

# Redesigning for Responsiveness

Mathematics for Learning inclusion  
2005-08 & 2009-10

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- Refining a successful program to be responsive to evaluation findings
- The ‘what to change?’ question
- Assumptions and context
- Intended and unintended outcomes

# Mathematics for Learning inclusion

- Two separate phases (2005-08 & 2009-10)
- aimed to improve mathematics learning outcomes and learning inclusion for students in Years 3, 4 and 5 in 14 clusters of disadvantaged schools in South Australia. In particular, it aimed to improve learning outcomes for Indigenous and socio-economically disadvantaged students relative to their peers: that is, to 'close the gap' in mathematics learning outcomes for those groups.

# Key Strategies

- Schools work in clusters led by Cluster Management Groups (CMG) comprising a leader from each school in the cluster;
- appointment of a Cluster Coordinator for each cluster of schools;
- provision of professional development for those Cluster Coordinators;
- development of cluster plans for implementation at the local level;
- provision of professional development for teachers at both central and cluster levels;
- and establishment of Communities of Practice (CoP) within each cluster.

# Evaluation Methodology

- A mixed methods case study design, where the 'case' is the Maths for Learning Inclusion program.
- Two principle evaluation approaches - realist evaluation and program logic.

# Realist Evaluation

- Assumes that programs work by enabling stakeholders and participants to make different *decisions* which underpin different *behaviours* which in turn generate different *outcomes*.
- Making and sustaining different decisions requires a change in participants' reasoning (values, beliefs, attitudes and logic they apply) and/or the resources (knowledge, skills, support) they have available to them.

# Realist Evaluation

- Reasoning plus resources equals program mechanism,  
ie. interaction between reasoning and resources  
results in different decisions and actions that generate different  
outcomes.

# Context shapes everything

- However, decision-making is shaped by many factors at individual, group, organisational and socio-cultural levels, and whether decisions can be implemented, or can generate their intended outcomes, depends on local contexts.
- Contexts include local structures and organisation, program participants, staffing, geographical and historical context, culture.



# Context

- Maths for Learning Inclusion was a complex program; decisions were made at a range of levels and there was interaction between the decision-making processes at different levels.
- It was assumed that the program would work differently in different contexts and for different participants, and therefore generate complex patterns of outcomes.

# Realist Evaluation

- Realist evaluation hypothesises the main mechanisms through which programs are intended to work, and the most important contextual factors that will affect whether and for whom they will do so.
- It then collects data about contexts, mechanisms and outcomes to build understanding about how, and in what contexts, programs generate both intended and unintended outcomes.
- A realist evaluation compares mechanisms and outcomes *within* programs.

# Program Logic

- Program logic models specify ‘a sequence of logical steps in program implementation’\* and the ways that these are expected to result in desired program outcomes. (the logic represents a theory of change).
- The actual program implementation and outcomes are then assessed against the program logic or hypotheses to see whether the program operated, and achieved outcomes as intended.

# Program Logic

- A realist evaluation approach evaluates the hypotheses against the program, ie. did the theory adequately describe the interactions required between context and mechanisms to achieve the intended outcomes?
- The hypotheses are then refined for future planning (Maths for Learning Inclusion 1 → Maths for Learning Inclusion 2)

# Program Logic

The program logic:

- employing a Coordinator to work with a cluster of schools, and
- supporting the Coordinator and the staff with

centrally-provided professional development programs will

- lead to a local plan being developed, which will
- underpin a range of program activities within the cluster, that will
- lead to changes in teachers' attitudes, confidence and skills

(these are program mechanisms at the teacher level), which will

- underpin changes in teachers' teaching behaviours (which are both short term teacher-level outcomes and
- Mechanisms for change in student learning behaviours),

