

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



Coherence and Inquiry as Key Dimensions for Sustainability of Professional Learning

Wider Implications of the LPDP Learning

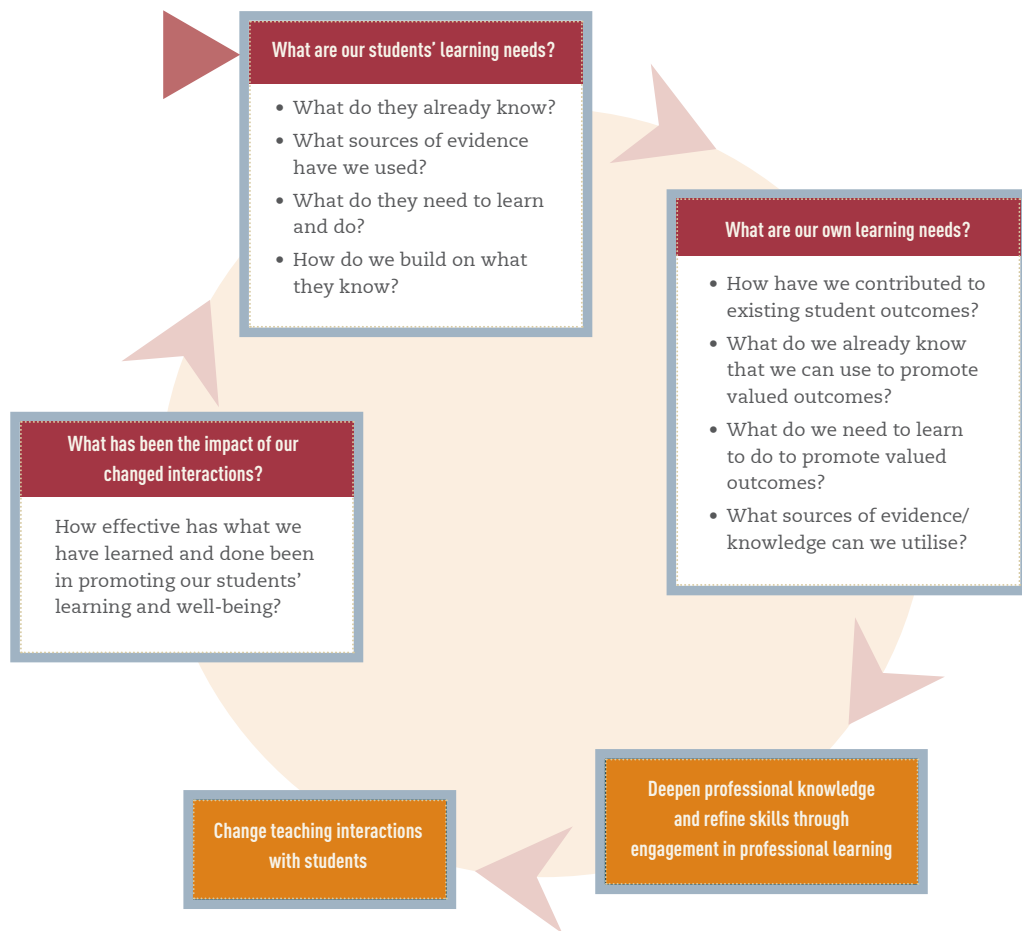
Issues of sustainability have moved to the forefront of discussion amongst those concerned with designing, resourcing, and implementing effective professional development. Large-scale educational reform is expensive; there is increasing accountability for improving student achievement outcomes (Konstantopoulos & Hedges, 2008) as well as ensuring that these gains last well beyond the timeframes of the intensive support from external agencies. However, the research literature exposes sustainability as a problematic notion, since an overabundance of ideas about school-based and system conditions has been reported and very few studies connect these circumstances to ongoing achievement of student outcomes (Timperley, Wilson, Barrar, & Fung, 2007). Nor is there agreement on the definition of sustainability, whether it is measured primarily by particular practices being evident over time (Century & Levy, 2002) or by ongoing and improved student achievement (Timperley et al., 2007). Researchers have rarely looked at sustainability in terms of more than one intervention, at the intersection points as one project melds with the previous one, or when new initiatives take over.

This study on sustainability was situated within the [Literacy Professional Development Project \(LPDP\)](#), funded by the New Zealand Ministry of Education and undertaken as part of the embedded research programme that supported the project. The findings suggest that educators' perspectives and practices about sustainability were largely:

- limited to a single domain such as literacy, failing to expose the connections about effective pedagogies between other professional learning projects;
- focused on *maintenance* rather than improvement of newly developed practices;
- limited to using the evidence-based practices that they had learned in the LPDP (such as collaborative examination of students' assessment data to support decisions about next steps for their students' learning and lessons that made the learning more explicit for their students).

In other words, schools engaged in an inquiry cycle with new cohorts of students without necessarily refocusing on those students who had not made sufficient gains and without engaging in further learning for teachers. Figure 1 shows a version of the inquiry and knowledge-building cycle adapted by the lead writer of *Teacher Professional Learning and Development: Best Evidence Synthesis Iteration* (Timperley et al., 2007.)

