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Teaching as Inquiry

One School's Approach Using a Macro-Level Cycle

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To be effective, teaching as inquiry needs to operate at both macro- and micro-levels. The macro-level is aimed at developing a community of learners across the school and providing quality professional development. The micro-level is as required by the New Zealand Curriculum.

The New Zealand Curriculum states that effective pedagogy requires teachers to inquire into the impact of their teaching on their students (Ministry of Education, 2010). The Ministry of Education document provides the *Teaching as Inquiry Cycle* as the vehicle to achieve effective pedagogy and improved outcomes for all students. It is an organising framework that teachers can use to help them learn from their practice and build greater knowledge (MOE, 2007, p. 35). I view this model as a micro-level (teacher/classroom) cycle which, to work successfully, needs to be subsumed within a macro-level (whole school) *Teaching as Inquiry Cycle* aimed at developing a community of learners and providing quality professional development.

Effective professional development, or professional learning, should take the form of practitioner inquiry whereby the whole school operates within a learning community (Groundwater-Smith, 2002). Within a learning community, relationships of trust can be built, reflections can be shared, and change in practice moments can be located. We perceive that the Ilam macro-level cycle builds an inquiring culture based on critical reflection and relational trust that focuses on continual growth and improvement of practice. Ilam teachers have the opportunity to operate as a learning community, acquiring knowledge which will assist them in the improvement of practice in relation to pedagogy, curriculum, and assessment. This can be described as practitioner inquiry which moves beyond the individual to the collective and sees as its objective the engagement of the whole school in systematic inquiry as normal practice towards achieving school improvement (Groundwater-Smith, 2002). Approaching professional development from a growth or learning perspective, and focusing on teachers as learners operating in a learning community, are progressive and valuable (Bird, 2009). As Aitken (2010) states, "Effective teachers inquire into the relationship between what they do (style) and what happens for students (outcomes). But effective teachers do more than simply inquire (or reflect) – they take action (in relation to what they are doing in the classroom) to improve the outcomes for students and continue to inquire into the value of these interventions" (p.9). This is a perceived main outcome of the *Ilam Macro-Level Teaching as Inquiry Cycle*.

The *Inquiry Cycle* at Ilam School is underpinned by the main tenets of the New Zealand Curriculum *Teaching as Inquiry* statement. Ilam's cycle involves seven core elements that evolved over a two-year, whole-school journey focused on developing a meaningful localised curriculum framework, building a community of learners, and ensuring all professional

development is a comprehensive, sustained, and intensive approach to improving teachers' and principals' effectiveness in raising student achievement.

The seven core elements of the *Macro-Level Teaching as Inquiry Cycle* include teaching and learning goals, quality learning circles, moderation of students' work, learning walks, quality professional development, classroom observations, and an effective pedagogy rubric. (See Figure 1.)



Figure 1. Macro-Level Teaching as Inquiry Cycle

The Seven Core Elements of the *Macro-Level Teaching as Inquiry Cycle*

The Annual Teaching and Learning Goals

Most schools in New Zealand define specific annual teaching and learning goals formulated from data gathered over time from both students and teachers (for example: student achievement target data, teacher appraisal data, learning walks, curriculum review and development, professional development needs, student voice, and various surveys). The annual goals at Ilam provide the contexts for inquiry based on whole-school critical reflection and quality professional development that are aimed at change in teacher practice, resulting in improved outcomes for students.

For example, a 2011 teaching and learning goal at Ilam is *to apply new strategies in the teaching of writing in order to improve teaching practice and outcomes for students*. This goal will be underpinned by a whole-school professional development plan and will be the focus of all Learning Walk data gathering and Quality Learning Circle presentations.

The annual teaching and learning goals gives me a clear focus on what I can work on, . . . skills I will aim to develop further & . . . pedagogical knowledge I can strengthen. It gives me focus and drive for the coming year.

-Teacher comment

The Ariki Project Quality Learning Circles (QLCs)

Ilam School has been privileged to participate in the Ariki Project over the past two years. The project has been developed by Dr. David Stewart in partnership with the New Zealand Primary Principals Association and the Ministry of Education. One of its main activities involves teachers and principals forming groups to participate in quality learning circles. Quality learning circles (Stewart, 2000; Stevens & Stewart, 2005) are structured around participants presenting evidence of their work in a forum which seeks meaning and validity. The clear questions for enquiry are then about *worthwhile* actions and correlations between intentions and demonstrated learning outcomes. The reflective questions ask the teacher about meaning, lateral links, existing data, validation, and what might be. Research suggests that teacher reflection about their own beliefs and practices appears to assist them in gaining a deeper understanding of the principles of teaching and of how students learn (Kane, Maw, and Chimwayange, 2005). Opportunities to reflect on their own practice help teachers to make new meanings and clarify their next steps. As Humphreys and Hyland (2002) state, critical reflection may assist teachers to reflect on complex ethical challenges about practice where perhaps they were previously unable to discern them.