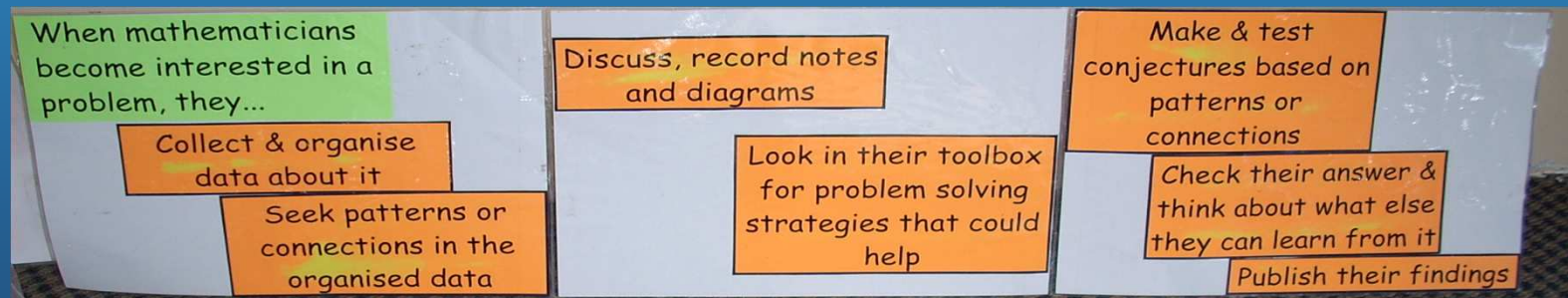
which will

- lead to improved student engagement (which is a primary mechanism at the student level), which will
- underpin improved student learning outcomes

# Data Sources

- Progressive achievement tests in mathematics for students
- Leader and teacher questionnaires
- Cluster coordinator questionnaires
- Leader and teacher focus groups
- Cluster coordinator focus groups
- Central team focus group
- Teacher narratives

# From the 2005/08 Program to the 2009/10 Program



# Key Findings Phase 1



Across the program, the gap between low SES and other students was reduced for all year levels

In classrooms, activity-base learning, group based learning, use of concrete materials, and a focus on the process of problem-solving appeared to help build student engagement.





# Key Findings Phase 1

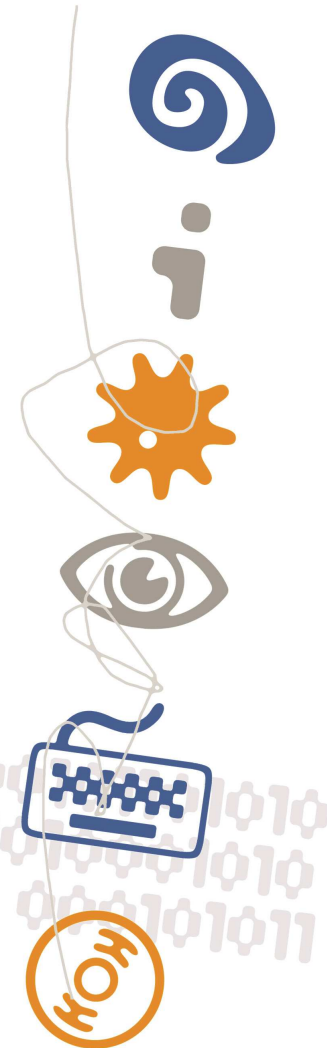


Evidence supported cluster-based approach and the critical role of Cluster Coordinators within that model

Evidence for value of

- an integrated program structure linking central office, clusters, schools and teachers
- high quality professional development programs
- individual mentoring and support tailored to individual needs of teachers
- integration of strategies at teacher, school and cluster levels
- adequate resourcing and at least 2-3 year duration

M4LI seen as highly successful program; one of Teaching and Learning Services' flagship programs