Figure 1: Teacher Inquiry and Knowledge-building Cycle



Adapted from the *BES Teacher Professional Learning and Development* (Timperley et al., 2007)

What this study found, was that if teachers applied what they had learned in *systematic* ways then this appeared to be a sufficient threshold to support outcomes for new cohorts of students that were *similar* to gains in student achievement while participating in the LPDP. Whereas, when schools engaged in an iterative inquiry, re-focusing on persistent issues of underachievement that still existed, investing in continued knowledge-building and establishing coherence of instructional practices across curriculum areas, they *improved* on their achievement gains over time.

Key Questions

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

- What is your role in ensuring that professional learning results in sustained shifts in student achievement?
- What is meant by inquiry at system and school levels? What will you look for to ensure that inquiry is an iterative construct for professional learning that leads to sustainability?
- What is meant by coherence at system and school levels? How do you ensure that each person's learning is connected and aligned to what we know is effective for all learners?

■ ■ Main Sources for This Research Summary

Is Sustainability of Schooling Improvement an Article of Faith, or Can It Be Deliberately Crafted? (O'Connell, 2010)

Improving learning for all: Learning from the literacy professional development project. This set of research summaries is found at: <http://literacyonline.tki.org.nz/Literacy-Online/Teacher-needs/Professional-support/Professional-development-and-support/Literacy-Professional-Development-Project-LPDP>

■ ■ Background

Each cohort of schools that participated in the LPDP over 2004–09 has been successful in raising student achievement beyond expected gains. The first cohort, providing two data points (N = 91), completed two years (2004 and 2005). The average effect size gain (that is, relative to where they started) for schools that chose to focus on writing (data from a moderated sample of 1064 students) was 1.28 and for reading (data from 3787 students) was 0.87. Moreover, for those students in the lowest 20 percent at Time 1, the gain was more marked. In writing, the effect size gain was 2.05, and in reading, 1.97 (Bareta & English, 2006). An independent review of these data confirmed these results (McDowall, Cameron, Dingle, Gilmore, & MacGibbon, 2007).

However, in 2006, when another cohort of schools was about to begin the journey with the LPDP, the project team were still unsure whether the shifts made in teachers' knowledge and pedagogy in the previous cohort would be sufficient to support achievement gains for future cohorts of students: they simply needed to know. Would the learning that had been undertaken with the research team and the extraordinary efforts made by facilitators, school leaders, and teachers be enough to ensure ongoing impact? While the LPDP had paid particular attention to the existing research literature about sustainability, the project was operating in the "act of faith" paradigm, aptly described in the *BES Teacher Professional Learning and Development* (Timperley et al., 2007).

Therefore, a sustainability study was launched in 2006 to track a sample of schools that had participated in this first cohort to determine if, and how, the gains in student achievement and shifts in leaders' and teachers' literacy knowledge and practices had been sustained. A second purpose for this research was to define more precisely the nature of sustainability and the relationship between, and relative importance of, particular components that research literature tells us are necessary conditions for sustainable professional learning programmes.

Two interrelated studies were undertaken. Study 1 examined sixteen schools, tracking students' literacy achievement and participants' actions in the two years following their participation in the LPDP.

Ten of the thirteen schools that presented their data maintained or improved their gains in student achievement with new groups of students. Study 2 investigated four of these schools in more depth over 2006–08 in order to further probe the school-based conditions that might differentiate schools that did not sustain their results, those that maintained similar shifts, and those that improved their students' achievement results with new cohorts of students.

■ ■ What Do Research and the Literature Tell Us?

Sustainability of reform has most often been characterised in the literature as an endurance test for educators. School leaders and teachers are left on their own to weather the “tempests” of reduced funding, shifting educational priorities, and the constant turnover of teachers and leaders (Wood, 2007). So there are many warnings but few guidelines for schools to follow after the implementation phase of any professional learning initiative. There are even fewer descriptions of how schools “bridge or buffer” the shifting political priorities (Datnow, 2005; Honig & Hatch, 2004). Nor does the research literature provide guidance about what sort of progress new cohorts of students might be expected to make after external supports have been withdrawn.

However, a broad range of school-based conditions is offered in the research literature on sustainability. These include:

- leadership for improvement (Fullan, 2006; Hargreaves & Fink, 2006; Robinson, 2007; Spillane, 2006);
- inquiry skills (Earl & Katz, 2006; Reid, 2004; Lai et al., 2009);
- sufficient depth of content and pedagogical knowledge (Elmore, 1996, 2002a; Parr & Timperley, 2006);
- communities of practice that enable ongoing and shared ownership for improvement in student outcomes (Elmore, 2002a; Lima, 2001);
- learning processes for teachers that penetrate teacher beliefs about learning and the efficacy of the practices they engage in so that principled knowledge can be transferred to different contexts and curricula (Timperley et al., 2007).

The issue for educators is to work out how to balance and apply these conditions to professional learning design, to identify which is more influential in supporting sustainable changes in schools while acknowledging that context matters in all engagements with teachers. This substantive literature does not offer a framework with which to integrate these conditions so that they do not become a single focus or a list of actions to support sustainability of reform. The literature on sustainability typically focuses on one level for reform such as the system (Datnow, 2005; Levin, Glaze, & Fullan, 2008; Supovitz & Taylor, 2005) or school level, (Lai et al., 2009; Timperley & Phillips, 2003) rather than a model that impacts on thinking at all levels.

