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Literacy and numeracy improvement: a whole school approach

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Summary

The aim was to support schools to select and implement interventions addressing the specific learning needs of students experiencing difficulty in literacy and/or numeracy.

These interventions had to be:

- evidence-based
- data driven
- individually targeted
- systematic
- intensive.

Target student group

The program was based on the initiatives associated with the Literacy and Numeracy National Partnership project (LNNP) and targeted 74 public schools in metropolitan, regional and rural Western Australia. This involved 31,535 students of whom 2,851 were Aboriginal.

The Western Australian Department of Education (DETWA) identified schools where large numbers of students were at or below the National Minimum Standard in the 2008 NAPLAN reading and numeracy assessments, also taking account of Aboriginal student populations and English as an Additional Language (EAL) and English as an Additional Dialect (EAD) students.

Method

The program was developed around the three components of the school improvement cycle:

- assessing data and other evidence related to student achievement and school operations
- planning to improve the standards of student achievement
- acting to implement planned strategies.

In implementing their selected strategies, schools were able to access direct support from a program team comprising two consultant principals, one literacy consultant, one numeracy consultant and one consultant specializing in EAL/D. This team was available for support and guidance over the two years of the program.



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They participated in the planning process, guided schools through data analysis to inform improvement targets, and provided regular and spaced professional learning (PL) opportunities to build the capacity of specialist teachers. In-school mentoring and coaching was provided to schools by the team on an as-needs basis. A key focus of the team was to ensure school leadership teams established processes to involve all staff in quality analysis of school data and ensure staff ownership of performance information.

Developing a whole-school plan

Schools were provided with a planning pack, which included a prescribed template that addressed:

- strategic and operational targets
- strategies
- resource allocation
- associated monitoring and milestones.

Setting strategic and operational targets

School and performance data was analysed, including:

- NAPLAN results
- On-entry assessment data (pre-primary and year 1)
- ESL/ESD Progress Map (for the assessment of EAL/D learners).

This analysis allowed schools to set challenging yet realistic targets, and plan focused interventions.

Selecting and implementing strategies

Schools selected from a range of strategies to improve students' literacy and numeracy standards, with a particular focus on students who were at or below National Minimum Standards or not achieving their potential. These strategies were embedded in the school's overall plan.

The strategies selected by schools had to have a clear evidence-base outlining their efficacy in improving students' literacy and numeracy standards.

Strategies in the planning pack focused on the First Steps program, notably:

- guided reading
- linking number sense and computational skills in the early years
- developing a repertoire of calculation strategies in years 4–7.

Schools were encouraged to use a case-management approach to identify individual student and small-group learning needs, and to differentiate instruction.



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Allocating resources

Specialist teachers, usually drawn from existing staff members, were nominated to work alongside classroom teachers to improve literacy and numeracy practice. Training was provided by the program team to enable specialist teachers to work effectively in the context of particular schools and student populations. The team also provided professional learning tailored to individual school requests over the two years of the program.

Teachers in this role went on to share their expertise with colleagues and build the capacity of the whole school to improve K–7 literacy and numeracy.

Monitoring milestones

Schools developed a performance management plan (PMP) that contained goals, performance indicators, actions, agreed support and time frames linked to the targets and strategies contained in the program school plan.

An online self-assessment tool, called a monitoring review framework (MRF), was completed quarterly by schools. This was designed to help schools make informed judgements about the extent to which they had implemented the key strategies of the program, and to encourage whole-school reflection.

Results

The aim of this program was to achieve sustained improvement in literacy and numeracy learning outcomes for students, and improve the mean scores and proportion of students at or above the National Minimum Standard in years 3, 5 and 7 in NAPLAN reading and numeracy assessments.

The data from all 74 program schools was used to compare the reading and numeracy mean in each year level for 2009 and 2011, and the mean progress from year 3 to year 5, and from year 5 to year 7.

The year 2009 was used as the baseline, because it:

- was the closest set of data to the commencement of the program
- allowed comparison through mean progress of the same cohort
- was a year in which Western Australian NAPLAN performance was strong.

The following tables show that the program schools' average was above the Western Australian average on every measure, with approximately 70 per cent of LNNP schools closing the gap between their performance and the state performance in both reading and numeracy.