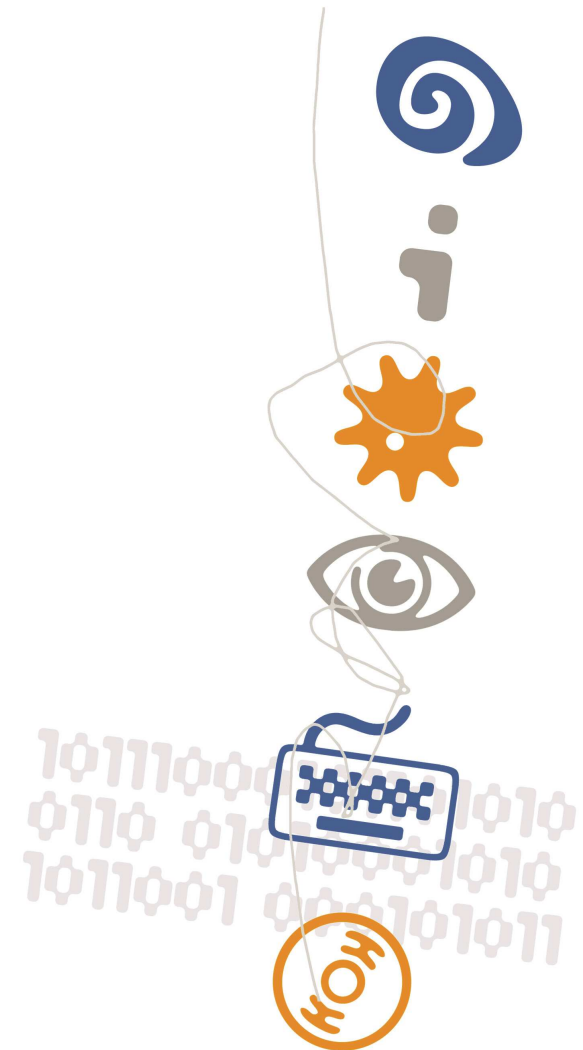
# Recommendations from Phase 1

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- Funding should be provided for a minimum of two, and preferably three, years
- Cluster Coordinators (CCs) should be appointed for the duration of the program
- **Cluster management groups should be assisted to develop and monitor cluster strategic plans**
- **Leaders should be provided with professional learning and support in leading pedagogical change; less reliance on CCs to drive program locally**
- **Cluster management groups should be involved in the planning of the professional learning program**
- **A more explicit focus on strategy to develop quality teaching, including reflective practice**



What should we change  
for the second round?



# Phase 2 Responsiveness

- Shared Leadership model

In Phase 1, clusters were regarded as leading the program at the local level. Some welcomed the flexibility but others felt that the program was overly dependent on the cluster coordinator and requested more direction and leadership from central level. Some CCs felt too much pressure to lead program locally

Phase 2 was constructed as a partnership between Learning inclusion Team and Cluster Management Groups; flexibility supported by advice ('what worked well in Phase 1') and clarity of expectations

# Phase 2 Responsiveness

- More support for local planning

In Phase 1, clusters were asked to develop cluster plans however there was no explicit support for this process, or monitoring of plans. Some clusters never developed a shared plan. The Phase 1 evaluation suggested that, where clusters had collaboratively developed a cluster plan, shared ownership and commitment had contributed to more improved outcomes.

In Phase 2, it was decided to support cluster leaders through a planning process that would enable all clusters to commence planning in the same timeframe and with a shared framework. It was expected that this would promote cluster planning and alignment with whole-of-program intentions.

# Phase 2 Responsiveness

- More explicit support for pedagogical change in clusters

In Phase 1, teachers were supported by a professional learning program and, individually and in groups, by the CC. The Phase 1 evaluation suggested that clusters achieving the best outcomes were those where teachers felt a sense of 'belonging' to the program, participated most actively in program activities and demonstrated a commitment to using the knowledge and skills developed in professional learning.

In Phase 2, it was decided to support *all* teachers participating in the program to undertake a small inquiry project, individually or with colleague(s), focused on reflection for improved pedagogy.

# Shared Leadership Model and local plans

- Hypotheses :

Cluster Management Groups working together on planning would result in a coherent local plan, which was shared across schools and which would reflect the overall program logic for the Initiative.

Having the plan developed by leaders rather than by Cluster Coordinators would increase leaders' sense of ownership for, and therefore participation in, the program.

Coherent plans would increase program consistency within and across clusters, thus increasing consistency of outcomes for teachers and students

It would also ensure that leaders understood and supported the goals, strategies and 'program logic' of the MLI program, and their own role in implementation of the program.

Increased ownership and participation by leaders would motivate teachers to participate, support Cluster Coordinators in their role and help build 'sustainability' structures in schools and clusters.

# Shared Leadership Model and local plans



Strategies :

- information and planning sessions with leaders before cluster coordinators appointed
- planned interaction with leaders from Phase 1 program
- participation by Learning Inclusion team members in local planning and cluster management group meetings





# Shared Leadership Model and local plans;

according to evaluation, what happened?