The final theme raised in the research literature in relation to sustainability of professional learning is focused on coherence and alignment of the messages that schools receive about effective instruction. These messages are carried by many means: policy, curriculum materials, professional learning programmes, professional organisations, assessment systems, and individuals (Stein, Hubbard, & Toure, 2008). Researchers have examined the notion of coherence at both school and system levels to determine its importance in schooling improvement. At both levels, coherence has been described and examined in different ways. For instance, researchers may view coherence as the alignment of effective teaching and learning practices across curriculum programmes or as the development of consistent and effective practices within a single subject domain.

■ ■ What Do Research and the Literature Tell Us?

Elmore (2002a) describes coherence as the connection between the “big ideas” about improved practice and the “micro-world of teaching practice” (p. 29). These big ideas may compete or conflict and so they must be processed or resolved in some way so that teachers can lift their thinking beyond the practices to the underlying principles that they represent. In this way, a school can develop a coherent set of principles and practices, both shared and explicit, which are regularly tested for their efficacy in improving outcomes for all students. Elmore also argues that professional development is a collective good rather than a private or individual good. Its value should be judged by what it contributes to the quality of instruction in the school and school system.

Newmann, Smith, Allensworth, & Bryk (2001) found a strong positive relationship between improving programme coherence and improved student achievement in their sample of more than two hundred Chicago schools.

■ ■ A Conceptual Model for Sustainability to Guide the Research

Based on what is currently argued in the research literature on sustainability, it seems reasonable to collapse these divergent themes into two dimensions that are more closely interwoven and can potentially impact on learning at two or more levels of the system because learning at one level needs to be supported by learning at another. (See the [Creating a Chain of Influence: Enabling Reciprocal Learning from Policy to Practice](#) research summary, 2009.) These levels include learning for individual teachers, for school leaders, for school communities, for professional development facilitators, and for policy makers. The two-dimensional model in Figure 2 served as a framework for the research on sustainability.

Co- and self-regulated inquiry practices for improvement

The first dimension of the conceptual framework is an orientation for teacher and system learning that enables co- and self-regulation for improvement. This dimension conceptualises teacher change in terms of teachers carrying out authentic inquiry into problems of practice and student achievement that requires deeper analysis with each new cycle of inquiry. (See the [If the Teacher Is Clear about It, the Students Will Get It: Professional Inquiry for Teachers](#), research summary, 2009.) The inquiry dimension in the LPDP research summaries differentiates between those schools that engage in a recursive inquiry, where they ask the same questions of their student achievement data as they did the year before, and those that work iteratively, connecting each ongoing inquiry and asking different questions as they begin to pinpoint groups of students that still need attention, as well as testing their assumptions and linking their teacher practices to the impact on achievement. Emerging literature defines sustainability as transcending maintenance of recently learned practices to building capability to be successful in new and demanding contexts (Century & Levy, 2002; Wood, 2007).

Coherence of effective instructional practices

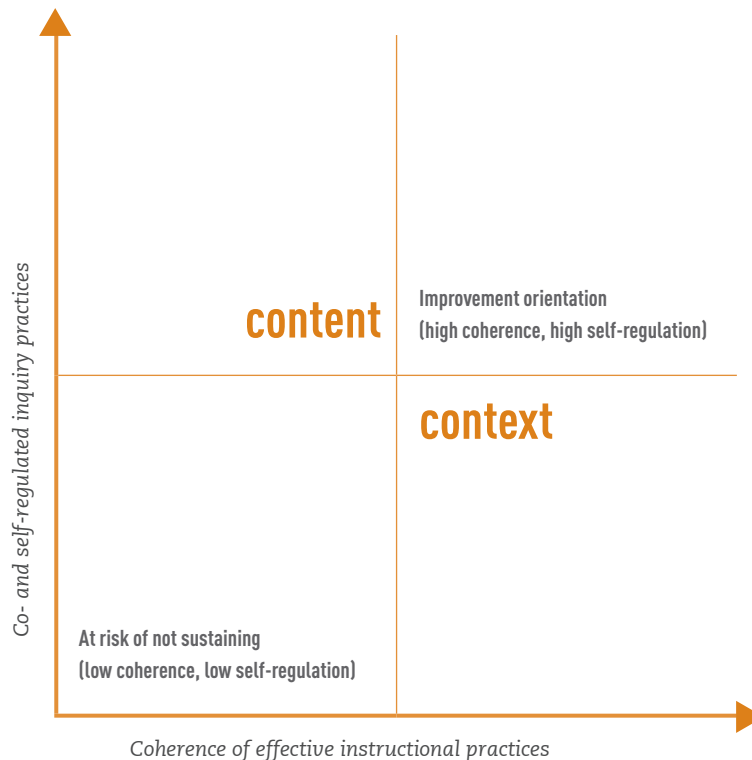
The second dimension is the degree to which the professional development programme is integrated into coherent, effective instruction across the curricula in a school. In other words, each professional learning initiative promotes new practices and ideas about effective teaching, and individual teachers build their knowledge of effective practices over time and meld them to their own contexts (Spillane et al., 2002).

