

This document is part of a set of materials for teachers and school leaders that summarises research articles and milestone reports from New Zealand's Literacy Professional Development Project (LPDP). The full set is available online at www.literacyonline.tki.org.nz

Online users can also access the hyperlinks indicated in blue in the text.

Improving Learning for All: Learning from the Literacy Professional Development Project



If the Teacher Is Clear about It, the Students Will Get It: Professional Inquiry for Teachers

■ ■ Wider Implications of the LPDP Learning

The primary purpose of professional learning for teachers is to improve the educational outcomes that we value for students, yet few of the initiatives that have been developed to foster professional learning have been assessed in terms of this purpose. The [Literacy Professional Development Project \(LPDP\)](#) has shown that when systematic self-monitoring is embedded within a professional learning initiative, teachers can be supported to develop the specific knowledge and skills they need to achieve the literacy outcomes they want for their students. The LPDP's approach is to employ expert facilitators to work with school leaders in directing collaborative inquiry into the particular learning needs of both the students and the professional staff in each school. The facilitators support and challenge teachers and school leaders to use a range of evidence, including student achievement information, to identify and understand:

- the learning needs of those for whose learning they are responsible;
- their own learning needs;
- the impact of any changes in practice that have resulted from new learning.

■ ■ Key Questions

As you read this paper, you may like to consider the following questions with regard to your own professional learning context:

- What does professional development that leads to improved student outcomes look like?
- Why is it important to assess the impact of teaching?
- What does an inquiry approach look like in teaching and how can we use this approach to develop the specific knowledge and skills we need to improve our students' literacy achievements?
- What are some of the key findings from research about professional learning?

■ ■ Main Source for this Research Summary

Promoting Professional Inquiry for Improved Outcomes for Students in New Zealand (Timperley, Parr, & Bertanees, in press)

■ ■ Background

From 2004 to 2007, the LPDP provided professional development for 2440 teachers in 218 primary schools with rolls ranging from 30 to 700 students. The project has had impressive results that place it among the most successful literacy interventions both nationally and internationally:

[For both reading and writing] the average effect size gain ... was ... equivalent to approximately twice the expected gain for all students in the country over the two years of the project. For the lowest 20% of students, the target group of students, the effect size was ... approximately four times the expected gain for all ... students [nationally] over the two years.

Timperley, Parr, & Bertanees, in press,
under *Student Outcomes for All Schools in the Project*, para. 1

The LPDP shares some characteristics with two widely established approaches to professional development – it promotes particular teaching practices, and it engages teachers in collaborative inquiry. But its leaders and researchers maintain that a key difference is that the professional inquiry within the LPDP is driven by students’ learning needs and that the LPDP’s impact is monitored against students’ literacy outcomes:

By linking inquiry into student learning to teacher learning, teachers can gain an understanding of what it is they need to learn to improve outcomes for students and have a compelling reason to engage. The development of pedagogical content knowledge is contextualised in a specific problem. Possibly its most powerful element, however, is the process of checking whether any changes in practice are having the desired impact on valued student outcomes.

Timperley, et al., in press,
Conclusions, para. 3

This approach of linking inquiry to student’s learning presents three main challenges for those who develop and implement educational policy. Firstly, it requires the sustained involvement of facilitators in schools for up to two years. This is in line with the findings in syntheses of the professional development literature in mathematics/science (Scher & O’Reilly, 2007) and across curricula (Timperley, Wilson, Barrar, & Fung, 2007), both of which indicate that at least one year is necessary to achieve significant changes in teaching practices and student achievement.

Secondly, such an approach cannot be based on a “one-size-fits-all” programme, with set content and activities. Instead, it assumes that teachers have varied learning needs stemming from their previous theories of practice, and as a result, it requires expert knowledge and flexible responses from facilitators:

Effective teaching requires responsiveness to students’ learning needs (Allington, Johnson & Day, 2002; Pressley et al., 2001). There is every reason to believe that effective professional development should do the same. Pre-determined programmes are easier for policy makers to control and professional developers to implement, but typically do not have the same impact on student learning.

