

Effective Professional Development:

- Emphasizes active study over time
- Models effective learning and is directly connected to teachers' practice
- Gives teachers opportunities to try new ideas and discuss the effects of instructional change in their classrooms
- Focuses on learning tailored to improve student learning, thinking and understanding
- Starts with teachers' experiences and informal knowledge

*"We have deliberately selected the term professional learning over the more narrow conceptual terms of professional development or professional learning communities because Breakthrough means focused, ongoing learning for each and every teacher."
– Michael Fullan, Peter Hill, and Carmel Crévola
Breakthrough (2006)*

Conditions for Effective Professional Learning:

- A perception that "we're good but growing"
- A continuous focus on improvement in achieving instructional goals
- Trust and shared responsibility
- A safe environment where people feel comfortable taking a risk
- A desire and/or expressed need to receive and use feedback

IMPROVING STUDENT ACHIEVEMENT IN LITERACY AND NUMERACY : JOB-EMBEDDED PROFESSIONAL LEARNING

The effectiveness of traditional professional development seminars and workshops has increasingly been questioned by both educators and researchers (Fullan 1995; Huberman 1995; Wilson and Berne 1999). Part of the pressure to rethink traditional PD comes from changes in the teaching profession. The expert panel reports for primary and junior literacy and numeracy (Ministry of Education, 2003, 2004) raise several key issues for today's teachers:

- Teachers are being asked to teach in ways that they themselves may not have experienced or seen in classroom situations.
- Teachers require a more extensive knowledge of literacy and mathematics than they did previously as teachers or students.
- Teachers need to develop a deep knowledge of literacy and mathematics pedagogy in order to understand and develop a repertoire of ways to work effectively with a range of students.
- Teachers may experience difficulty allocating sufficient time for students to develop concepts of literacy and mathematics if they themselves do not appreciate the primacy of conceptual understanding.

For professional learning in literacy and numeracy to be meaningful and classroom applicable, these issues must be addressed. Effective professional learning for today's teachers should include the following features:

- It must be grounded in inquiry and reflection, be participant-driven, and focus on improving planning and instruction.
- It must be collaborative, involving the sharing of knowledge and focusing on communities of practice rather than on individual teachers.
- It must be ongoing, intensive and supported by modeling, coaching and the collective solving of specific problems so that teachers can implement their new learning and sustain changes in practice.
- It must be connected to and derived from teachers' work with students – teaching, assessing, observing and reflecting on the processes of learning and development.

Traditionally, teaching has been a very isolated profession. Yet research indicates that the best learning occurs in collaboration with others (Fullan 1995; Joyce and Showers 1995; Staub, West and Miller 1998). Research also shows that teachers' skills, knowledge, beliefs and understandings are key factors in improving achievement of all students. Job-embedded professional learning addresses teacher isolation by providing opportunities for shared teacher inquiry, study and classroom-based research. Such collaborative professional learning motivates teachers to act on issues related to curriculum programming, instruction, assessment and student learning. It promotes reflective

practice and results in teachers working smarter, not harder. Overall, job-embedded professional learning builds capacity for instructional improvement and leadership.

There are numerous approaches to job-embedded professional learning. Some key approaches include: co-teaching, coaching, mentoring, teacher inquiry and study.

WHAT IS CO-TEACHING?

Co-teaching is an informal professional learning arrangement in which teachers with different knowledge, skills and talents have agreed to share responsibility for designing, implementing, monitoring and/or assessing a curricular program for a class of students on a regular basis (e.g., biweekly, monthly, or per term). Co-teaching is a relatively new term but appears in the work of such authors as Vance Austin.

The purpose of co-teaching is to enable groups of teachers to improve their instruction and their understanding of students' thinking and learning through shared observation and analysis of student work. Co-teaching makes it possible for teachers to engage in teaching as collaborative problem-solving.

