State Government Victoria

Department of Education and Early Childhood Development

Teaching and Learning Coaches Initiative Guidelines 2009

Improving student outcomes in Mathematics and Science

Published by the Student Learning Programs Division
Office for Government School Education
Department of Education and Early Childhood Development
Melbourne
October 2008

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Authorised by the Department of Education and Early Childhood Development,
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Overview

Coaching is designed to integrate effective staff development and successful change management processes through providing a continuous growth process for people at all experience levels.

– Boyd, 2007

The Teaching and Learning Coaches Initiative provides intensive assistance to identified schools to bring about the changes in classroom practice that are necessary to improve student outcomes in mathematics and science.

Teaching is complex and demanding work that requires highly specialised skills and knowledge to impact significantly on student learning. Improving the learning outcomes of all students, regardless of their socioeconomic background or geographic location, is the Victorian Government's key objective for education. This objective is embedded in the Blueprint for Education and Early Childhood Development (DEECD 2008), which outlines the Government's education reform agenda.

Schools improve by investing thoughtfully and coherently in the knowledge and skill of educators (Elmore 2007). Research consistently highlights the quality of teachers as a key determinant of variation in student achievement (Wenglinsky 2000; Darling-Hammond 2000). The research asserts that, in order to be effective, teachers need a deep understanding of their subject area, knowledge of how students learn specific subject matter and a range of strategies and practices that support student learning. The research also affirms that engaging teachers in high quality professional learning is the most successful way to improve teacher effectiveness (Hawley & Valli 1999; Elmore 2002).

Coaching is a form of professional development that has a high impact on classroom practice. The Annenberg Institute (2004) found that:

- Effective coaching encourages collaborative, reflective practice
- Effective embedded professional learning promotes positive cultural change
- A focus on content encourages the use of data analysis to inform practice
- Coaching promotes the implementation of learning and reciprocal accountability
- Coaching supports collective, interconnected leadership across a school.

The approach taken to coaching in this Initiative is outlined in Coaching in Context[1] (Boyd, 2007), commissioned to inform the Initiative.

Background

From 2003 to 2006, substantial support was provided for leadership and planning at the whole-school and cluster level through the Schools for Innovation and Excellence (SIE) Initiative. In 2007, the focus changed to one of more directly supporting teachers in the classroom. This was informed by evidence that increasing teacher capacity has the most direct impact on improving student achievement (Hattie 2003). A new initiative, the Teaching and Learning Coaches Initiative, was implemented to achieve these goals and funds the employment of 200 Teaching and

[1] *Coaching in Context is available on the Initiative website: http://www.education.vic.gov.au/studentlearning/programs/teachlearncoaches.htm*

Job-embedded learning has multiple payoffs when it is directed towards student learning.
– Speck & Knipe, 2005

Pre- and post- observation meetings are critical aspects of the coaching cycle.
– Teaching & Learning Coach Survey, 2008

Learning Coaches and 50 Ultranet Coaches[2] from 2008 to 2009.

Over 2008, the Teaching and Learning Coaches coached over 1500 teachers, across 380 schools, reaching 33,000 students.

Teaching and Learning Coaches work collaboratively with school leadership teams to build the capacity of teachers in identified schools to support improvement in student learning outcomes. The Teaching and Learning Coaches have a particular focus on improving the quality of teaching in mathematics and science. Teaching and Learning Coaches form part of regional school improvement teams and are allocated to identified schools for specified periods of time.

The Teaching and Learning Coaches Initiative has been strongly informed by the 2007-2008 implementation and evaluation of the Literacy Improvement Teams Initiative[3] .

Objective and Purpose

The Teaching and Learning Coaches Initiative provides intensive assistance to identified schools to bring about the sustained changes in classroom practice that are necessary to improve student outcomes in mathematics and science. It aims to build teacher capacity to establish priorities, analyse student results, measure student progress and improve the quality of teaching and learning.

The Initiative links with other initiatives such as Building Leadership Capacity, Performance and Development Culture, Teacher Professional Leave and the School Accountability and Improvement Framework. As an improvement strategy, the Initiative will build capacity within school leadership teams, improve the quality of learning and teaching and strengthen professional learning. Teaching and Learning Coaches are regional personnel and implementation of the Initiative will strongly involve Regional Network Leaders.