What Do Research and the Literature Tell Us?

Transfer of strategies across curriculum areas occurs where teachers find them effective for students. For instance, the assessment for learning research literature actively promotes transfer of formative assessment strategies across the curriculum to support improved student outcomes (Black & Wiliam, 1998). Thus, the view promoted in the LPDP sustainability study argues that the lens for sustainability should be broader than a single professional learning project and focused across projects within the system or within a school.

Figure 2 incorporates these dimensions on two axes. Each axis represents a continuum of understandings and practices that may be present in the school. The horizontal axis describes the development of effective and coherent classroom instruction. One end of this continuum might begin with a perception of professional development projects as disparate, each concerned with its own set of changes to knowledge and pedagogy. The other end may represent a stance that can allow teachers to make connections across projects and to explore and understand the beliefs that exist about the nature of effective pedagogies. The vertical axis is about inquiry into issues of learning and achievement. It encompasses the development of a professional learning community in a school, starting with learning activities and structures that support teachers to learn from and with each other, and with experts in an ongoing way. This continuum works towards an inquiry culture where teachers can self-regulate their practices, both as individuals and as a community, to support ongoing improvement in student outcomes (Timperley et al., 2007). In other words, inquiry is ongoing and leads to more focused investigations and better questions (Earl & Katz, 2006). The curriculum content knowledge of the professional development project serves as the backdrop to these axes, as does the rich context of each school.

Figure 2: Conceptual Model for Sustainability



This model provides a framework to evaluate whether professional learning has been sustained, at the same time expanding the notion of sustainability beyond the context of a single professional learning project. Its purpose is to focus closer attention on whether schools “craft” their new learning and practices onto a coherent set of principles about effective instruction, within and across the curriculum. The model supports a definition and theory of practice for achieving sustainable school improvement that can be used by all levels in the system. The model is underpinned by four key assumptions derived from this literature on sustainability. These assumptions are:

- Sustainability is *measured* by continuous improvement in student achievement, particularly for those students whose patterns of achievement place them at risk of not meeting expected levels over time;
- Any *adaptation* of professional learning programme practices over time, and any new programmes and practices, are explicitly reviewed against the principles of effective instruction that are supported by research as improving learning and achievement and that are tested for their efficacy using school-based inquiry and *knowledge-building* improvement processes;
- A professional learning project contributes to the overall *coherence* of effective instruction in a school (and is not “sustained” as a single entity) and to the knowledge and practices of individuals in that school that relate to effective schooling improvement;
- Sustainability of effective practices and continuous improvement in student achievement requires *strategic action* in schools and by policy makers to make coherence explicit in order to offset the impact of teacher and leader attrition, any reduction of funding, and changing educational priorities.

This framework of sustainable improvement also assumes that the critical focus for each curriculum professional learning project needs to be on developing teachers’ pedagogical and content knowledge. The theoretical framework promotes recognition and transfer of pedagogical knowledge across professional learning projects so that new practices and the beliefs that underpin them are aligned and further strengthened. Understanding this coherence can avoid the creation of separate processes for each project in the wake of their implementation period, and can instead promote commonality of purpose in improving existing infrastructures.

This model shaped the design of the research instruments used in this study and supported the analysis of the data gathered in sixteen schools that had participated in the first cohort of the LPDP as they set out to sustain the gains they had made.

■ ■ Taking Part in Professional Inquiry – the Method and Questions

Sixteen schools in Study 1 had agreed to participate in a site visit in 2006 and were asked to submit their students’ assessment data over 2006–07 using the same focus as teachers had worked with as part of the LPDP.

Study 1 investigated the theories of action held, and practices demonstrated, by school leaders, teachers, and students related to establishing sustainability. Principals and literacy leaders in the sixteen schools were asked to explain their beliefs about sustainability and what they might talk with their colleagues about in relation to sustainability of the LPDP. School leaders and teachers were asked to describe the key messages they had gained from the project and what indicators they might see if these messages were being sustained in their classrooms. Leaders and teachers were asked to describe, if any, the links that they were making between the ideas in the LPDP and

the other key professional learning projects that they had been, or were currently, participating in.

In Study 2, four schools were selected from the sample to participate in ongoing site visits in 2007–08, providing a feedback loop in the research design and allowing an opportunity to check on previous data. Mixed methods were used in a case study approach in both studies so that influences of real-life contexts and participants' beliefs and values could be revealed as part of the analyses of conditions in these schools. By reducing the numbers of schools to four, it was possible to widen the focus from just literacy and the LPDP to the teaching and learning of numeracy as well. Each of the schools in Study 2 had presented with different combinations of the Study 1 analyses around coherence and inquiry and had distinctively different contextual and outcome variables.

The patterns of students' literacy achievement were tracked in each participant school, using either the STAR assessment or the asTTle writing data, over 2004–07 for Study 1 and over 2004–08 for Study 2. Taking into account the particular nature of each of these assessment tools and varying entry points of achievement for new groups of students, a benchmark was established for each tool to designate whether each school had sustained the rates of progress for successive cohorts of students. A second lens was applied to these data to differentiate between those schools that had sustained their students' achievement gains – whether they had maintained similar rates of progress or markedly improved on their rates of progress for new groups of students.