Sample Co-Teaching Structures

- **Scenario A** – Teachers plan instruction together. Ideally the planning would stretch over a period of time but could reference a single activity. One classroom teacher implements a lesson, while the co-teachers support the instruction by asking important questions to make the concepts and strategies explicit and accessible to all students, gathering formative assessment data, rethinking the instruction plan and collaboratively sharing suggestions to improve instruction over time as a series of lessons ensue.
- **Scenario B** – Teachers plan instruction together for a learning centre. Each co-teacher takes responsibility for facilitating and observing some of the learning as students rotate through different stations of the centre. Co-teachers share formative assessment data, prompt deeper thinking by posing important questions and suggest adaptations to the materials to optimize student learning.
- **Scenario C** – Teachers plan instruction together, taking turns with implementation. When one teacher provides instruction, the co-teachers gather formative assessment data to inform the subsequent implementation strategies for a different lesson.

Co-teaching benefits instruction by providing more “eyes” and “ears” in the classroom. It also involves teachers in sharing their expertise to react to what is happening in the classroom and intervene with appropriate strategies during a lesson. Co-teachers develop strategies for watching and listening to students and for improving student

learning by using formative assessment today to plan for supplementing instruction tomorrow. It is a process that honours informal knowledge that teachers gain from living and working in the classroom and gives prominence to strategies that engage students in learning.

Coaches are:

- Active and empathetic listeners
- Responsive and flexible learners
- Reflective and well-informed thinkers
- Collaborative and collegial co-workers
- Inclusive and equity-minded educators
- Effective communicators
- Facilitators of professional learning – assessment literate and knowledgeable about current research and resources
- Relationship builders, respectful and cognizant of confidentiality
- Site-based school reformers

WHAT IS COACHING?

Coaching is a relationship established between two parties to meet a particular learning goal. Coaching involves teachers in processes in which they collaborate, refine, reflect, conduct research, expand on ideas, build skills and knowledge, and problem solve in order to improve student learning and achievement. Coaching needs to be non-evaluative and build upon a foundation of mutual respect. The teacher and the coach are partners in supporting student learning.

Some goals for literacy and numeracy coaching are:

- Increase the number of conversations at the school level about literacy and numeracy teaching and learning
- Activate and support teachers' inquiry and study to improve their knowledge and teaching of literacy and numeracy
- Engage teachers in thinking more deeply about children's literacy and numeracy learning in relation to their teaching of literacy and numeracy

Forms of Coaching

Although coaching can take on many forms, coaching sessions usually include a pre-visit conference, a classroom visit and then a post-visit debriefing session. The purpose of the visit is set collaboratively by the coach and the inviting teacher. There are several forms of coaching: cognitive coaching, content-focused coaching and peer coaching.

Cognitive Coaching is a professional learning approach developed by Art Costa and Robert Garmston. It is a method of instruction that recognizes the strength of “metacognition” (thinking about thinking) and its role in fostering independent learning. Cognitive coaching is both a set of strategies and a way of thinking and working that invites people to shape and reshape their thinking and problem-solving capacities, thus enabling them to modify their capacity to modify themselves. So, the purpose of cognitive coaching is to enhance self-directed learning and to build internal resourcefulness and capacity.

Cognitive coaches help foster independent learning by promoting metacognitive thinking, problem solving, decision making and use of personal resources. Cognitive coaches act as facilitators, using questioning strategies to assist the “protégé” to work through ideas by planning, reflecting and problem solving. Dialogue is key to cognitive

facilitator of problem-solving and knowledge-building interactions. Together, the coach and the teacher are working to identify and implement solutions that enhance student learning. The interactions are collaborative rather than evaluative.