Three core beliefs and understandings underpin the implementation of the Initiative:

- Improved student outcomes is the shared responsibility of all teachers
- The Initiative is an improvement strategy, NOT a program
- Assessment and data analysis are key drivers for effective teaching and learning.

Project Outcomes

- Improved student learning outcomes, especially in the areas of mathematics and/or science, for students in identified schools
- Improved teacher knowledge and skills related to effective mathematics and science teaching
- Improved teacher capacity in the use of ICT for curriculum planning and delivery
- Improved school capacity to support improved student learning outcomes

[2] The Ultranet Coaches Guidelines provide further information about this aspect of the Initiative.
[3] The Literacy Improvement Teams Initiative Guidelines provide further information.

Teachers change practices more quickly and are more likely to make fundamental, systemic change when they work collaboratively.
– Hord, 2001

Design Principles

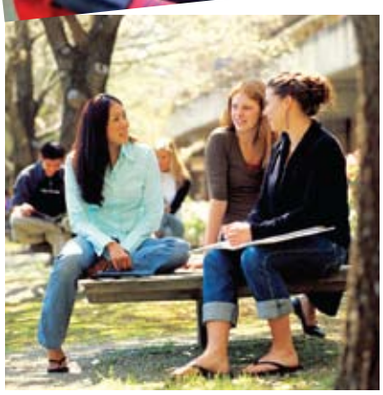
The Teaching and Learning Coaches Initiative Design Principles reflect DEECD's approach to building effective schools, engaging effective leaders and ensuring effective professional learning for teachers.

- Regions are best placed to determine which schools should receive support and to manage the allocation of the Teaching and Learning Coaches.
- The Initiative is integral to regional offices' school improvement strategies and structures and is not a stand alone initiative.
- The Initiative is focused on building the capacity of teachers to improve individual student outcomes. Teachers rather than students are the focus of support.
- A prime focus of the Initiative is to ensure that improvement is sustainable beyond the life of the Initiative.
- The Initiative must be a focus of the School Strategic Plan, Annual Implementation Plan and Principal's Performance and Development Plan. Clear targets wr improvement in learning outcomes will be required.
- Teaching and Learning Coaches require knowledge of effective teaching practices and skills in working with teachers to bring about sustained change in classroom practice. Ongoing professional learning is provided to support them in their role.
- Coach effectiveness will be maximised by allocating coaches to a small number of schools and teachers.
- Monitoring and evaluation will be integrated throughout the life of the Initiative. Accountabilities and responsibilities of regional offices, the central office and schools are clearly defined.
- Schools will use evidence-based resources, developed by the central office, to inform their approach (e.g. P-10 Mathematics and Science Continua).
- Effective communication, stakeholder management and community engagement are required.

Professional Learning

Ongoing professional learning will be provided by the central and regional offices to support coaches in their role. The central office will provide six days of professional learning in 2009. This professional learning will be targeted according to need and will cover:

- Coaching for teaching and learning
- Building a knowledge base in mathematics and/or science, with a specific focus on developing pedagogic content knowledge
- Ensuring familiarity with DEECD resources and building depth of knowledge.



Evaluation Overview

The key outcome of the evaluation will be a set of findings and recommendations about the effectiveness of this Initiative which will be used to progressively inform DEECD's implementation of the Initiative, as well as future directions for supporting improved student learning outcomes.

The evaluation will address the following questions:

- To what extent has the Initiative impacted on students' mathematics and science achievement in participating schools?
- To what extent has the capacity of participating teachers to support improved learning in mathematics and science increased?
- To what extent has the capacity of teachers to plan and deliver curriculum online and better monitor student outcomes improved?
- To what extent has the capacity of participating schools to support and sustain student mathematics and science achievement improved?
- What are the factors critical to the success of the Initiative?

Both quantitative and qualitative data will be collected, collated and analysed:

- baseline data from students, coaches, participating teachers, and schools (required because learning is evaluated in terms of change in achievement); and
- ongoing data collection sufficient to identify the improvement and sustainability of the Initiative at key points throughout the duration of the project.

A range of assessment tools will be used to provide student data including a combination of:

- Teacher judgements against the Mathematics and/or Science Victorian Essential Learning Standards (as appropriate)
- Mathematics Online Interview
- VCAA On Demand Testing
- Scaffolding Numeracy in the Middle Years program

In addition, a sample of schools involved in the Initiative will submit the PoLT student perceptions survey and online surveys for participating teachers, coaches and principals.