Example from Ilam School

QLC 1, Term 1, 2010

- *After analysing the results of spelling assessments and initial writing samples at the start of the year, I decided that I would have to make major modifications to the writing spelling programme to meet the specific learning needs of the class . . .*
- *After reflecting on the efficacy of my writing programme I decided to introduce the Words Alive writing programme format to my class. My teaching and learning goal was to ensure improvement in student outcomes in spelling while introducing the Ilam School Writing Rubric.*

QLC 2, Term 2, 2010

- *I consider that there have been improvements in student outcomes in spelling and writing as a result of the changes made to the writing programme. All the children have gone up at least 1 level on the Sounds Alive test. However, it is obvious that each instructional group needs a considerable number of conferences where the same learning intention is emphasised before mastery is attained . . .*
- *It is important to model and demonstrate all of the writing skills as frequently as possible so the children develop appropriate strategies to meet their learning needs.*

QLC 3, Term 3, 2010

- *The efficacy of the spelling programme is shown by the data results and by observation of writing behaviour where children check, change, and use sample spelling strategies when they are writing. It is still critical that the children are reminded to follow the Sounds Alive system whenever they are writing because there is weakness in transference and some have not fully internalised the spelling tools. However, from the assessment results it can be seen that the class programme has been quite effective.*

After the second Quality Learning Circle (QLC) meeting, the teacher reflected on the efficacy of her writing programme, changed her teaching approach, and reset her teaching and learning goal. Later in the year, she again analysed new student data, made new informed

assumptions about her teaching and programme, and made clear statements around effective pedagogy.

After her final QLC presentation, the teacher concluded that the year-long inquiry in spelling had been effective in improving outcomes for students.

The above example shows clear links between the principal's intent (a goal in teaching and learning from a school's Annual Plan), teacher intent, and improved student outcomes. The QLC experience enabled the teacher to present her analysis of data, critically reflect, and change her practice, culminating in raised student achievement. This allows the principal to consider their own perceived impact on teaching practice and improved student outcomes through clear evidence.

The Ilam Effective Pedagogy Reflective Map

A rubric of specific effective practice underpins all teaching and learning at Ilam School. The

The effective pedagogy rubric helps me to reflect and identify my next steps as a teacher. I aim for the Expert/Inspired category but realise this will be ongoing.

-Teacher comment

teachers identified, over a period of time, six key effective strategies/approaches that should be consistently applied by all teachers and regularly reviewed and refined. Its main aim is to improve practice and outcomes for students. The six strategies/approaches are as follows:

- Using self-regulated learning strategies and tools
- Sharing learning intentions and co-constructing success criteria with students
- Giving quality feedback
- Using the inquiry process
- Utilising effective questioning skills
- Modelling in multiple modes

The rubric helps teachers to self-appraise their practice against 'apprentice/practitioner/expert' criteria, to set personal learning goals, and to plan units of learning. It has enabled teachers to deepen their pedagogical understandings, and senior management to highlight professional development needs both at the personal and school-wide level. Defining the specific effective pedagogy to be applied at Ilam has built a culture of inquiry focused on a consistency of agreed upon practice and a whole-school professional development approach.

Example from Ilam School

Using Self Regulated Learning (SRL) strategies & tools

Apprentice – Aware - Understanding & Knowledge (Bloom's Taxonomy)

Some SRL strategies and tools introduced and utilised in a limited manner.

Practitioner – Capable - Analysis & Application (Bloom's Taxonomy)

Many SRL strategies and tools introduced and utilised in order to help students become self-managing learners. However, teacher control is more evident than student control.

Expert – Inspired - Evaluation & Synthesis (Bloom's Taxonomy)

Many SRL strategies and tools are embedded as effective teaching practice and students are developing as self-managing learners. Students are controlling their learning environment as opposed to the teacher.