Cognitive coaching can be applied to teacher professional learning through three phases of interaction with teacher-learners:

- *Planning* – clarify lesson goals and objectives; anticipate teaching strategies and decisions; determine evidence of student achievement; identify which documents and procedures will be used in the lesson, as well as students' responses; describe the lesson's relationship to the curriculum
- *Lesson*
- *Reflection* – summarize impressions and assessments of the lesson; recall data supporting those impressions and assessments; compare *planned* with *performed* teaching decisions and student learning; infer relationships between student achievement and teacher decisions and behaviours; synthesize learning and consider ways the learning might be applied; reflect on the coaching process and recommend refinements

Content-Focused Coaching is a professional learning approach developed by Lucy West and Fritz Staub. In content-focused coaching, teacher and coach plan, teach and reflect upon classroom lessons together. The collaboration is designed to provide teachers with situation-specific assistance focused on content, pedagogy and student learning. It is designed to engage educators in thoughtful dialogues that result in improved teaching and learning – dialogues that can rekindle a passion for meeting the challenge of teaching.

The conceptual frame for content-focused coaching reflects a profound change in the definition of teaching – from teaching as *mechanically implementing* curriculum to teaching as *mindfully making use of* curriculum (West and Straub, 2003).

Content-focused coaching terms from West and Staub are used here to describe three phases of interaction with teacher-learners:

- *Pre-lesson Conference* – The teacher explains the goals of the lesson and how she/he plans to teach it. The coach becomes familiar with the teacher's thinking, beliefs and knowledge. The coach and the teacher are accountable for initiating and assisting effective student learning. They collaboratively design the lesson and develop a shared view of understanding, strategies, concepts and skills that students are working on. By agreeing to work together on the lesson design, coaches and teachers are freed up to make the post-lesson discussions all about student learning.
- *Lesson* – The coach's role is collaborative. Teacher and coach negotiate how they will work together to add value to instruction for a specific lesson. The decisions are made based on the teacher's needs and on what conditions need to be acted upon to make the

lesson one in which students learn. The discussions between teacher and coach are always directed towards students' understanding and learning. The coach is a partner with the teacher in working towards a shared goal of student learning, not a critic of the teacher's practice.

- *Post-lesson Conference* – The teacher and the coach talk about how the lesson plan was implemented, with success or not. They discuss what problems arose and whether or not the students learned what they were supposed to. This process involves looking at students' work. The feedback gathered here often contributes to data used for planning the next lesson.

Instructional Coaching, first described by Knight (2004), helps teachers see how research-validated practices can offer useful solutions to the problems they face. An instructional coach focuses directly on the practices of the classroom teacher in order to effect improvement. Instructional coaches begin the change process by meeting with each school team. The instructional coach explains that teachers have an opportunity to learn about new research – validated teaching practices designed to make learning more effective. The instructional coach then asks teachers to indicate their interest on an evaluation form. The coach schedules a series of one-on-one or small-group meetings to identify what research teachers are interested in learning about and to discuss how that research can be translated into practice. Teachers meet with coaches anywhere from once or twice a term to every week, depending on the nature of the strategy being introduced. Each meeting focuses on real applications of research-based interventions, and, initially, theoretical discussion is kept to a minimum. For example, a coach and teacher discussing how to organize a unit might develop a graphic organizer that the teacher can use right away.

A significant part of an instructional coach's work is modeling teaching strategies and approaches so that teachers can see how an approach works in their classrooms. Instructional coaches often model the first in a sequence of lessons so teachers can see how to make the approach work. Knight believes that when teachers see strategies modeled, they develop insight into other aspects of their teaching that could be improved, such as keeping students on task, redirecting inappropriate behaviour, giving feedback, recognizing students when they're doing great work or keeping the room positive and energized. Knight believes that if a strategy works, and is easy to implement, teachers will use it.

Further, instructional coaches provide all the materials teachers need to implement a strategy or routine, to help teachers transfer research into practice. For example, instructional coaches give teachers a cardboard box called "strategy in a box" filled with everything the teacher needs to implement an instructional approach – overheads, learning sheets, readings, teaching behaviour checklists and instructional manuals. Coaches also co-write lesson plans, create overheads or co-teach to give teachers additional time. Knight explains that part of the goal of

instructional coaching is to make time for teachers to reflect on what is needed for them to make changes to their instructional behaviours.