■ ■ What Are Our Findings?

Did schools sustain their gains in literacy achievement?

By the end of 2007, ten of the thirteen schools that presented data sustained their gains, three schools reduced the rate of progress according to the benchmark criteria (although students had still improved beyond expected levels of progress), and three schools did not present their data. Three of the four schools in Study 2 had sustained their student achievement gains according to the benchmark criteria after two years. After three years, two of these three schools had improved on rates of progress for new cohorts of students.

These results were impressive given the nature of the contextual factors at work in each school. All but two schools had experienced some turnover of staff or leaders, seven out of sixteen schools had embarked on new professional learning priorities in the year immediately following their participation in the LPDP, and none had access to the extra funding that they had utilised to release teachers for observation, modelling, and feedback learning experiences. External demands also impacted on schools. The Ministry of Education had released a new national curriculum and a set of literacy learning progressions for students in years 1–10 in the same period. So these schools had sustained their gains in the face of all of those factors that researchers warn may derail them. Most school leaders had taken deliberate actions to maintain and spread the LPDP practices in those years.

What was surprising was that the school that experienced the highest teacher turnover of the four schools had ongoing and improved achievement gains for three cohorts of students in reading comprehension. As well, a school that took up a new professional learning focus immediately after their exit from the LPDP also improved on the student achievement gains they had made in 2004–05. Another school that had continued their focus on literacy professional learning in both 2006 and 2007 actually reduced their gains after two years, only picking up gains in student achievement when they re-entered the LPDP in 2008. Students' progress in 2006 had outstripped the previous cohort but fell away dramatically in the second year. The loss of a literacy leader without classroom responsibilities and the external pressure of involvement in school cluster data gathering appeared to delay momentum and impact heavily on sustainability.

Schools held self-limiting perceptions of sustainability

Most principals and leaders described sustainability as operating at more than one level in the school: at the organisational and classroom level. However, in the main, they were concerned about “consistency” and about “ongoing use” of processes. Their perspectives for sustainability were concerned with breadth rather than depth. Evidence-based practices were less emphasised, but still prominent across responses from principals, literacy leaders, and teachers. Very few leaders or teachers described sustainability within an improvement paradigm, or even used the term “inquiry” in their responses.

The responses below illustrate how most participants confined their thinking to the literacy domain and to maintaining what they had learned in the LPDP.

The structure of the lesson really, I suppose, making sure that ... the children are very, very aware of what you're trying to do in a particular session, maybe the big picture intention, but also the specific learning intention for that particular day. Using quality models so that students have a model that can either be unpacked or shared. Success criteria. Co-constructing success criteria, maybe based on the model. (Leader, School I, 2006)

As a classroom teacher, using the asTTle task for example, using that evidence to look at individual needs and being able to group students according to these needs ... So actually a change from taking writing as a whole class to using group structure as well ... And the analyses of the data, not the data themselves. To give the direction and the focus. (Leader, School A, 2006)

[W]e have also last term trialled peer observations where we modelled the observation sheet with teachers, and we asked them to be looking for things like planning, clear learning intentions – that kind of construction of success criteria – and so on. So there were key bullet points when they went in for observation, and we hope that that deliberate planning and teaching of reading will be reflected in our achievement. (Principal, School K, 2006)

O'Connell, 2010, pages 83–84

Leaders and teachers were asked to nominate any links they were making between the LPDP and professional development projects they had recently participated in or were currently involved with. The most common connections to the LPDP were made between assessment initiatives and the Numeracy Development Project, and these were about the use of explicit teaching.

[T]he main one has been learning intentions and success criteria, which isn't a new concept, but we've now got it ..., [and we are] far more focused on the specific [learning]. And success criteria – we've developed [these] with students to form self- and peer assessment [activities] ... Children are far more actively involved in goalsetting as a result of that. (Literacy leader, School K, 2006)

O'Connell, 2010, page 89

Most leaders did not identify the use of evidence to determine next teaching steps as a connection between learning in different projects, and even fewer saw links about the use of data to measure the effectiveness of teaching practices. Just over 14 percent of the descriptors about links between projects even reported non-alignment, mostly over the idea of student-led inquiry that might impact on opportunities for the direct teaching of literacy and numeracy skills and knowledge.

No, if anything they sort of clash. Isn't that terrible? Because you know the inquiry learning thing would almost override if we did it in its pure form, it would override our programmes in numeracy and literacy, and so writing could be just contorted to whatever the inquiry was. (Principal, School F, 2006)

O'Connell, 2010, page 90

Evidence-based practices led to maintenance of outcomes for students

Evidence-based teaching and effective literacy practices learned as part of the LPDP were seen as the drivers for supporting improved practices and sustained outcomes for students. There were many examples of the idea that teachers and schools must base their decisions for teaching practices on evidence of students' needs derived from assessment data. However, this fell well short of the core belief of the LPDP that inquiry into student achievement must also be an iterative and self-regulated process, used to reveal further gaps in teacher knowledge in order to support those students who were still not making progress.