Timperley, et al., in press,
Conclusions, para. 5

Finally, the approach requires the development of trusting relationships that enable all those involved in the LPDP to challenge each other's beliefs and practices while respecting each other's professionalism. In the broader environment, policy makers have to trust a process that in part relies on the responsiveness and professional judgment of facilitators. And in the school context, teachers have to trust that their school's leaders and the visiting facilitator will affirm that it is acceptable and normal to make mistakes and will support staff to learn from those mistakes.

All of these ideas are inherent in the Teacher Inquiry and Knowledge-building Cycle to Promote Valued Student Outcomes, which was first developed by the writers of the Best Evidence Synthesis iteration (BES) *Teacher Professional Learning and Development* (Timperley et al., 2007). The LPDP team has found this inquiry cycle useful for describing and understanding a typical learning journey for teachers and other participants in the project.

This research summary looks at the experiences of one school as it worked through several iterations of the inquiry cycle.

What Do Research and the Literature Tell Us?

In New Zealand, educators have always recognised that good teaching can make a difference to student achievement; but how much difference? In recent years, a number of studies have confirmed that quality teaching is the most significant influence that the education system can have on student achievement. For example, the Best Evidence Synthesis iteration (BES) *Quality Teaching for Diverse Students in Schooling* (Alton-Lee, 2003) concludes that up to 59 percent of the variance in students' achievement across classrooms and schools is due to the quality of the teaching and the learning environment those students experience.

If the quality of teaching is this critical, then effective professional development for teachers is obviously vital to ensure that teachers understand what they need to do to really make a difference for students. But across the world, teachers often find professional development irrelevant or unrewarding. For example, much of the professional development in the United States involves a "top-down" delivery approach. As discussed by Sparks (2004; cited in Timperley et al., in press):

"For far too many teachers in the United States, staff development is a demeaning, mind numbing experience as they passively 'sit and get'. That staff development is often mandatory in nature ... and evaluated by "happiness scales". As one observer put it, 'I hope I die during an in-service session because the transition between life and death would be so subtle.'"

under *Professional Inquiry for Improved Outcomes for Students*, para. 3

The BES *Teacher Professional Learning and Development* (Timperley et al., 2007) looked at several thousand studies of professional development but identified fewer than one hundred that made links between the professional development initiative that was conducted and student outcomes.

Broadly speaking, professional development aimed at improving teaching practice has tended to take one of two approaches:

1. It promotes particular teaching practices that have been tried elsewhere and found to enhance student achievement
2. It develops teacher reflection and collaborative inquiry.

For those taking the first approach, Timperley et al. (2009, page 4) reported "relatively small and highly variable" effects on student achievement, and they stated that any gains do not tend to be sustained once the providers leave.

The second approach indicates only a weak link to improvements in student outcomes, and such improvements appear to be the “exception rather than the rule” (Timperley et al., in press, page 5).

■ ■ Taking Part in Professional Inquiry

Hoheria School¹ is a small mid-decile contributing school in a large rural town in the South Island. For some time, the principal, the literacy leader, and three other teachers in the school had been aware that their students’ achievement in writing was below the national average. In an effort to address this, they took part in several professional development initiatives and tried to put in place the practices recommended by the initiatives but without success; their students continued to underachieve in writing. The school joined the LPDP hoping that this professional development project would help them to succeed in meeting their students’ needs in writing:

Trying to solve the achievement problem provided the motivation for the teachers to engage in the project.