Detailed timelines for data collection will be provided prior to the assessment phases scheduled for March and September 2009.

For the Teaching and Learning Coaches Initiative to achieve its stated outcomes at a school level, a number of components need to be addressed. The Initiative supports the development of effective schools, relying strongly on effective leadership and utilising effective professional learning within a clear accountability framework.

Context

Coaching is highly effective professional learning and needs to become part of the school culture to be sustainable.
– Teaching & Learning Coach Survey, 2008

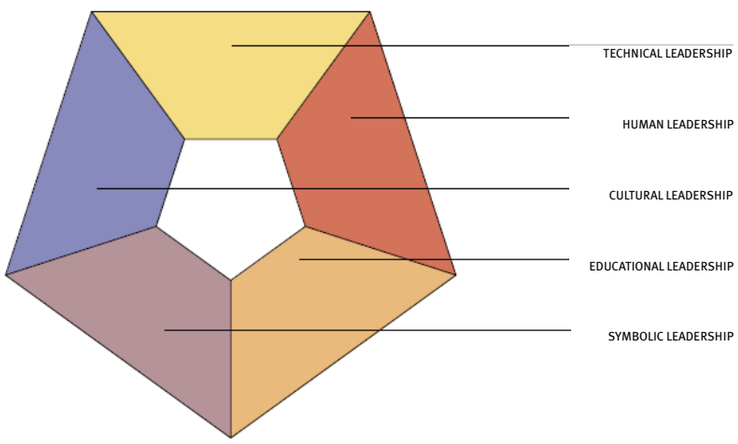
Effective Schools

The Initiative directly supports schools in developing a Performance and Development Culture and building the quality of their teachers. Coaches are most effective when they are working with a school community focused on building an effective school.

Effective schools are distinguished by professional leadership which is motivated by the desire to build a vibrant professional learning community. Effective schools are defined by an agreed vision and goals, purposeful teaching and high expectations for student learning. They have rigorous systems of accountability, a focus on teaching and learning, and stimulating and secure learning environments.

Effective Leaders

Effective leadership is integral to the success of the Teaching and Learning Coaches Initiative. The Developmental Learning Framework for School Leaders identifies and describes the critical capabilities that leaders require to create the organisational conditions under which quality learning and teaching takes place. The Leadership Framework describes five domains of leadership: Technical, Human, Educational, Symbolic and Cultural.



Effective Professional Learning

Coaching is a means of providing effective professional learning. The Principles of Highly Effective Professional Learning make explicit the key characteristics of effective professional learning and provide a common language for describing good practice. Central to the vision is recognition that, as professionals, teachers need to update their skills and knowledge continuously, not only in response to a changing world but in response to new research and emerging knowledge about learning and teaching.

The seven principles are designed to underpin the delivery of high quality professional learning to improve student outcomes and apply to all levels of the system – school, network, region and centre.

- Principle 1: Professional learning is focused on student outcomes
- Principle 2: Professional learning is focused on and embedded in teacher practice
- Principle 3: Professional learning is informed by the best available research on effective learning and teaching

Professional learning communities at the school level are crucial in establishing cultures in which teachers learn from each other and teachers collaborate for continuous change.

– Fullan, Hill & Crevola, 2006

- Principle 4: Professional learning is collaborative, involving reflection and feedback
- Principle 5: Professional learning is evidence based and data driven to guide improvement and to measure impact
- Principle 6: Professional learning is ongoing, supported and fully integrated into the culture and operations of the system
- Principle 7: Professional learning is an individual and collective responsibility at all levels of the system and it is not optional.

Effective coaching

Coaching is a form of professional learning that integrates effective staff development and successful change management processes through providing a continuous growth process for people at all experience levels. A coach is a critical listener/observer who asks questions, makes observations and offers suggestions that help a teacher to reflect and grow and consciously change practice to best meet all students' needs.

The core goal of any coaching program is to embed reflective practice and continuous improvement among staff as part of a collaborative, collegial learning environment for the purpose of improving student achievement.

Effective coaching reflects the Principles of Highly Effective Professional Learning: it is grounded in inquiry, collaborative, sustained, connected to and derived from teachers' work with their students, and tied explicitly to improving practice.