In these circumstances, ten of the thirteen schools that presented their students' literacy data for 2006–07 had sustained their student achievement according to the benchmarks for sustainability set out in the study. The common factor across these ten schools was their systematic approach to evidence-based decision making. They were gathering assessment data and analysing that data collaboratively in ways that helped them to support the next steps in their students' learning. They maintained their focus on deliberate instruction using formative assessment strategies.

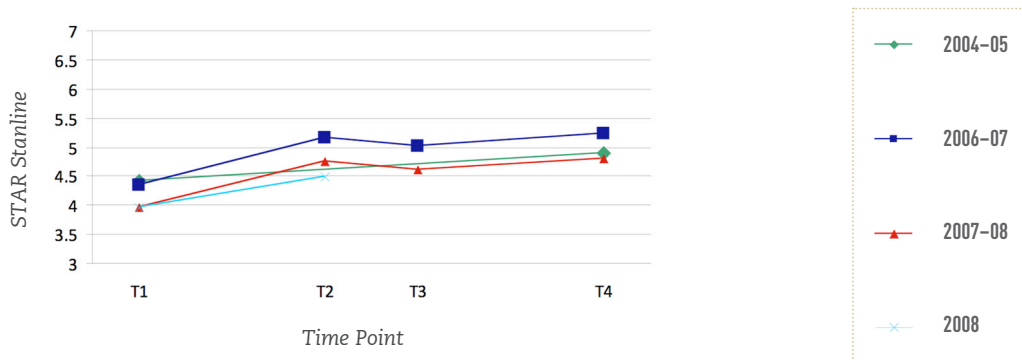
Inquiry and coherence practices led to ongoing improvement for student outcomes

Study 2 of the research into sustainability of the LPDP revealed that some of the schools were able to further improve on the gains they made with new cohorts of students beyond what they had done while participating in the project. The case study below describes in more depth the two dimensions of inquiry and coherence that were observed in School L.

Patterns in student achievement over time

Figure 3 illustrates successive cohorts of students in School L over 2004–08, each line tracking mean stanine results in STAR reading comprehension for a cohort of year 7 students from the beginning of their first year in the school until the end of year 8. The 2008 cohort, however, represents just year 7 students over one year and has been included so that three successive cohort patterns of achievement could be compared with that of 2004–05.

Figure 3: School L Average Stanine Level For Different Cohorts Showing Progress over One to Two Years of Schooling



In 2006–07, the mean stanine gain for students almost doubled compared to the previous cohort (0.91 stanine gain [n=136] compared to 0.48 stanine in 2004–05 [n=206]). After that, successive patterns of student achievement for new cohorts of students beginning in 2007 and then 2008 remained relatively static, with mean stanine gains of 0.82 and 0.52 (the latter after one year) respectively. Additionally, the entry point levels of year 7 students in the 2007 and 2008 cohort were on average 0.35 stanine lower than for the two previous cohorts, so the challenges for teachers were even greater in these circumstances. School L had sustained and improved their achievement gains over the period 2004–08.

Inquiry for improvement

Persistent focus on underachievement at each inquiry cycle

School L was refocusing on those students who were still not achieving at each cycle of their data collection, and this reflected more of an inquiry for improvement approach:

Our STAR data, we used that as a sieve ... so anyone below a stanine 3 ... in any class has a running record and that's specifically for teachers to find out more about ... these students' reading behaviours, why things are happening, why they are not happening. (Literacy leader 1, School L, 2007)

Teachers were supported to set more finely tuned student goals as a result of data analysis, and leaders recognised that teachers needed professional support for this task. A memo to staff about STAR testing provided a template for STAR data and their translation to learning goals. The memo also provided information about links between data and the needs of students for each of the subtests.

The school's literacy leader had identified a worrying trend in their year 8 student data over two years in reading comprehension. These students were not making the same progress as they had in the previous year, "particularly in the second half of the year". The report to the board of trustees and a special memo to teachers in March 2008 raised the issue and provided some theories as to why this may have been occurring. She did not necessarily focus on factors such as student motivation or learning behaviours. Instead she raised possibilities about teaching practices, stating, "Maybe as students become better readers, progress is harder to achieve (we've done the easier changes in year 7)." (memo to year 8 teachers, April 2008)

The literacy leader then required teachers of year 8 students to develop an action plan for each classroom and provided them with some teaching strategies that they could action and monitor.

Inquiry practices in the classroom

Other templates provided in the teachers' school reading instruction booklet scaffolded more informal individual inquiry and included ways to monitor the impact of new practices, suggesting daily checks such as undertaking a "quick survey of target students' work", having a "mental focus on one student", or "interviewing two students during the lesson". So, after two years, inquiry as an individual pursuit had been adjusted from a formal project requirement to being integrated into more informal classroom routines.