Timperley et al., in press,
under [Inquiry into Students’ Learning Needs](#), para. 1

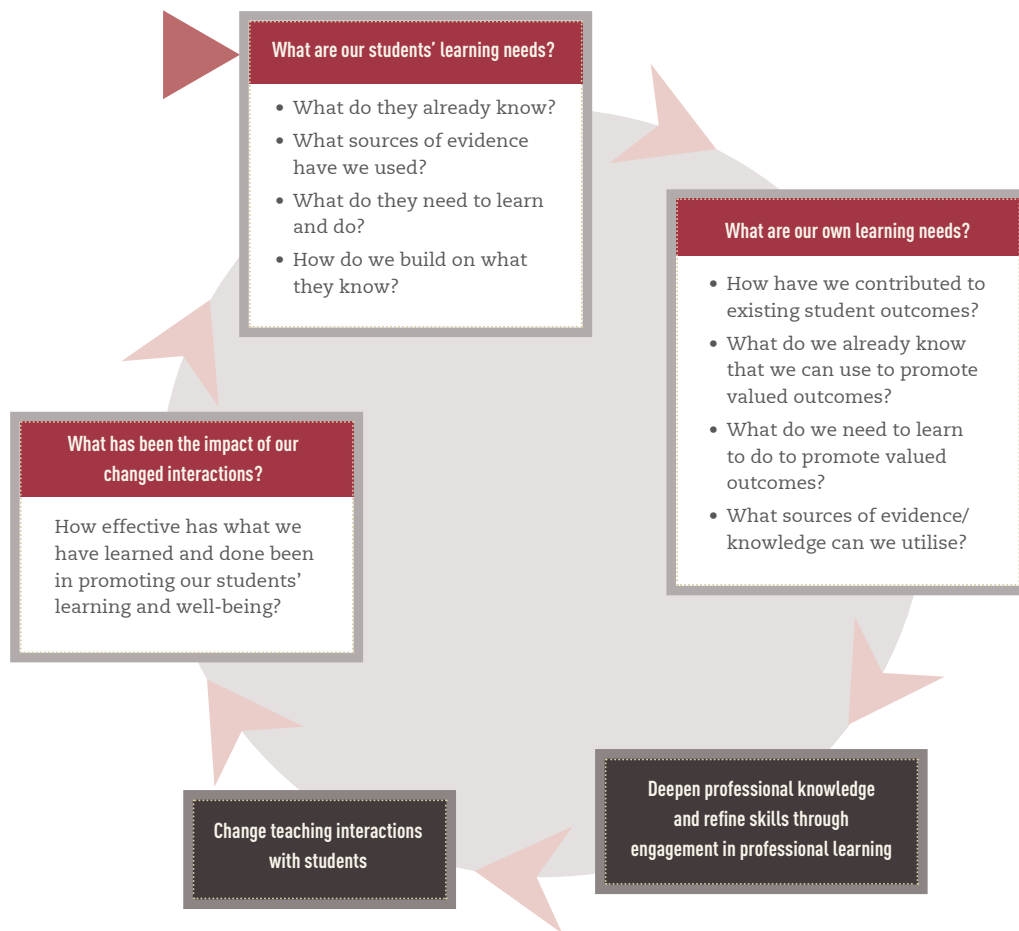
Participating in the LPDP was a major commitment for the school. The project lasted two years, all teachers were required to take part, and the principal and the literacy leader played a key role, for example, by conducting in-class observations. Throughout the project, a facilitator from the LPDP supported the school leaders and staff, and together they worked through several iterations of the inquiry cycle shown in figure 1 on page 5. This allowed them to:

- develop the skills of self-regulatory inquiry;
- build relevant content knowledge, pedagogical knowledge, and pedagogical content knowledge.²

¹ A pseudonym has been used in this instance.

² The research summary “[It’s All about the Students: Helping Students Become Self-regulated Learners](#)” discusses the relationship between content knowledge, pedagogical knowledge, and pedagogical content knowledge. Teachers blend their content knowledge with their knowledge of effective pedagogy to develop their pedagogical content knowledge; the specialised knowledge needed to teach effectively within a specific discipline.

