently and in collaboration with others. Ensure that teachers' checking strategies include ongoing conversations with students. Have high but realistic expectations of teachers. Be vulnerable! Don't expect others to take risks and expose their uncertainties if you are not prepared to do likewise. Set an example as a lifelong learner. Model your own use of learning goals, feedback, and evidence. Ensure teachers understand the shared purpose of professional learning and the specific purpose of each session. Be explicit about the learning experiences you provide and how they are intended to help teachers achieve their learning goals. Provide time at the end of each session for teachers to evaluate whether the purpose has been achieved and what the next steps for learning might be. Select and, where necessary, develop smart tools that make the learning goals explicit and can be used to monitor learning progress. Consider the sustainability of the professional learning. If you are an external facilitator, make it your goal that the school community can continue its learning after you have finished your work with them.

1   Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement.* London: Routledge.

2   Ibid.

3   Hattie explains that 'feedback' is not only the range of information that teachers provide students about their progress. He found that "feedback was most powerful when it is from the student to the teacher" (2009, p. 173).

4   Hattie highlights the teacher's ability "to communicate the intentions of lessons and the notions of what success means for these intentions" (2009, p. 125) as a critical aspect of teacher clarity. This aspect is the focus of this exemplar. He explains that other aspects of teacher clarity include the clarity of teacher speech as a prerequisite for teacher clarity in organising, explaining, providing examples, providing opportunities for guided practice, and assessing student learning.

5   Tasks and classroom interactions provide scaffolds to facilitate student learning – the teacher provides whatever assistance diverse students need to enable them to engage in learning activities productively (for example, teacher use of prompts, questions, and appropriate resources, including social resources).

6   In Hattie's synthesis, this comes under "metacognition". Hattie defines metacognition as "thinking about thinking … higher order thinking which involves active control over the cognition processes involved in learning" (2009, p. 188).

7   Usual progress was calculated from the asTTle normative sample achieved by students in writing in the matching year levels (years 4–8). See English, C., Bareta, L., & O'Connell, P. (April 2010). *Literacy Professional Development Project. Milestone Report to the Ministry of Education, April 1, 2010.* Wellington: Learning Media.
See also The University of Auckland (2011). *Tulaʻi Mai! Making a difference to Pasifika student achievement in literacy. Literacy Professional Development Project 2009–2010: Milestone 4, final report* (UniServices Task No. 22527.001). Auckland: Auckland UniServices Limited.

8   These students' rate of progress was compared to that of students in the lowest 20 percent of the asTTle normative sample in the matching year levels (years 4–8).

9   Timperley, H., & Parr, J., & Bertanees, C. (2009). Promoting professional inquiry for improved outcomes for students in New Zealand. *Professional Development in Education*, 35(2), pp. 227–245.

10 Timperley, H. & Parr, J. (2009). *Chain of influence from policy to practice.* Paper presented at ICSEI (International Congress for School Effectiveness and School Improvement), January 2009*.*
Dreaver, K. (2009). Creating a chain of influence: Enabling reciprocal learning from policy to practice. In *Improving learning for all: Learning from the Literacy Professional Development Project.* Wellington: Ministry of Education/Learning Media. Available from www.learningmedia.co.nz/our-services/focus-areas/research

11 In education, a smart tool is one that supports professional learning about how to advance student learning. Selecting, developing, and using smart tools was found to be a leadership practice that advanced valued student outcomes in the *School leadership/He kura rangatira BES*. Leaders select and design smart tools by ensuring they are based on valid theories and that they are well designed to serve their purpose. Tools are only designated 'smart' if the evidence indicates that they actually do advance valued outcomes for students.

12 O'Connell, P. (2010). Is sustainability of schooling improvement an article of faith, or can it be deliberately crafted? Unpublished doctoral thesis, University of Auckland.
O'Connell, P. (July 2010). Coherence and inquiry as key dimensions of sustainability. Paper presented at the 23rd World Congress of Reading, 12–15 July 2010. Available from www.learningmedia.co.nz/our-services/focus-areas/research

13 Timperley, H., & Parr, J. (2009). What is this lesson about? Instructional processes and student understandings in writing classrooms. *Curriculum Journal, 20* (1), pp. 43–60.

14 Timperley, H., & Parr, J., & Bertanees, C. (2009). Promoting professional inquiry for improved outcomes for students in New Zealand. *Professional Development in Education, 35*(2), pp. 227–245.

15 This section draws on *The New Zealand curriculum* and the parallel document, *Te Marautanga o Aotearoa*. It includes quotes and paraphrases from page 15 of *Te Marautanga o Aotearoa* and pages 9, 14, 16, and 18 of *The New Zealand curriculum.*
Ministry of Education (2007). *The New Zealand curriculum.* Wellington: Learning Media.
Ministry of Education (2008). *Te marautanga o Aotearoa.* Wellington: Learning Media.

16 Timperley, H., & Parr, J. (2009). What is this lesson about? Instructional processes and student understandings in writing classrooms. *Curriculum Journal, 20* (1), p 44.

17 In their LPDP research, Timperley and Parr paid considerable attention to the pedagogical content knowledge required to be effective teachers of literacy. For a summary, see Dreaver, K. (2009). It's all about the students: Helping students become self-regulated learners. In *Improving learning for all: Learning from the Literacy Professional Development Project.* Wellington: Ministry of Education/Learning Media. Available from www.learningmedia.co.nz/our-services/focus-areas/research

18 Timperley, H., Parr, J., & Hulsbosch, N. (2008). Coaching through feedback: A close and critical analysis. Paper presented at the American Educational Research annual meeting, New York, 24–28 March 2008. Available from http://instep.net.nz/coaching
Dreaver, K. (2009). Effective facilitation: Understanding and improving learning conversations with teachers. In *Improving learning for all: Learning from the Literacy Professional Development Project.* Wellington: Ministry of Education/Learning Media. Available from www.learningmedia.co.nz/our-services/focus-areas/research

19 Timperley, H. & Parr, J. (2009). What is this lesson about? Instructional processes and student understandings in writing classrooms. *Curriculum Journal, 20* (1), pp. 43–60. See also Timperley, H., & Hattie, J. (2007). The power of feedback. *Review of Educational Research 77* (1), pp. 81–102.

20 Kluger, A.N., & DeNisi, A. (1998). The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin, 119 (*2), pp. 109–38.

21 Newmann, R.S., & Schwaagner, M.T. (1995). Students' help seeking during problem solving: Effects of grade, goal and prior achievement. *American Educational Research Journal, 32* (2), pp. 352–76.

22 Timperley, H. & Parr, J. (2009). What is this lesson about? Instructional processes and student understandings in writing classrooms. *Curriculum Journal, 20* (1), pp. 43–60.