Distributed leadership to support sustainability

In School L, it was clear that the deputy principal, working in concert with the literacy leader and numeracy leader, was reinforcing and amplifying an inquiry-minded approach in the school. For example, the deputy principal had established new routines for monitoring instruction:

That's a requirement, that all weekly planning comes in to me either digitally or in paper form every week ... And I comment on specifically the meeting of group needs in literacy and specifically the meeting of group needs in numeracy ... I'll do informal walk-throughs where I'll just check that the group work and the planning have been followed. (Deputy principal, School L, 2008)

Meanwhile, the literacy leader undertook to do all of the classroom observations, rather than this being shared with other leaders, as it had been during the LPDP. Expectations of what should be observed in every classroom were published in memos to teachers before the visit. In this way, the teachers all received individualised feedback on their practice from a specialist literacy practitioner, which continued to deepen their content and pedagogical knowledge. Teacher data were also collated in the same manner as they had been in the LPDP so that a school-wide lens remained as a measure of the quality of literacy instruction; these data were triangulated against student achievement data.

Coherence requires connectedness and consistency

Explicit links between professional learning projects

The principal had articulated that a key reason for moving to a new numeracy focus in 2007 was to build links across the two projects about learner needs and teacher responses. Literacy leaders had reiterated that this transfer of ideas was already occurring among teachers:

"I want my maths teaching to be as informed as my [literacy] teaching" ... [and] "I am finding it so difficult to know what to do with these kids when I don't have data to support my teaching decisions." (Literacy leader, School L, 2006)

The numeracy and literacy leaders were asked whether they were making connections between the projects for teachers and students. They described a number of practices that were now being shared across these subject domains. For example, they reported that the "modelling book", first used in the Numeracy Development Project, was also being used in literacy contexts as a way of keeping track of learning intentions and teaching exemplars for each instructional group. The deputy principal outlined similarities across numeracy and literacy, such as evidence-based teaching, understandings of the progressions that students make in their learning, and teaching to groups with similar strengths and needs.

Codifying effective practices

While some aspects of the LPDP had not endured in their same form, fidelity to the core beliefs and principles of the project remained evident in School L, despite the fact that only seven teachers out of eighteen had actually experienced the learning firsthand. The extensive "handbook" for teaching reading, devised by the literacy leader and supplied to each teacher, supported consistency of effective practices particularly for those new to the school. In a sense, this handbook codified what had been learned in the LPDP. It contained research articles sets of deliberate teaching responses to particular assessment findings from the STAR and other reading tests, school

action planning for literacy, and the school and teacher inquiry models. Much of its content had been gathered from the LPDP, but school ownership was obvious with its up-to-date action plan and personalised comments from the literacy leader. One of the teachers interviewed in 2008 referred to this resource as “their bible” for reading instruction.

Connecting learning in the classroom

There was a striking similarity in the language one teacher used with each group across her numeracy and literacy lessons. For example, she asked one student, “What was the guide that you had in your head when you made that decision to go to this number?” Then, in her reading lesson, she asked her instructional group, “What sort of pictures came into your mind when you had a title like that in your story?”

Not surprisingly, when asked about what their teacher did that was similar in both lessons and what they did to help themselves learn, her students could identify these connections across literacy and numeracy lessons and the links the teacher made between what they were reading and their writing skills. The following connections were identified in interviews with two of her students:

To do imagery and to do things in your head. (Student 1, School L, 2008)

To have strategies ... to help us understand and make it easier for us to remember them by. (Student 2, School L, 2008)

Taking action when professional learning ideas are out of step

By 2008, the school had embarked on another new professional learning initiative, one that other schools in Study 1 had become confused about in regard to the terminology being used. Inquiry learning processes for students were being established in each classroom, where the changed focus for teacher practices was on students’ generating their own questions as a way to integrate and deepen curriculum knowledge. The literacy leaders observed that the new learning approaches were, in some cases, replacing explicit reading instruction. The literacy leader then undertook her own inquiry, surveying staff to see how this new learning had impacted on literacy practices.

The results had shown that ten of fourteen teachers surveyed had not remembered their literacy professional goal and that learning intentions shared with students were now about the particular inquiry model rather than being derived from student data. In a sense, this new professional learning project was a direct challenge to the sustainability of the LPDP, and the literacy leader’s response was to highlight this tension and quickly resolve the conflict between teaching practices.

Conclusion

Persistent and continuous improvement over time in student achievement is required for many students in New Zealand. For this to be a realistic goal, a shift from evidence-based approaches in schools towards more systematic inquiry and knowledge-building practices will be required.

In this study, the schools that improved on their student achievement gains had continued to develop their capability to inquire into issues of underachievement. They were also deliberate in their strengthening of school-wide coherence in literacy programmes, providing teachers with tools and processes that codified and “preserved” the LPDP practices, routinely checking their occurrence with observations, “walk throughs”, and requirements for planning.

Leaders in these schools also expressed a view that each professional learning project was contributing to the broader corpus of knowledge about effective change processes and effective classroom teaching. This led them to a macro-view of sustainability.

