
Sustaining Numeracy Developments
Pilot Projects 2004

Gill Thomas, Jenny Ward and Andrew Tagg

Maths Technology Ltd.

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The views expressed in this paper do not necessarily represent the views of the Ministry of Education, New Zealand

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Overview

Issues of sustainability are key to the maintenance of Numeracy Project practices within schools once the initial professional development is complete. Higgins (2003) reports that for schools to sustain Numeracy Project practices effectively, elements of the project need to become internalised in school structures and classroom practices. Key to the internalisation of Numeracy Project practises is the role of the facilitator and the lead teacher as they can help to fit the project into the school structure.

In 2004 the Ministry of Education invited proposals from the six School Support Services contracted to deliver the Numeracy Development Project. Proposals contained models for sustaining numeracy developments to be piloted within schools and were based on the following outcomes.

Project Outcomes

1. Evidence that the shifts achieved in numeracy teaching and learning are being sustained in schools.
2. Evidence of sustained teacher engagement in numeracy teaching and learning.
3. Evidence of sustained teacher understanding of mathematics content knowledge and pedagogy.
4. Evidence of increasing confidence by numeracy lead teachers in schools with schools taking greater responsibility for sustaining the shifts in numeracy teaching and learning.
5. Evidence that the numeracy focus of strongly developed professional learning communities is being sustained.

To evaluate the different models for sustaining numeracy, questionnaires were sent to facilitators, principals, lead teachers and teachers in each region with responses collated and analysed. Responses for each region are outlined fully in six separate sections, while the following key findings contain common themes and issues across the six regions. Appendix A contains a summary of key results from all regions and provides the quantification of responses that support these key findings.

Key Findings

Outcome One

- The majority of schools report collecting information that shows students' achievement in numeracy has improved since participating in the Numeracy Project. No evidence was sought in the evaluation to support this improvement.

- Most of the schools involved reported having plans in place for numeracy support and development in 2005. The most commonly reported plans were the use of external professional development courses and interclass observation visits.
- Principals involved were moderately happy with the numeracy achievement of students at their schools. Principals not satisfied with achievement levels outlined relatively few plans for addressing this.

Outcome Two

- The majority of teachers describe their classroom mathematics programme as incorporating Numeracy Project ideas and materials considerably or fully. The most commonly reported use of materials is the use of Numeracy Project resources such as booklets and planning sheets. Many respondents noted that more than 50% of classroom mathematics programmes are allocated to numeracy.
- The majority of teachers intend to continue to incorporate Numeracy Project ideas and materials considerably or fully into classroom mathematics programmes.

Outcome Three

- Most of the teachers involved stated their professional knowledge of mathematics, including content knowledge and pedagogy, had been developed in the Numeracy Project and was further developed in the sustainability project.

Outcome Four

- The majority of lead teachers reported that their confidence in their own ability to lead numeracy within the school had been developed in the sustainability project.
- Most of the schools involved identified ways in which they would work with teachers new to the school to enable them to establish and continue Numeracy Project practices. The most commonly reported ways to work with new teachers were the use of interclass observation visits, the use of external professional development courses and the use of informal professional support from teaching colleagues.

Outcome Five

- Although the majority of schools reported that they had developed targets for student achievement in numeracy very few provided evidence of how they used achievement data to set targets, track progress or review student achievement.

- Minimal numbers of schools reported that numeracy meetings were focused on raising student achievement. The focus appeared to be more on the sharing of resources and teaching ideas.
- The majority of teachers report that they have critically reflected on their own teaching practices in numeracy. The nature of comments collated shows little evidence that teachers' reflections focused on how professional practices were impacting on student learning.
- The majority of teachers stated they have collaborated with others within their school in the area of numeracy. Collaboration occurred mostly through informal professional discussions with colleagues or as a result of collaborative approaches to teaching practice. Collaborative approaches include cross class grouping, joint planning and interclass observations.

General Issues

- It is difficult to make comparisons and generalisations given the wide variation in both scope and scale of the sustainability projects.
- Issues were identified that relate to the previous numeracy experiences of schools and lead teachers in the project. Responses from schools that first participated in the Numeracy Project in 2003 (approximately 15% of schools) suggest that these schools were using the project more for consolidation rather than focusing on sustainability issues. It was surprising that approximately five percent of lead teachers had no previous Numeracy Project training and were undertaking both the sustainability project and Numeracy Project training concurrently in 2004.
- The selection of appropriate lead teachers appears critical to the sustainability of numeracy within a school. The qualities of a lead teacher noted as helpful included a thorough knowledge of the Numeracy Project and the ability to provide a quality model for classroom practice. Good communication and organisational skills were valued by other teachers, as was a non-threatening approach.
- The most helpful aspect of the support received by schools throughout the six regions was the facilitator. The least helpful aspect of the projects were their short time frame. The features noted as most helpful within each region were: the accessibility of on-line support (Auckland), lead teacher workshops (Waikato), the facilitator (Massey, Wellington and Canterbury) and the use of observation sessions (Dunedin).
- There appears to be a heavy reliance on the facilitator in some of the schools involved. The participants' difficulty with the short time frame supports the view that many schools saw this project as another programme of delivery rather than an initiative aimed at assisting schools to be self supporting.

- The majority of schools felt the Numeracy Project required ongoing support and training for prolonged sustainability.
- The up-skilling of staff new to the school was cited as a key issue faced by schools wishing to sustain numeracy practices.