Moderation of Students' Work

At Ilam we believe effective moderation, which involves a group of teachers discussing evidence of student learning, and professional development are key factors in establishing confidence in teachers' judgements (Harlen, 2009). We also endorse the idea that the process of moderation by group discussion of student work be described as "the most powerful means for developing professional competence in assessment" (Maxwell, 2004, p. 7). Teachers understand the ways in which information gathered as part of teaching can be used formatively to help learning and can then be summarised for summative uses. In this way, all assessment can be seen as being of benefit to teaching and learning. The opportunities for professional collaboration help to clarify the assessment criteria and develop shared understandings of levels of achievement (Ministry of Education, 2010).

The moderation process helps teachers make dependable decisions about student progress and achievement. It improves decisions at one point in time, as well as over time. Reliability is improved when:

- there are detailed criteria describing levels of progress in various aspects of achievement;
- teachers follow procedures;
- there are effective procedures for moderation;
- and training focuses on the sources of potential bias that are known from research (Harlen, 2005).

In response to the need to develop effective moderating procedures, Ilam has developed a document titled *Moderation Guidelines and Processes* so that consistency and a shared understanding are evident across the school. Moderated teachers' judgements of pupils' performance provide more dependable information, and the resources required, such as exemplars, add to the quality of teaching as well as assessment. Evidence also shows that change in assessment procedures requires changes in many related aspects of teaching, and must be given time to become established.

Example from Ilam School

Points to Ponder...

- Do these assessments give us the information we need to make an informed judgement about students' strategy understandings?
- How can we ensure we have given students the opportunity to attempt to use higher strategies?
- How do we encourage students to attempt the more difficult problems (especially when they cannot be confident of the correct answer or strategy)?
- We know that students will commonly use lower strategies with easier problems and move to higher strategies with more complex problems.
- Does having the counters out in front of the student mean they will use these because they need to or because they are more secure with them?
- If the counters/sticks were not there, what strategy would they attempt first?

Gathering prior learning:

- Do you gather suggestions from the students about how they might solve a problem or do you suggest (with the materials, and through your teaching) how it should be done?

- Are the students showing us in our assessments what they think we want to see, or the most advanced strategy they have to attempt to solve it (even if they don't get the right answer!)?
- How does this impact on our assessments?
- How do you feel about the expectations/standards that end of Year 1 (40 weeks) should be counting all, working at stage 3 and Year 2 (80 weeks) working at stage 4?

Learning Walks

Based on the work of New Zealand educationalist Dr. Cheryl Doig who developed the Learning Walks strategy, teachers regularly gather quick snapshots of data across the school linked to our areas of inquiry. Learning Walks enable informal snapshots of teaching and learning, taking approximately seven minutes and having a specific focus. The data gathered informs our teaching practice; is about the “big picture,” NOT the individual; identifies opportunities for improvement; and supports the sharing of best practices across the school. Learning Walks engage teachers in dialogue and reflection about teaching practices and school-wide goals, allow us to gather snapshot data in order to develop and support teacher professional learning communities focused on improving teaching and learning, enhance reflection on snapshot data gathered, and enable identification of next steps in order to support the success of every student and every teacher (Doig, 2009). They are integral to building a community of learners, building an inquiry culture, and focusing on improving teacher practice in order to improve outcomes for students.

Example from Ilam School

After carrying out a Learning Walk designed to gather data around teachers giving students quality feedback, the following Senior Teachers Team next steps were formulated:

- Ensure all feedback is specific in children's books and connected to learning intentions of success criteria.
- Ensure children have opportunity to develop understandings of what feedback is and what to do with it. (Do children actually understand the next learning step identified?)
- Ensure time is spent for children to reflect on feedback. This may be at the beginning of a writing session or through a reflective journal.
- Ensure children understand exemplars used.
- Help children make the connection from feedback to learning.
- Give children a chance to respond to feedback.
- Allow children opportunity to articulate the language, e.g., next step, feedback, constructive feedback, exemplar, success.
- Model and explicitly teach giving peer feedback.
- Use sentence starters for feedback.
- Ensure purpose is shared along with learning intentions and success criteria.
- During future team meetings teachers will bring anecdotal comment and examples to share on what they have done differently so far in regards to quality feedback.
- Further data will be collected on feedback during Learning Walk 5.

Specific Professional Development (PD) (Involving the Whole School)

The PD is focused on meeting the main student achievement target(s) for the year and is based on a needs analysis survey and data from three different levels: the students, the

The main focus is on *the visitor as the learner*. The visitor has an altogether different status and purpose compared to the appraiser in the traditional appraisal system.

teachers, and the school-wide programmes. It uses and grows the expertise of leadership and teachers internally and expert(s) externally. It takes many forms such as facilitator modelling, co-constructed practice, pedagogical content knowledge development, teacher observations, leadership team meetings, analysing student data/evidence, constructing

overall teacher judgements, moderation, staff meetings, and teacher-only days. For example, a whole-school writing professional development training day included carrying out a needs analysis, reviewing baseline student data and identifying student needs, pedagogical content knowledge development, and knowledge development of assessment tools.