Peer Coaching is a professional learning process of collaborative planning, observation and feedback developed by Bruce Joyce and Beverley Showers. Members of a school's peer coaching team collectively agree to do the following on a regular basis (e.g., biweekly, monthly, or per term):

- Practise or use whatever change behaviours the staff has agreed to focus on and implement
- Support one another in the change process in terms of boosting morale, planning curriculum units and lessons and developing teaching and learning materials and lessons
- Collect data about the implementation process and the effects on student achievement, relative to school improvement goals

When pairs of teachers observe each other, the one teaching is the "coach," and the one observing is the "coached." Teachers who are observing do so in order to learn from their colleagues and learn about students' thinking. The classroom observations are followed by brief exchanges and reflections on the strategies gleaned and the impact of teaching on student learning.

Showers and Joyce suggest that teachers need to engage in a new form of collaborative work and sharing before they can reach a self-sustaining level of expertise as a coach. Provision of a peer-coaching coordinator is a very critical element in planning for implementation of a peer-coaching program. Those who are developing skills as peer coaches need to have a coach of their own who has already mastered coaching and who can help guide their practice and refinement of the skills. Such a coordinator needs release time to organize several aspects of the program so that it functions efficiently and effectively. That release time is also needed to allow the coordinator to provide the necessary coaching that the developing peer coaches require as they master the new skills.

Coaching takes time to get used to. It requires new skills and new thinking about adult learning. That is why peer coaching holds so much promise for making schools more collaborative work places and for improving instruction. This is also why successful peer coaching programs utilize peer program coordinators.

Sample coaching structures include:

- *Mirroring* – The coach observes based on the request of the inviting teacher and then reports on his/her observations. In this structure, the coach does not analyse or interpret the observations.
- *Collaborative* – The coach may plan a lesson collaboratively with the inviting teacher and then observe the lesson as it is taught by the inviting teacher. The debriefing includes discussion of the observations, based on the pre-visit plan.

- *Expert* – The coach has specific expertise that the inviting teacher wishes to capitalize on during the collaboration. During the pre-visit the inviting teacher and the coach decide on the focus for the visit. The coach observes, reports on the observations and then analyses and interprets the observations.

The inviting teacher might request that the coach model a lesson or co-teach a lesson. Both options would be preceded by a planning session to determine an area of focus and followed by a debriefing session that would include analysis and interpretation.

Synthesis - All Coaching Models

Regardless of the type of coaching, the title or job description, school-based coaches have at least two things in common. First, their mission is to be part of teachers' learning and to support them as they apply new knowledge and skills necessary to improve the academic performance of all students. Second, instructional coaches spend a significant portion of their working day in direct contact with teachers, in their schools and classrooms. The role is complex—requiring the people in it to be part teacher, part leader, part change agent, and part facilitator.

WHAT IS MENTORING?

Support for mentoring in Ontario has been focused on new teachers but the mentoring relationship can be adapted to involve experienced teachers. Mentoring can be conceived as a one-to-one helping relationship between a novice and experienced educator in which the mentor provides guidance for everyday teaching practicalities, as well as being a friend who gives emotional and psychological support. Mentors are both experienced and willing to tell the stories of their teaching and learning experiences in order to help others. Feiman-Nemser and Parker (1992) identify three different purposes of mentors:

- As *local guides*, mentors try to smooth the entry of beginning teachers into teaching by explaining school policies and practices, sharing methods and materials and solving immediate problems. Their focus is to help novices fit into the school setting and learn to teach with minimal disruptions.
- As *educational companions*, mentors help novices to cope with immediate problems and circumstances, but also prompt the novice to work towards long-term professional goals, such as helping them to understand student thinking and develop reasons for their instructional decision-making and improve their instructional practices.
- As *agents of change*, mentors seek to dismantle the traditional isolation among teachers by fostering norms and practices of collaboration and shared inquiry. They build networks with novices and their colleagues and organize opportunities for teachers to visit each other's classrooms to have conversations about teaching.