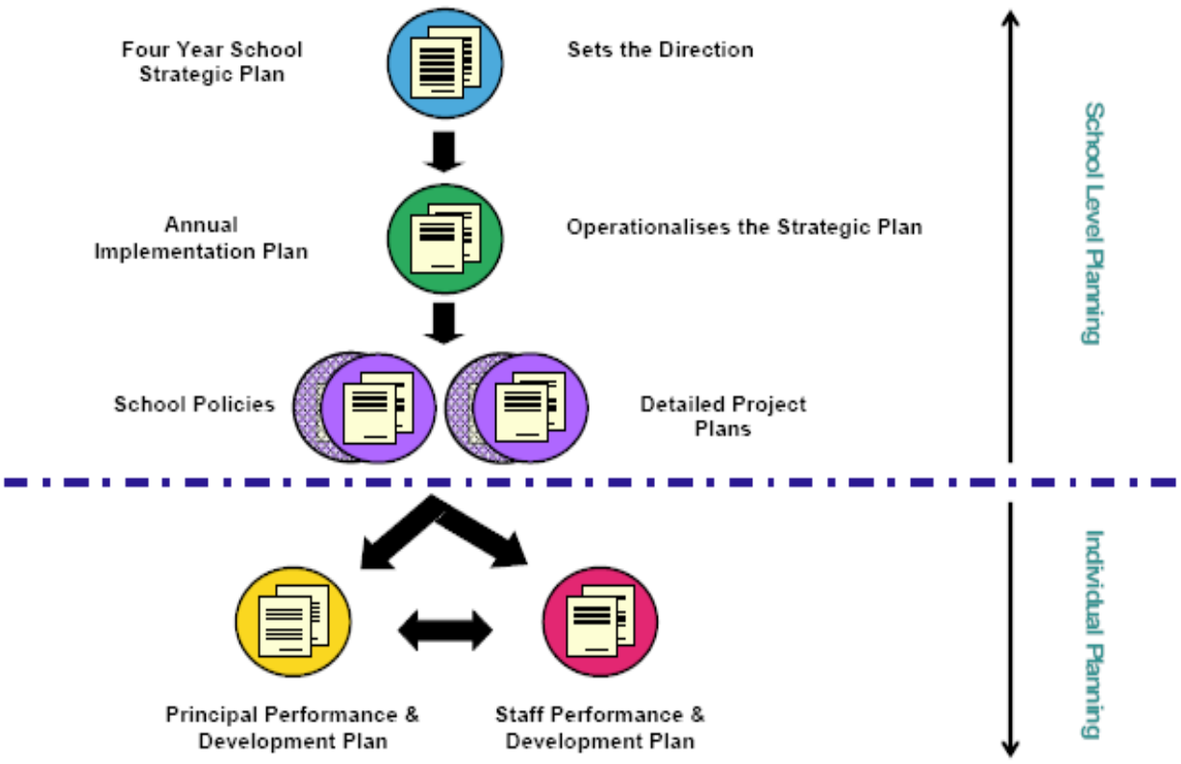
Coaching effectiveness is enhanced when:

- Coaches have regular and sustained time to work with teachers; specific time for planning, observation and reflection should be allocated
- Professional Learning Teams[4] of teachers are utilised to enhance coaching. Professional Learning Teams play an integral role in supporting sustained improvement in teacher practice. Teams of teachers may be formed across a single learning area, across a year level, or made up of all the teachers who work with a specific class
- Coaches and participating teachers develop professional relationships based on trust, integrity and personal professional excellence
- Coaching is strongly connected to and derived from teachers' work with their students
- Coaching is connected to other aspects of school change
- Coaches have an extensive and continually developing understanding of contemporary practice for effective mathematics and/or science teaching
- Coaches have strong collegial relationships with other coaches and frequent opportunities to share effective strategies.

[4] *For further information, see Working in Teams (2003) by Neville Johnson for the Office of School Education. The document is available at www.eduweb.vic.gov.au/edulibrary/public/staffdev/teacher/workinginteams.pdf*

Accountability and Improvement Framework for Government Schools

The Initiative is strongly aligned to the Accountability and Improvement Framework for Government Schools, requiring both school level and individual planning to incorporate the Teaching and Learning Coaches Initiative.



Responsibilities

We are all working together to improve student learning - building the capacity of our teachers.

– Teaching & Learning Coach Survey 2008

The Teaching and Learning Coaches Initiative is a collaboration across the Office for Government Schools, involving commitments from central and regional offices, Regional Network Leaders, principals, coaches and teachers.