Literacy

Table 1: Changes in the mean literacy score, 2009–2011

Reading Year level	WA mean increase	LNNP schools mean increase	Difference	Difference as multiple (percentage)
Year 3	3	13.2	+10	4.4 (440%)
Year 5	-3	-1.1	+1.9	2.75 (275%)
Year 7	6	12.1	+6.1	2 (200%)

Table 2: Literacy mean progress comparisons, year 3 to year 5, and year 5 to year 7

Reading Year level	State average	LNNP schools average	Difference as multiple (percentage)	Percentage of LNNP schools above WA average
Year 3 to 5	82	85.2	3.2 (105%)	69%
Year 5 to 7	59	68.2	9.2 (115%)	78%

Numeracy

Table 3: Changes in the numeracy mean score, 2009–2011

Numeracy	WA mean increase	LNNP schools mean increase	Difference	Difference as multiple (percentage)
Year 3	6	16.5	+10.5	2.75, or 275%
Year 5	4	8	+4	2, or 200%
Year 7	7	16	+9	2.28, or 228%

Table 4: Numeracy mean progress comparisons, year 3 to year 5, and year 5 to year 7

Numeracy	State average	LNNP schools average	Difference as multiple (percentage)	Percentage of LNNP schools above WA average
Year 3 to 5	98	105.5	7.5 (108%)	62%
Year 5 to 7	70	74.5	4.5 (106.5%)	68%



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Apart from improvements in students' literacy and numeracy outcomes, schools highlighted the following benefits and outcomes resulting from the program:

- increased cohesiveness among school staff, due to a greater understanding of responsibility and accountability for student outcomes and tightened whole-school pedagogy
- improved professional learning within the school through increased classroom-based learning, in an environment where teachers felt comfortable working with specialist teachers
- increased staff morale as the development of tracking and assessment tools allowed teachers to see the difference in students' learning
- development of the principal's role as an instructional leader supported by, and supporting, a distributed school leadership team
- establishment of valuable relationships with other schools that facilitated the exchange of knowledge and instructional strategies
- increased classroom teacher confidence as a result of the specialist assistance and learning tools.

Lessons learned

Participating schools identified embedding cultural change as critical to maintaining the momentum created by the program, ensuring changes to teaching and collaborative practices become ingrained in school culture.

Cultural change is seen as sustainable by schools because it is ultimately underpinned by school staff recognising the benefits of the school's approach, and the enhanced sense of professional satisfaction teachers have gained from improving student achievement.

Next steps

The program was developed around building the capacity of school communities, rather than on strategies that require ongoing funding.

Factors in program schools that contributed to the sustainability of the program include:

- improved understanding of whole-school planning processes that distribute leadership, responsibility and accountability
- improved understanding of data analysis and target setting shared across case-management teams
- improved performance management processes aligned to school planning
- specialist teachers to mentor, coach and build staff capacity
- funds allocated to resources that exist beyond the life of the program, such as manipulatives for mathematics, or print texts for guided reading.



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Research base

Research consistently identifies approaches to teaching that lead to improvement in students' literacy and numeracy learning. The key outcomes of this research include:

- a high level of expectation and teacher efficacy
- a focus on what matters most, with a real emphasis on literacy and numeracy, so the basics of all future learning are achieved
- using data to drive improvement
- using a case-management approach
- building teacher expertise and instructional leadership
- building and maintaining a culture of sharing and responsibility
- tailoring initiatives to the overall direction of the school
- effective collaborative planning at a whole-school level has an important mediating influence on the effectiveness of classroom instruction
- having specialists in literacy or numeracy instruction working shoulder-to-shoulder with teachers in their classrooms is a highly effective means of enhancing teachers' knowledge and skills.

Reflecting on the insights provided by these documents, the program focused on assisting schools with the process of collaborative planning, coordinating the provision of opportunities for professional learning for school leaders and specialist teachers, and assisting schools in the setting of improvement targets.

Further reading and links

First Steps, <http://det.wa.edu.au/stepsresources/detcms/navigation/first-steps-literacy/?oid=MultiPartArticle-id-13602018> 

Hattie, J 2003, *Teachers Make a Difference: What is the research evidence?* University of Auckland.

Human Capital Working Group Council of Australian Governments 2006, *The National Numeracy Review Report*, Commonwealth of Australia.

Louden, B 2006, *Literacy and Numeracy Review: The Final Report*, Department of Education and Training, Western Australia.

Louden, B 2008, *Teaching for Growth: Effective teaching of literacy and numeracy*, Department of Education and Training, Western Australia.

Rowe, K 2006, *Teaching Reading: National Inquiry into the Teaching of Literacy, Research Developments*, vol. 15, article 2.



Contacts

Department of Education Western Australia, <http://det.wa.edu.au> 