Effective mentors take the risk and have the wisdom to allow their limitations and lack of knowing about teaching to show. An expert cannot be a good mentor unless he or she can meet learners where they are. A mentor acts as a role model and gives advice and guidance about classroom organization and management, curriculum planning and instruction. Often, mentees report that the mentoring support within an in-school context is pivotal to their development as teachers.

Because mentorship is a two-way relationship, both the mentor and mentee grow and develop through the relationship. In fact, successful mentoring relationships can experience a shift with maturity in which the mentor becomes the mentee and the mentee, the mentor.

WHAT IS TEACHER INQUIRY AND STUDY?

Over the past several decades, professional development often focused on providing teacher with resources and related training about their use; at times without the opportunity to discuss how this new learning would be integrated with their current instructional practices. Some teachers developed a “just the facts” delivery rather than a reflective and interactive approach.

The recent expert panel reports for literacy and numeracy have called for instruction that directly focuses responsibility on student achievement of expectations – all eyes and ears are on the students and their learning. The reports also call for elimination of the separation between theory and practice and expect that teachers analyse, study and reflect on their classroom practice. Case studies make principles of practice observable through narrative description. They establish a culture of inquiry (Fullan, 2001) and allow teachers to identify practices that are influencing improved student achievement.

Inquiry engages teachers in working on challenging dilemmas that appear in every teacher’s practice. Participants learn that solutions depend on contextual information and there is never only one answer to any one problem. Familiar with the tensions, demands and needs that must be addressed on an hourly, sometimes even minute-to-minute basis in classrooms, teachers find themselves re-examining strategies and challenging assumptions they have held for years. Case study participants try out fresh, new ways of dealing with challenges in practice, discovering what works and what doesn’t and sharing these new learnings with their colleagues.

PREPARING FOR JOB-EMBEDDED PROFESSIONAL LEARNING : CONVERSATION STARTERS

The following pages provide lists of ideas and questions that can be used to begin discussion in preparation for implementing job-embedded professional learning. The lists can be used for planning, analysing board and school plans and as points for discussion for participants in programs that are already running.

Inquiring into the School's Culture - Assessing Needs and Readiness

- What do you see and hear when you enter the building? Is the entrance inclusive and respectful of the community? Is the school tone and language respectful to visitors, staff and students?
- How do students and staff interact both inside and outside the building?
- Where do teachers meet to collaborate?
- How is literacy and/or numeracy student work displayed throughout the school?
- How is the success for all students a school focus?
- Which school-wide intervention plans and protocols for literacy and/or numeracy are present (are developing) to ensure success for all students?
- Are resources inviting and accessible to all members of the learning community?
- What common understandings and language about literacy and/or numeracy are present (are developing)?
- What common assessment tools and tracking is used to focus on equity of outcome for all students in literacy and/or numeracy?
- How does the staff engage in professional dialogue and inquiry about literacy and numeracy?
- How does the school's learning network connect to on-site expertise and knowledgeable others?

Organizing for School-Wide Improvement

- Set explicit attainable goals and targets in literacy and numeracy
- Focus on equity of outcome for all students
- Identify high expectations for all staff and students
- Develop effective on-site protocols to discuss student achievement
- Organize classroom schedules to allow for small group learning and early intervention
- Implement a school-wide strategy for using personnel, time, curriculum materials and assessments to specifically meet the needs of all students

- Develop a collective sense of responsibility and a collaborative team approach
- Build capacity for instructional leadership
- Provide resources and professional learning opportunities for teachers and administrators
- Schedule protected large blocks of time for instruction
- Develop strong links that allow parents and community to interact with the school and staff in meaningful ways
- Provide effective communication about student achievement
- Organize for on-going inquiry-based learning for teachers

Ongoing Staff Learning and Preparation

- Focus discussions of goals on what actions are required to ensure the success of all students
- Engage staff in active research, thinking and reasoning as they develop knowledge together
- Promote accountable talk that responds seriously to and further develops what others in the group have said – it is fundamental to learning
- Deliberate about and debate *why* particular contexts for instruction or strategies for promoting student engagement were chosen
- Make student success for all the only focus