Figure 1: Teacher Inquiry and Knowledge-building Cycle to Promote Valued Student Outcomes



Each stage of the inquiry cycle is discussed below. During all stages, external facilitators contribute their expertise, helping to ensure that questions are answered in depth and supporting the development of new knowledge and skills. The use of “we” in the questions is important as it recognises that a school is a community of practice and that inquiry is most effective when it is collaborative and when it reflects goals agreed on by the whole school.

What are our students' learning needs?

Asking this question at the beginning of any teacher professional development ensures that the teachers' learning will be grounded in their goals for their students.

At the start of the inquiry, Hoheria School gathered a range of assessment information in order to establish baseline information about their students' writing needs and to gain an understanding of how their students were achieving in comparison with the rest of the country. Drawing together and reflecting on this information enabled the teachers to identify the areas of writing where the students needed most help.

Assessment Tools for Teaching and Learning (asTTle) (Ministry of Education, ongoing) provided an important source of information and enabled the teachers to assess their students' achievement in writing in relation to national norms. The assessments confirmed what the teachers had been suspecting – their students were achieving below national benchmarks.

³ This cycle was first presented in the *BES Teacher Professional Learning and Development* (Timperley et al., 2007). Since then, it has been adapted slightly by the lead writer, Helen Timperley.

The asTTle results also provided quite specific information about the areas of writing where the students needed help:

In all classes, students were scoring at least one standard deviation below the national mean with lowest achievement in structure and language resources and highest in punctuation. ... these results confirmed what teachers had suspected but the more detailed information from the assessment assisted to develop their knowledge of the deeper features of students' writing and provided clearer directions about where they needed to focus their efforts.

Timperley et al., in press,
under [Deepening Inquiry into Student Learning Needs](#), para. 1

What are our own learning needs?

All teachers ask the inquiry question “What are our students’ learning needs?”, but often the answers they arrive at only inform their planning. The second question in the inquiry cycle, which asks them to consider their own learning needs, takes them further:

It asks them to reflect on how their particular approaches and teaching emphases have contributed to existing patterns of student learning and achievement in order to understand what is working and what needs to change. It specifically asks teachers to identify the knowledge and skills they need to promote students' learning and the bodies of evidence and sources of expertise on which they need to draw.

Timperley et al., in press,
under [The Theoretical Underpinnings of the Project](#), para. 10

At Hoheria School, in order to start answering this second inquiry question, the facilitator observed writing lessons taken by the literacy leader and the teacher of years 3 and 4 students. Although these two teachers had slightly different aims, they had planned their lessons together and both were focused on deeper features of writing, such as the audience, the content, and the structure. However, this focus was not evident in the teaching practices employed in the actual lessons:

Approximately 35 minutes of the 45 minute lessons were spent motivating students to generate content to write. Students spent only 10 minutes actually writing. Neither the learning aims of the lesson, nor criteria for success, were mentioned explicitly. Implicit criteria for success, evident through teachers' presentation of the task, discussions and feedback, rarely related directly to the lesson aims. Rather, they focused on surface features of writing. In addition, most feedback was in the form of non-specific praise.

Timperley et al., in press,
under [Inquiry into Teachers' Learning Needs](#), para. 2

During and immediately after the lessons, the facilitator interviewed a few groups of three students in each class. The resulting data showed that the students interpreted what they were supposed to be learning and the teachers’ feedback in terms of surface features of length, punctuation, spelling, and neatness.

The facilitator presented the results from the observations and student interviews at an all-staff meeting and began by summarising the teaching practices they had observed. Discussions revealed the teachers’ beliefs and preconceptions about teaching writing:

Not surprisingly, the articulated beliefs were primarily about the need to motivate students to write and to generate content to write about. These beliefs did not include teaching the skills and understandings involved in writing.