- Great majority of leaders positive about relationship with central team, particularly in first year when cluster plans were being collaboratively developed; some felt that relationship reverted to 'administrative' in second year
- However, many cluster plans only partially developed or even 'put on hold' until CC appointed
- Clusters worked collaboratively to the same degree as in Phase 1
- Same diversity of leader engagement as in Phase 1



# Reflection?

- Leaders and central team had different views of how 'partnership' would progress: central team had view of building sustainability leading to 'hand-over'; school leaders saw a continuing partnership where the work depended upon continuing resources
- Central team drew back from overt coordination in clusters in second year; some clusters saw this as reduced support
- Different views of where local leadership of program resided; school leaders or Cluster Coordinators?
- Sustainability aims of program not clearly articulated by central team: when articulated; received variably

# More explicit support for pedagogical change in clusters

- Hypotheses :

Clusters adopting a particular research focus in second year of program would provide focus for cluster collaboration and deep learning about a mutually agreed topic; at beginning of 2010, this research expectation amended to individual/collaborative teacher inquiry projects

Every teacher could engage with a pedagogy issue relevant to own class and context.

Structure (two possible levels - refinement of existing approaches/trialling of new approaches) would enable engagement at level of 'where teachers were at'.

Would ensure explicit active participation of all teachers in reflection on pedagogy.

# More explicit support for pedagogical change in clusters

Strategy:

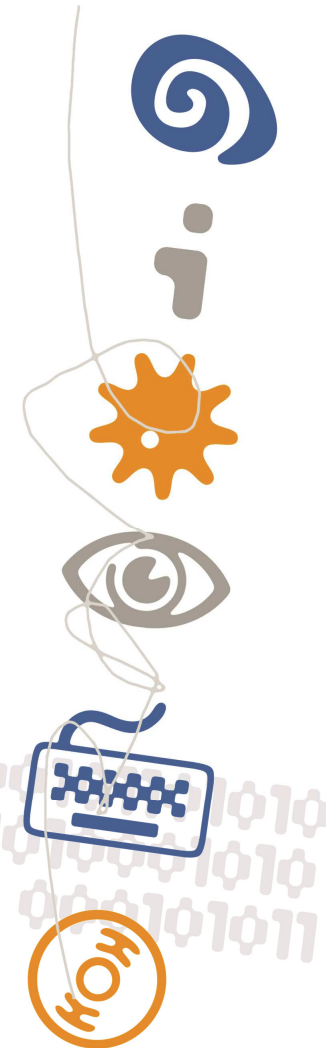
- Promote teacher reflection on pedagogical change for learning inclusion by asking all teachers to undertake a small-scale classroom inquiry focused on:
  - refining an existing pedagogical practice
  - trialing and reflecting on a new pedagogical practice

Expectation that teachers would share results of inquiry at Show, Share, Shine Days and potentially at project Expo

All supported by Cluster Coordinator



# More explicit support for pedagogical change in clusters



# More explicit support for pedagogical change in clusters;

## what did evaluation say?

- School leaders had not 'internalised' original research expectation so did not see 'pathways' as less demanding option
- Some perceived their teachers as 'not ready' for such a commitment; others welcomed it as driver for change; degree of support reflected attitude
- Some teachers felt significant peer pressure because of presentation expectations
- Some teachers reported extra workload and resented this; others reported it as a significant learning experience culminating in presentation at highly successful EXPO





# Reflection?

- Expectations of teachers in schools receiving extra resources can be problematic and are highly dependent on leadership at local level
- Teacher inquiry and reflection on practice not yet considered routine by many; perceived as extra workload
- Teachers who successfully participate in such practices are 'early adopters', volunteers and, therefore, exceptional.
- Most teachers did participate in Pathways, with the support of CCs, many reporting significant and ongoing professional growth

# Responsiveness and context

- M4LI 1 & 2 both successful in improving student outcomes
- Results from both phases very similar
- Responsive strategies for Phase 2 (changed leadership model and focus on teacher reflection/inquiry) had mixed results
- Continued core strategies (cluster coordinator model plus professional learning plus communities of practice) responsible for outcomes
- Key extra resource (CC) more significant than other factors



# Implications

- Capacity-building programs, moving towards ‘handover’, need to be explicit about such expectations, and to negotiate how and when this occurs
- Schools, and school leaders, have a lot to do under normal circumstances. Extra expectations, even if well-resourced, are highly dependent on leadership and context
- Buy-in from all staff is a ‘big ask’

# Acknowledgements

- Learning Inclusion Team in Teaching & Learning Services (Diane Mellowship and Barbara Reinfeld)
- 14 clusters of DECD schools; 75 schools
- Maths for Learning Inclusion Cluster Coordinators
- Evaluator; Dr Gill Westthorp (Community Matters)