Articulating and Realizing Student Learning Goals

- Engage in conversations about goals and discuss strengths and gaps in teacher professional learning that need to be addressed in order for the goals to be met
- Collaboratively identify measurable milestones for the learner
- Discuss and analyse instructional practices that are working
- Discuss and analyse instructional practices that are not working for some students and articulate what has to change to impact those students
- Structure feedback to be affirmative and focused on working together to thinking about ideas for overcoming limitations and for making improvements
- Create professional learning opportunities to learn by doing

Ongoing Staff Communication and Feedback

- Provide a written summary of coaching meetings (individual and group) to those involved routinely to include the following:
 - names of the participants
 - date of meeting
 - topics discussed (e.g., classroom queries and dilemmas)
 - goals set
 - actions to take
 - next meeting details (date, time, topics)

- Provide summaries of coaching activities as a whole (by grade level, division) so they can be readily found by all involved and serve as an explicit record of learning to include the following:
 - dates and times
 - inquiry and learning focus of individual coaching sessions group coaching sessions, and co-teaching lessons
- Have a coaching advisory team in the school (i.e., broad representation – pre-primary, primary, and junior teacher representatives, principal, special education teacher) to share in the ongoing evaluation of the coaching process, in terms of scheduling, relationship between teacher learning goals and school

QUESTIONS TO PROMOTE PROFESSIONAL DIALOGUE AND LEARNING : CONVERSATION STARTERS

For all of your coaching sessions with teachers, clarify the focus for the visit or conversation and determine what the inviting teacher expects from the coaching experience. Consider beginning the conversation around what the data (classroom-based and large-scale assessments) reveal about the students' learning strengths and needs for improvement. Select questions that are suitable for your discussion and appropriate for your setting.

During the Planning Conference for a specific lesson, ask

- What is your lesson going to be about?
- As you see the lesson unfolding, what will students be doing to learn?
- As you envision this lesson, what do you see yourself doing to enable student learning?
- What will you be doing first? Next? Last? How will you close the lesson?
- As you envision the lesson, how long do you anticipate each part will take?
- What will you see students doing or hear them saying that will indicate to you that students are learning and achieving the lesson learning goals?

During the Reflecting Conference about a specific lesson, ask

- As you reflect on the lesson, what did you see students doing (or hear them saying) to demonstrate their learning and achievement of the lesson learning goal(s)?
- How did what you planned compare with what you did?
- What do you recall about your own behaviour during the lesson?
- How did what you observed compare with what you planned?
- As you reflect on the goals for this lesson, what can you say about your students' achievement? What evidence did you gather?
- What were you thinking when you decided to change the design of the lesson?
- What were the students doing that signaled you to change the format of the lesson?
- What hunches do you have to explain why some students performed as you had anticipated while others did not?
- What did you do to produce the results you wanted?
- As you reflect on this discussion, what big ideas or insights are you discovering?

- As you plan future lessons, what ideas have you developed that might be carried forth to the next lesson or other lessons?
- As you think back over our conversation, what has this coaching session done for you? What is it that I did (or didn't do)? What assisted you? What could I do differently in future sessions?

About the Learning Environment – for discussion and reflection

- What aspects of your classroom learning environment support student learning and achievement in literacy and mathematics?
- How have you organized classroom time for students to learn literacy and mathematics every day?
- What ways can your classroom learning environment be enhanced to improve student learning and achievement in literacy and mathematics?
- How does your classroom (inside and outside) show the literacy and mathematics that students are learning?
- How have you organized your classroom for shared and independent literacy and mathematics learning?
- What ways can displayed student work be used for ongoing learning?
- What evidence do you have that your students are developing greater confidence and interest in literacy and mathematics?
- What ways have parents been involved in their children's learning of literacy and mathematics?
- What ways have students and teachers from other classes (i.e., same grade, different grade) been involved in the children's learning of literacy and mathematics?