Timperley et al., in press,
under [Inquiry into Teachers' Learning Needs](#), para. 3

Next, the teachers addressed the question “How have we contributed to existing student outcomes?” They began by looking at the outcomes for the students as reflected in the students’ responses to the facilitator’s interview questions. The disparity between the teachers’ intended focus and the messages received by the students surprised the teachers. They agreed that the students’ misunderstandings about what they were supposed to be learning contributed to the students’ low achievement in writing and that the teachers’ own practices needed to change to avoid such misunderstandings. From this analysis, the teachers identified learning needs for themselves – they needed to improve their pedagogical content knowledge; that is, they needed to deepen their understanding of how to teach writing effectively. Specifically, they decided that “if they wanted the students to be clearer about the deeper features of writing and have self-improving strategies, then they needed to teach these attributes more explicitly” (Timperley et al., in press, *Inquiry into teachers’ learning needs*, para. 4).

As a final step, the teachers developed an action plan that had processes embedded in it to enable them to monitor the impact of their learning on their students’ learning. The principal later identified this process as being fundamental to the teachers developing a sense of ownership in the inquiry:

“... 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’s 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 et al., in press,
under *Reactions to the Process*, para. 2

What Do Research and the Literature Tell Us?

Donovan, Bransford, and Pellegrino’s (1999) synthesis of the evidence on how people learn is a key resource for those working in the LPDP. The research that Donovan et al. draw on relates to student learning, but the authors argue that the key findings apply equally to teachers. Three key findings emphasise the importance of:

- engaging with prior knowledge and preconceptions;
- developing a deep foundation of knowledge, using conceptual frameworks;
- taking control of one’s own learning through metacognitive and self-regulatory processes.

Engaging with prior knowledge and preconceptions

As learners, we all bring our existing knowledge and preconceptions to new learning situations. If that knowledge and those preconceptions aren’t recognised and engaged with, then learners may “fail to grasp the new concepts and information that are taught, or they may learn them for [the] purposes of a test but [then] revert to their preconceptions” (Donovan et al., 1999, page 20).

For teachers, the relevant prior knowledge and preconceptions are captured in the expression “theories of practice”. Theories of practice comprise a teacher’s beliefs and values along with how those beliefs and values are enacted in practice. Such beliefs and values are often the most significant drivers in a teacher’s everyday decision making, and when they are disregarded during professional development, the professional development usually goes nowhere:

Typical responses by teachers include rejection of new information because it does not fit with prior beliefs (Coburn, 2001) or over-assimilation whereby teachers believe that their changes in practice are consistent with what is proposed, when, in reality, the changes represent the new information in superficial ways only (Firestone, Schorr, & Monfils, 2004; Hammerness et al., 2005; Spillane, 2000).

Timperley et al., in press,
under *The Theoretical Underpinnings of the Project*, para. 3

Thus, in the first instance, it is important that professional development acknowledges and encourages teachers' theories of practice. Likewise, where and with whom the professional development takes place also need to be considered because these factors will impact on the teachers' theories of practice. Professional development often takes place "off site", and this may be entirely appropriate in some situations (for example, when exploring specific content within a discipline). However, it is important to recognise that learning cannot be separated from the context in which it occurs:

How a person learns a particular set of knowledge and skills and the situation in which a person learns become a fundamental part of what is learned.

Putnam and Borko, 1995, page 4

So, if teacher professional learning is focused on teaching practice, it is best situated within that practice; otherwise, problems may occur as teachers try to introduce in their particular classroom and school contexts practices that they have learned elsewhere and that are appropriate only in other contexts.

Deepen professional knowledge and refine skills through engagement in professional learning

The facilitator visited Hoheria School on six days over the first four months to help analyse student achievement data, conduct workshops, and facilitate professional reading. The school's action plan continued to develop in response to emerging needs. For example, the teachers all indicated that they would value structured classroom observations and feedback. In response to this desire, the facilitator took time to train the principal and literacy leader, who then conducted a number of observations in all classrooms. During and after each observation, students were asked what they understood the learning aims of the lesson to be, how they'd know if they had learnt what they were aiming to learn, and what they understood from their teacher's feedback. The observed teacher always participated in the analysis of the results from the observations, ensuring that they maintained a sense of ownership and control of their learning.