The responsibilities of each group are detailed in the following sections.

Responsibilities of the Student Learning Programs Division

The central office works collaboratively with regions to build the capacity of coaches to work with teachers to support improvement in mathematics and science outcomes for students. The central office provides:

Educational Leadership

- Develop and conduct a professional learning program focused on differentiated support for coaches in the development of coaching skills and pedagogical content knowledge in science and/or mathematics
- Support coach and teacher use of evidence-based resources
- Utilise coach and regional feedback and evaluation data to monitor effectiveness of the professional learning and inform the development of future professional learning

Technical Leadership

- Allocate resources to ensure provision of professional learning and professional learning resources
- Provide an online induction resource for coaches and principals new to the Initiative
- Manage an external evaluation from the commencement of the Initiative
- Communicate with regional representatives in a clear and timely manner

Human Leadership

- Work collaboratively with the regions to support the implementation of the Initiative
- Convene regular meetings to discuss and share effective strategies across the state regarding the Initiative
- Maintain a sharepoint for communication with regional staff

Cultural Leadership

- Articulate the design principles that underpin the Initiative
- Link with other relevant DEECD initiatives, such as Building Leadership Capacity, Performance and Development Culture, Teacher Professional Leave and the School Accountability and Improvement Framework

Symbolic Leadership

- Share and act on the findings of the evaluation reports
- Make results of research accessible to schools, teachers and coaches
- Maintain a communication forum for coaches (the wiki)

Responsibilities of Regions

Regional personnel (especially Regional Network Leaders) work collaboratively with the coaches and principals of participating schools to build the capacity of teachers to support improvement in learning outcomes for students in Years P-10. Regions provide:

Educational Leadership

- Develop and conduct a professional learning program to support coaches in their roles
- Provide strategic advice and support to principals to assist them in implementing sustainable practices that ensure improved learning outcomes
- Systematically collect evidence to inform the management of the Initiative across the region
- Advocate the E^5 Instructional Model

Technical Leadership

- Select participating schools and allocate coaches in a manner consistent with the design principles of the Initiative (see p3)
- Ensure the Initiative is reflected in Regional Business Plans and Network Plans, in addition to the Strategic Plans, Annual Implementation Plans and the Principal Performance Plan of identified schools
- Ensure coaching support for participating classroom teachers is allocated sufficient time
- Ensure provision of professional learning and resources to support coaches
- Monitor student progress towards achievement of learning outcomes
- Support schools in the external evaluation of the Initiative
- Communicate with coaches and principals in a clear and timely manner

Human Leadership

- Work collaboratively with principals and schools to support the implementation of the Initiative
- Provide an induction program for coaches, principals and Regional Network Leaders new to the Initiative
- Convene regular meetings of coaches to share effective strategies
- Manage coaches' performance reviews and associated HR issues
- Support coaches in their role of coaching and mentoring

Cultural Leadership

- Articulate links between this Initiative and other regional priorities

- Support the following set of beliefs and understandings that underpin the implementation of the Initiative:
  - Improved student outcomes is the shared responsibility of all teachers
  - The Initiative is an improvement strategy, NOT a program
  - Assessment and data analysis are key drivers for effective teaching and learning
- Ensure the Initiative is a key component of the whole school approach to school improvement
- Support principals to ensure school readiness for a coach
- Link with other relevant DEECD initiatives, such as Building Leadership Capacity, Performance and Development Culture, Teacher Professional Leave and the School Accountability and Improvement Framework

Symbolic Leadership

- Provide support to school leadership teams to ensure awareness of the responsibilities of principals and coaches in implementing the Initiative
- Support principals to ensure that adequate information about the initiative is communicated to all stakeholders
- Make results of research accessible to schools, teachers and coaches

Responsibilities of Principals

Principals in identified schools work collaboratively with the coach, Regional Network Leader and other regional personnel to build the capacity of identified teachers to support improvement in learning outcomes for students in Years P-10. Principals have a particular responsibility to ensure the readiness of the school to work with a coach and the sustainability of the school improvement strategies beyond the tenure of the coach. This requires principals to demonstrate the following leadership both prior to the arrival of the coach and during the coach's residency at the school:

Educational Leadership

- Ensure Professional Learning Teams focus on improving student learning through integrating coaching
- Embed sustainable practices that ensure continued improvement in teacher practice and student outcomes
- Lead the implementation of the E[5] Instructional Model

Technical Leadership

- Ensure the Initiative is reflected in the School Strategic Plan and Annual Implementation Plan, the Principal's Performance Plan, and participating teachers' Performance Plans
- Provide a school induction program for coaches
- Identify participating teacher/s and classes to maximise coach effectiveness by enabling sufficient time with each teacher
- Ensure that the following supports are in place to enable coaches and other school leaders to work effectively with teachers:
  - a suitable workspace for coaches
  - appropriate timetabling of classes and opportunities for participating teachers to meet with their coach out of class time
- Allocate school resources to support improved mathematics and/or science learning
- Monitor and reflect on student progress towards achievement of learning outcomes
- Fulfil the requirements of the external evaluation of the Initiative

Human Leadership

- Work collaboratively with leadership team members to support the implementation of the Initiative
- Establish or utilise appropriate Professional Learning Team(s) that will further support the learning of coached teachers
- Support participating teachers to take responsibility for, and be accountable for, the learning outcomes of their students
- Ensure all staff are aware of the role of the coaches

Cultural Leadership

- Ensure the Initiative is a key component of the whole school approach to school improvement
- Support the following set of beliefs and understandings that underpin the implementation of the Initiative:
  - Improved student outcomes is the shared responsibility of all teachers
  - The Initiative is an improvement strategy, NOT a program
  - Assessment and data analysis are key drivers for effective teaching and learning
- Support coached teachers to be active members of their Professional Learning Team
- Link with other relevant DEECD initiatives, such as Building Leadership Capacity, Performance and Development Culture, Teacher Professional Leave and the School Accountability and Improvement Framework

Symbolic Leadership

- Provide opportunities for coaches and teachers to share their learning across the school and network
- Provide opportunities for coached teachers to become coaches themselves
- Ensure that adequate information about the Initiative is communicated to all stakeholders
- Engage in ongoing professional learning and reflective practice
- Make contemporary research findings accessible to staff
- Provide and discuss the Initiative's evaluation findings with staff

Responsibilities of Teaching and Learning Coaches

The coaches work collaboratively with identified schools to build the capacity of teachers to support improvement in mathematics and/or science for students. In addition to working with individual teachers, coaches have a particular responsibility to work with schools to ensure sustainability of the school improvement strategies beyond their tenure. Coaches are required to provide the following leadership:

Educational Leadership

- Develop own and teachers' expert disciplinary and pedagogical content knowledge in mathematics and/or science
- Build teachers' capacity to plan curriculum and differentiate instruction
- Provide advice on suitable assessment tools
- Use and support use of VELS and core Student Learning resources (see p16)
- Assist school leaders to incorporate coaching as a means of improving teacher practice
- Support teachers to systematically analyse student data and use it to plan their curriculum and teaching to cater for diverse needs of students

Technical Leadership

- Support teachers to independently access and use DEECD resources
- Ensure teachers fulfil the requirements of the external evaluation of the Initiative
- Collect and analyse data on teachers' practice to enable targeted support

Human Leadership

- Work collaboratively and one-on-one with teachers
- Work collaboratively with leadership team members to support the implementation of the Initiative
- Support participating teachers to take responsibility for, and be accountable for, the learning outcomes of their students

Cultural Leadership

- Support a whole school approach to improvement of mathematics and/or science teaching and learning
- Support the following set of beliefs and understandings that underpin the implementation of the Initiative:
  - Improved student outcomes is the shared responsibility of all teachers
  - The Initiative is an improvement strategy, NOT a program
  - Assessment and data analysis are key drivers for effective teaching and learning
- Link with other relevant DEECD initiatives, such as Building Leadership Capacity, Performance and Development Culture, Teacher Professional Leave and the School Accountability and Improvement Framework

Symbolic Leadership

- Ensure that adequate information about the Initiative is communicated to all stakeholders
- Engage in ongoing professional learning
- Contribute to school, network and region-based professional learning
- Report regularly to principals and also to Regional Directors, Regional Network Leaders and regional personnel on progress as required

Responsibilities of Teachers

Nominated teachers will work collaboratively with a coach to support improvement in mathematics and science for students in Years P-10. This will require teachers to demonstrate leadership and to fulfil the following responsibilities:

Educational Responsibilities

- Plan and review curriculum and learning experiences to reflect VELS and engage learners
- Develop a repertoire of effective mathematics and/or science teaching practices to meet the diverse needs of all students
- Engage in observation, planning, reflection and action research
- Trial identified strategies while engaging in on-going coaching to refine and enhance practice
- Seek professional learning opportunities to build knowledge of mathematics and/or science and how students learn in these domains
- Use and support use of VELS and core Student Learning resources (see p16)
- Analyse student data and use it to plan teaching to cater for diverse needs of students

Technical Responsibilities

- Participate in the external evaluation of the Initiative
- Prepare appropriately for meetings with the coach

Human Responsibilities

- Reflect on quality teaching practices through active participation in a Professional Learning Team
- Collaborate with the coach to plan, reflect on and discuss teaching practice

Cultural Responsibilities

- Ensure assessment and monitoring of student learning is the focus for improvement and the starting point for professional learning and planning for effective curriculum and teaching
- Focus on classroom management strategies which engage students in their learning
- Support a whole school approach to improving student learning

Symbolic Responsibilities

- Engage in professional learning including professional conversations, reading, action research and peer coaching
- Share responsibility for the mathematics and/or science improvement of every student
- Promote the focus on improving mathematics and science teaching and learning to the broader community

Curriculum Professional Learning Resources

Principals, coaches and teachers involved in the Initiative will be expected to promote and use curriculum and professional learning resources developed by the central and regional offices to support optimal implementation of the VELS at their school. These resources are available from the Student Learning website www.education.vic.gov.au/studentlearning.

E5 Instructional Model

The E5 Instructional Model is a catalyst for schools to develop a shared understanding and a common language about what constitutes high quality classroom instruction. It will assist teachers to reflect on their current practice and determine a focus for their professional learning.

Principles of Learning and Teaching (PoLT)

The PoLT Online Professional Learning resource provides support for teachers building knowledge of the Principles of Learning and Teaching.

Curriculum Planning Guidelines and Modules

The guidelines support teachers through all phases of curriculum planning, from planning to evaluation and review.

Assessment Advice and Modules

The Assessment Advice and Modules provide information about Prep to Year 10 assessment and strategies for improving assessment practice.

VCAA On-Demand Testing (www.vcaa.vic.edu.au/prep10/aim/ondemand/index.html)

On Demand Testing is an online resource for teachers to use when, where and how they choose. Tests are designed to link to curriculum and standards. Both general ability tests and topic-specific assessments are provided.

Mathematics Domain Page Resources

- Mathematics P-10 Developmental Continuum – The Mathematics Continuum provides evidence based indicators of progress, linked to powerful teaching strategies, aligned to the progression points and the standards for the Mathematics domain of the Victorian Essential Learning Standards.
- Mathematics Online Interview – The interview consists of appropriate hands-on assessment tasks where students demonstrate mathematical understanding and preferred strategies for solving increasingly complex tasks.

- Fractions and Decimals Online Interview – This interview is focussed on identifying students' learning 'hot spots' in algebra and fractions. It is suitable for use across VELS Levels 3 to 6.
- Scaffolding Numeracy in the Middle Years – This project identified and refined a Learning and Assessment Framework for the development of multiplicative thinking across VELS Levels 3 to 5. These rich tasks are available to all teachers.
- Teaching Secondary Mathematics – This resource provides professional learning modules for teachers of Years 7 to 10 to support them in targeting individual student needs.

Science Domain Page Resources

- Science Continuum P-10 – The Science Continuum provides evidence-based insights into the teaching of a range of topics in science. The Continuum is aligned to the VELS and provides teaching strategies that support teachers to develop their students' scientific understandings.
- Sample Science P-6 – Sample Science provides a range of unit ideas for primary science, including activities for student motivation, exploration and application.

ICT Domain Page Resources

- ePotential ICT Capabilities Resource – This resource provides a set of online tools to help teachers maximise their ability to use ICT in the classroom.
- digiLearn – DigiLearn is a portal for Victorian government teachers to access digital learning resources for use in the classroom.
- Victorian Education Channel – The Education Channel provides links to online resources for teachers and students that have been recommended and reviewed by educators.

Literacy Professional Learning Resource

The Literacy Professional Learning Resource provides support and guidelines for effective literacy practice for all classroom teachers and school leaders.