About the Program – for discussion and reflection

- In what ways does your curriculum program support student learning and achievement of literacy and mathematics?
- How have you organized your program to enable student learning of all grade-level curriculum expectations over the course of the year?
- In what ways are different literacy and mathematics learning materials used in your program?
- What preparations have you made to anticipate students' prior literacy and mathematics knowledge, students' differentiated responses and knowledge, and their evolving thinking throughout the lesson?
- What aspects of your literacy and mathematics curriculum program could be improved to better support student learning and achievement in literacy and mathematics?

About Classroom Instruction – for discussion and reflection

- What aspects of your classroom instruction support student learning and achievement of literacy and mathematics?
- How do you ensure that your students are learning mathematics through problem solving?
- What kinds of questions do you and the students pose throughout the lesson?
- What strategies have you found effective to use to prepare yourself to respond to a variety of students' responses and solutions?
- What strategies do you use to pace the students to ensure that they engage sufficiently in learning during the beginning, middle and end of a lesson?
- What cooperative learning strategies are effective for prompting student individual thinking and collaborative?
- How do you know that your instruction is making a difference for all students?
- What ways can your literacy and mathematics instruction be enhanced to improve student learning and achievement?

About Assessment – for discussion and reflection

- How do you know what your students understand and can do in literacy and mathematics?
- What aspects of your classroom assessments support student learning and achievement of literacy and mathematics?
- What strategies do you use to check students' consolidation of learning during a lesson?
- What strategies do you use to check students' consolidation of learning throughout a unit of study?
- How do you monitor student learning throughout a chapter or unit of work to ensure equity of outcome (e.g., equity does not mean equal time)?
- How do you monitor and respond to the literacy and mathematics learning of the class as a collective?
- What ways do you adjust subsequent lessons based on the assessment you gather?
- How are you planning, gathering, recording, and analysing data for diagnostic (initial) assessments, for formative (assessments) and for summative (*for* learning) assessments?
- What ways can your assessment practices be enhanced to support the improvement of student learning and achievement in literacy and mathematics?

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Job-embedded professional learning addresses teacher isolation by providing opportunities for shared teacher inquiry, study and classroom-based research. Such collaborative professional learning motivates teachers to act on issues related to curriculum programming, instruction, assessment and student learning. It promotes reflective. The teacher and the coach are partners in supporting student learning. Some goals for literacy and numeracy coaching are:

- Increase the number of conversations at the school level about literacy and numeracy teaching and learning
- Activate and support teachers' inquiry and study to improve their knowledge and teaching of literacy and numeracy
- Engage teachers in thinking more deeply about children's literacy.

A Fresh Start: Improving Literacy and Numeracy. The Report of the Working Group Chaired by Sir Claus Moser and The Moser Report: Summary and Recommendations, Annexes, Implementation Plan. Department for Education and Employment, London (England). But, as a national priority, improvements in literacy and numeracy never reached the front of the policy queue. So it was most encouraging when the Government launched the National Strategies for Literacy and Numeracy for schools. This gives every hope that today's and future generations of children will have the right start. But even when the problem is less extreme, it limits a person's chance to get a job or, if in a job, to achieve promotion and change. And it can close many doors to a full life. Action Research is helpful in improving the professional experience of teachers, head teachers, and administrators. It gives every educator a chance to improve the practices in classroom and schools, which ultimately will improve the quality of teaching and learning. It leads towards positive quality improvement in the education system. In support of the USAID strategy, in stable, well performing countries with unmet needs in basic education, the priority focus will be on assuring. The literacy and numeracy programme was conceived in response to repeated low student achievement in international assessment tests such as PISA, PIRLS and TIMSS and to the weak mechanisms in place to support learners lagging behind or not performing to the best of their abilities. The system and teachers in particular had generally low expectations for students and little attention was paid to those not mastering the language of instruction, such as Roma children.

- Deepen teachers' understanding of quality teaching in numeracy and literacy;
- Maximise on-the-job support to encourage teachers to change their classroom practices;
- Improve students' outcomes in early numeracy and literacy and results in future international assessments.

1.