All teachers participated in group discussions in order to improve their understanding of how to teach writing effectively.

■ ■ What Do Research and the Literature Tell Us?

Developing a deep foundation of knowledge using conceptual frameworks

We do not learn by assimilating new knowledge and experiences as separate "units" of information; rather, we link them and integrate them with our earlier knowledge and experiences. The second key finding about learning is the importance of acquiring in-depth knowledge in ways that allow that knowledge to be readily retrieved and applied. This often involves using a conceptual framework to organise and underpin the knowledge and establishing a shared theoretical basis for discussions and decisions. In the LPDP, the Teacher Inquiry and Knowledge-building Cycle to Promote Valued Student Outcomes (see figure 1) provides a conceptual framework for thinking about collaborative inquiry, and the six dimensions of effective practice (Ministry of Education, 2003 and 2006) provide a way of organising thinking about the kinds of teaching practice that lead to improved outcomes for students.

Change teaching interactions with students

While the actual learning activities for staff took place outside teaching time, it is important to remember that the teachers' professional learning focused on looking at and understanding what was happening in the classroom. As the inquiry progressed and the teachers developed their understandings about effective pedagogy in writing and the impact of their practices on their students' learning, they changed their teaching approaches. In particular, they worked on being more explicit in the way they taught the deeper features of writing and in the way they taught the knowledge and strategies that the students needed in order to be able to monitor and improve their achievement using these features.

What Do Research and the Literature Tell Us?

Taking control of one's own learning through metacognitive and self-regulatory processes

The third key finding about learning concerns the importance of learners assuming control of their learning by setting goals and monitoring progress towards these goals. However, goals will only serve as motivators if they are clearly understood and accepted as valuable and important by the people who are responsible for achieving them:

Yet, an extensive review of professional development by Wilson and Berne (1999) identified that learning goals typically were neither identified nor shared between those offering the professional development and those receiving it. Similarly, Timperley et al. (2008), found that several studies with no or low impact on outcomes for students were based on the premise that there was a set of supposedly desirable teaching behaviours which should be implemented in the absence of a specific problem to solve or goal to achieve. We suggest that, as professionals, teachers should not be expected to change practice at the behest or advice of others unless it is agreed that some important aspect of the current situation can be improved through the adoption of alternative practices.

Timperley et al., in press,
under *The Theoretical Underpinnings of the Project*, para. 7

What has been the impact of our changed interactions?

Teachers need to monitor the impact of their teaching on a day-by-day basis. But they also need to assess over time the impact of deliberate changes in their practice.

The teachers at Hoheria School had found the students' answers in the initial interviews with the facilitator very revealing, so they decided to ask the same questions of the students two months into the inquiry:

The teachers reported that the students still gave confused answers about what they were supposed to be learning and the criteria for success. Consequently, the teachers decided that they needed to be still more explicit in their instruction and, in a subsequent check, reported that the students were better able to articulate their learning aims and the criteria for task mastery. By engaging in this checking process the teachers developed the skills to monitor the consequences of changes to their practice and to self-regulate their ongoing learning.

Timperley et al., in press,
under *Inquiry into the Effectiveness of Action*, para. 1

The teachers had come to feel a real sense of urgency in addressing their students' underachievement; they decided to reassess their students, using asTTle, after four months involvement with the LPDP rather than waiting the planned twelve months before reassessing:

The writing samples for all students at the school in Years 4, 5, and 6 that were completed at the end of this four month period showed significant gains for all year levels. The overall effect size was 1.03 (Cohen, 1988), equivalent to more than twice the expected national gain for a whole year. The reports for the separate curriculum functions showed that content, language resources and spelling dipped slightly below the mean compared with all New Zealand students but all other curriculum functions were above the mean.