Classroom Observations

Classroom observations involve teachers visiting classrooms at predetermined times to observe a colleague putting into practice something they have presented at a QLC. The main focus is on *the visitor as the learner*. The visitor has an altogether different status and purpose compared to the appraiser in the traditional appraisal system. Here, the visiting teacher is a learner rather than an observer gathering data or evidence. Data is only gathered to inform the learner (Stewart, 2000). The focus of the visit is linked to our areas of inquiry. Visits may eventuate from quality learning circle group participants wishing to learn more about something that has been presented at a QLC session. The visit then is not to critique a process as may have been the case in a more traditional *observation*, but rather to construct further meaning in the mind of the visitor. Participants in a visit would then articulate their *new* thinking at a subsequent QLC session. Interaction between the QLC members is suspended during the visit. This is time for listening, looking, and thinking (Ariki Project Protocols for Classroom Visits, 2010). Visiting teachers are actively engaged in making judgements about their own practice. This process builds a strong culture of inquiry and forms an effective form of professional development based on critical reflection and relational trust, focused on continual growth and improvement of practice.

Example from Ilam School

Topic: How young students use writing progressions to take control of their learning. Demonstration of a teacher modelling book and the use of a student checklist of writing criteria.

Visiting teacher reflection post visit: I observed the teacher demonstrating a powerful writing tool and scaffolding learning from one writing criteria to the next. I will [try] this practice in my own classroom.

The Seven Core Elements and Their Perceived Positive Outcomes

All seven elements form core features of professional development activities that have significant positive effects on teachers' self-reported increases in knowledge and skills, and changes in classroom practice. The seven elements include a focus on content knowledge, offer opportunities for active learning, and bring coherence with other learning activities. The elements provide professional development that leads to sustained better practice and a focus

on developing teachers' pedagogical content knowledge in sufficient depth to form the basis of principled decisions about practice (Timperley, Wilson, Barrar, & Fung, 2007). This knowledge, combined with evidence-based skills of inquiry, allows teachers to identify next teaching steps and test if changes to practice are having the desired impact on students.

The seven elements provide effective professional development through building small professional quality learning circle groups focused on learning and learners and addressing outside-in initiatives (such as National Standards) by turning them inside-out, thereby making them their own (Johnson, 2003). The seven elements empower teachers to take ownership of top-down Ministry of Education initiatives through having the opportunity to inquire into the new practice in a challenging but meaningful way before having to implement it. I believe having teachers work as a community of learners increases student and staff achievement and contributes to the development of a culture of inquiry. The seven elements allow professional learning that is integral to their work, where teachers derive meaning from their own classroom experience, reflect, and actively collaborate with their colleagues.

The *Inquiry Cycle* at Ilam has enabled the teachers to develop a shared purpose and understanding about their teaching and learning practices. It has resulted in a strong growth in teachers undertaking leadership and expert teacher roles. A culture of trust, partnership, and professional accountability has evolved and teachers are now more pragmatically involved in the direction of the school curriculum and programmes.

Successful implementation of the revised national curriculum will require teachers to be active participants in a *macro-cycle of inquiry*, as described in this article for example, in order to develop deep pedagogical knowledge through high quality professional development. A number of schools that scored highly in the OECD Pisa Report (2000) have adopted a professional development model based on teachers undertaking inquiry to inform their practice. Successful programmes encourage the development of teachers' learning communities, provide ways for teachers to share their expertise and experience more systematically, and develop schools as learning organisations. The perceived positive outcomes of the *Ilam Macro-Level Teaching as Inquiry Cycle* confirm the value of this approach and offer further insight into how this could be structured. Such a structure might build on the ideas from the Ariki Project, where connections can be viewed between the principal's intents, teacher behaviour, and student outcomes.

Dr. Lyn Bird is principal of Ilam School in Christchurch, New Zealand. She is currently a member of the Practitioners Reporting Group, who is preparing a working document for principals on the writing of mid- and end-of-year individual student reports and sharing student progress and achievement with parents. She is also the Regional Director of the Ariki Project, a pilot principal appraisal programme currently being introduced in New Zealand. Her research interests are self-regulated learning, teaching as inquiry, and principal appraisal.

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