References

- Bareta, L. & English, C. (2006). *Literacy professional development project: Milestone 1*. Retrieved March 31, 2006, from http://www.tki.org.nz/r/literacy_numeracy/pdf/literacy_professional_development_project.pdf
- Black, P. & William, D. (1998). Assessment and classroom learning. *Assessment in Education*, 5 (1), 7–74.
- Century, J. & Levy, A. (2002). *Cross-site report researching the sustainability of reform*. Retrieved February 18, 2006, from Centre for Science Education web site: <http://cse.edc.org/products/rsr/>
- Datnow, A. (2005). The sustainability of comprehensive school reform models in changing district and state contexts. *Educational Administrative Quarterly*, 41 (1), 121–153.
- Earl, L. & Katz, S. (2006). *Leading schools in a data-rich world*. Thousand Oaks, California: Corwin Press.
- Elmore, R. (1996). Getting to scale with good educational practice. *Harvard Educational Review*, 66 (1), 1–26.
- Elmore, R. (2002a). *Bridging the gap between standards and achievement: The imperative for professional development in education*. Retrieved July 15, 2005, from Albert Shanker Institute web site: http://www.shankerinstitute.org/Downloads/Bridging_Gap.pdf
- Fullan, M. (2006). *Leadership and sustainability*. Thousand Oaks, California: Corwin Press.
- Hargreaves, A. & Fink, D. (2006). *Sustainable leadership*. San Francisco: Jossey-Bass.
- Honig, M. I. & Hatch, T. C. (2004). Crafting coherence: How schools strategically manage multiple external demands. *Educational Researcher*, 33 (8), 1–30.
- Konstantopoulos, S. & Hedges, L. V. (2008). How large an effect can we expect from school reforms? *Teachers College Record*, 110 (8), 1611–1638.
- Lai, M. K., McNaughton, S., Timperley, H., & Hsiao, S. (2009). Sustaining continued acceleration in reading comprehension achievement following an intervention. *Educational Assessment, Evaluation and Accountability*, 1. Retrieved April 10, 2009, from <http://www.springerlink.com/content/m056j60853pq69h1>

- Levin, B., Glaze, A., & Fullan, M. (2008). Results without rancour or ranking: Ontario's success story. *Phi Delta Kappan*, 90 (4), 273–280.
- Lima, J. (2001). Forgetting about friendship: Using conflict in teacher communities as a catalyst for school change. *Journal of Educational Change*, 2 (2), 97–122.
- McDowall, S., Cameron, M., Dingle, R., Gilmore, A., & MacGibbon, L. (2007). Evaluation of the Literacy Professional Development Project (Report prepared for the Ministry of Education by the New Zealand Council of Educational Research and the University of Canterbury). Retrieved June 12, 2009, from <http://www.educationcounts.govt.nz/publications/literacy/16821>
- Newmann, F., Smith, B., Allensworth, E., & Bryk, A. (2001). Instructional program coherence: What it is and why it should guide school improvement policy. *Educational Evaluation and Policy Analysis*, 23 (4), 297–321.
- 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.
- Parr, J. M. & Timperley, H. (2006). Knowledgeable literacy teachers make more difference: The relationship of teacher knowledge to student progress. Paper presented at World Congress of the International Reading Association, Budapest, Hungary.
- Reid, A. (2004). Towards a culture of inquiry in DECS. Keynote address at the Quality Teachers, Quality Teaching conference, Melbourne. Published as an Occasional paper on South Australia's Department of Education and Children's Services website. Retrieved June 12, 2009, from http://www.decs.sa.gov.au/learnerwellbeing/files/links/link_72576.pdf
- Robinson, V. M. J. (2007). *School leadership and student outcomes: Identifying what works and why* (Monograph 41, ACEL Monograph Series). Winmalee, NSW: Australian Council for Educational Leaders.
- Spillane, J. (2006). *Distributed leadership*. San Francisco: Jossey-Bass.
- Spillane, J. P., Reiser, B. J., & Reimer, T. (2002). Policy implementation and cognition: Reframing and refocusing implementation research. *Review of Educational Research*, 72 (3), 387–431.
- Stein, M. K., Hubbard, L., & Toure, J. (2008). *Travel of district-wide approaches to instructional improvement: How can districts learn from one another?* Paper presented at the annual meeting of the American Educational Research Association, New York.
- Supovitz, J. & Taylor, B. S. (2005). Systemic education evaluation: Evaluating the impact of system-wide reform in education. *American Journal of Evaluation*, 26 (2), 204–230.
- Timperley, H. S. & Phillips, G. (2003). Changing and sustaining teachers' expectations through professional development in literacy. *Journal of Teaching and Teacher Education*, 19, 627–641.
- Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007). *Teacher professional learning and development: Best Evidence Synthesis iteration*. Wellington: Ministry of Education.
- Wood, A. (2007). *The problem of sustainability and the possibility of dynamic stability: Understanding lasting improvement in a California school district*. Paper presented at the annual meeting of the American Educational Research Association, Chicago.

The results for the next two cohorts of LPDP schools are found at <http://literacyonline.tki.org.nz/Literacy-Online/Teacher-needs/Professional-support/Professional-development-and-support/Literacy-professional-development-project-LPDP>

Criteria for sustainability related to student achievement data were devised for this research that took into account the particular tests being used in the schools, the varied entry points for new cohorts of students, and the two year interval of the data being gathered. For writing, the benchmark was a net gain of 0.5 standard deviations for asTTle writing, and for reading, the benchmark was a net gain of greater than 0.33 stanine for STAR data.

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