Timperley et al., in press,
under [Outcomes for Students in Case Study School](#), para.1

The first four months had been a challenging time for the teachers at Hoheria School. Taking part in the LPDP had required them to identify their beliefs, some of which they hadn't previously been aware of, and to expose their practices to the close scrutiny of colleagues and the facilitator. So the significant improvements in student achievement were welcome news and confirmation that the challenges the teachers had risen to and the new approaches they had adopted were making a difference where their previous teaching hadn't:

They reported that they no longer needed to spend most of the lesson motivating the students to write, and so were able to spend more time explicitly teaching how to write with focused learning objectives and mastery criteria. The use of these more explicit techniques had provided sufficient motivation in and of themselves for the students, so they did not need to spend so much of the lesson in alternative motivational activities. As a result, the students had more time to write.

Timperley et al., in press,
under [Reactions to the Process](#), para. 1

Now that you have read this research summary, you may like to refer back to the [wider implications](#) and [suggested key questions](#) sections at the start of the summary to think about how you might use the summary as a springboard for professional learning in your own context.

References

- Alton-Lee, A. (2003). *Quality teaching for diverse students in schooling: Best Evidence Synthesis iteration (BES)*. Wellington: Ministry of Education. Retrieved 10 August 2009 from www.educationcounts.govt.nz/publications/series/2515/5959
- Donovan, M. S., Bransford, J. D., & Pellegrino, J. W. (Eds.) (1999). *How people learn: Bridging research and practice*. Washington, DC: National Academy Press.
- Ministry of Education (2003). *Effective literacy practice in years 1 to 4*. Wellington: Learning Media.
- Ministry of Education (2006). *Effective literacy practice in years 5 to 8*. Wellington: Learning Media.
- Ministry of Education (ongoing). *asTTle: Assessment Tools for Teaching and Learning: He Pūnaha Aromatawai mĀ te Whakaako me te Ako*. Auckland: The University of Auckland School of Education. See www.tki.org.nz/r/asttle/
- Putnam, R. T. & Borko, H. (1995). Expanding a teacher's knowledge base: A cognitive psychological perspective on professional development. In T. R. Guskey & M. Huberman (Eds.) *Professional Development in Education: New Paradigms & Practices* (pp. 35–66). NY: Teachers College, Columbia University.
- Scher, L. & O'Reilly, F. (2007). Understanding professional development for K-12 teachers of math and science: A meta-analysis. Paper presented to the American Educational Research Association Annual meeting, April 2007.
- Timperley, H., Parr, J., & Bertanees, C. (in press). Promoting professional inquiry for improved outcomes for students in New Zealand.
- Timperley, H. S., Wilson, A., Barrar, H., & Fung, I. (2007). *Teacher professional learning and development: Best Evidence Synthesis iteration [BES]*. Wellington: Ministry of Education. Retrieved 10 August 2009 from www.educationcounts.govt.nz/publications/series/2515/15341

Acknowledgments

The Ministry of Education would like to thank all those who contributed to these materials, in particular:

- all LPDP facilitators and all schools who have participated in this research;
- Judy Parr, Helen Timperley, and their research team at Auckland University;
- Pam O'Connell, Lyn Baretta, and Carolyn English, LPDP Project Directors at Learning Media.

Writer: Kate Dreaver
Editor: Bronwen Wall
Designer: Penny Newman

The diagram on page 5 is copyright © Crown 2007.
Quotations are copyright © their respective authors.

Published 2009 for the Ministry of Education by Learning Media Limited,
Box 3293, Wellington 6140, New Zealand.
www.learningmedia.co.nz

Copyright © Crown 2009
All rights reserved.
Enquiries should be made to the publisher.

ISBN 978 0 7903 3468 4
Item number 33468