Inquiry Learning

By Graeme Whitworth

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The purpose for my sabbatical this term was to focus on Inquiry learning, how Assessment for Learning fits inside it and how effective it is in developing learning for our teachers and students in the 21st Century world they are part of.

Introduction

I decided to follow this line of thinking as a result of a process we had been through as a school of studying Information Technology models by Gwen Gawith who regularly warned me these were not necessarily "Inquiry" but more a way of gathering and using information. I visited several schools over a period of years looking at their "Inquiry" models. I attended two Assessment as Learning conferences, the latter where teachers from my own school were invited to present their work.

We are, part of the Assessment as Learning contract. Good Inquiry models we have observed include Coley Street in Foxton, Opunake Primary in Taranaki and Island Bay School in Wellington.

- But we still needed a model that met our needs as a school. Kath Murdoch's model and the SOLO model used by Gordonton School in Hamilton and St. Marys school in Foxton (SOLO = Structures of Observed Learning Outcomes. Pre-structural, Uni-structural, Multi-structural, Relational, Extended Abstract).adapted from an Auckland schools model, were also of real interest. Woodleigh School in Taranaki uses the LISP (learning in science project) model developed by John Faire and Mark Cosgrove which emphasises the scientific approach to learning and focuses on quality products. This encourages teachers to slow down – do less better.

Figure 1: sample from Woodleigh school

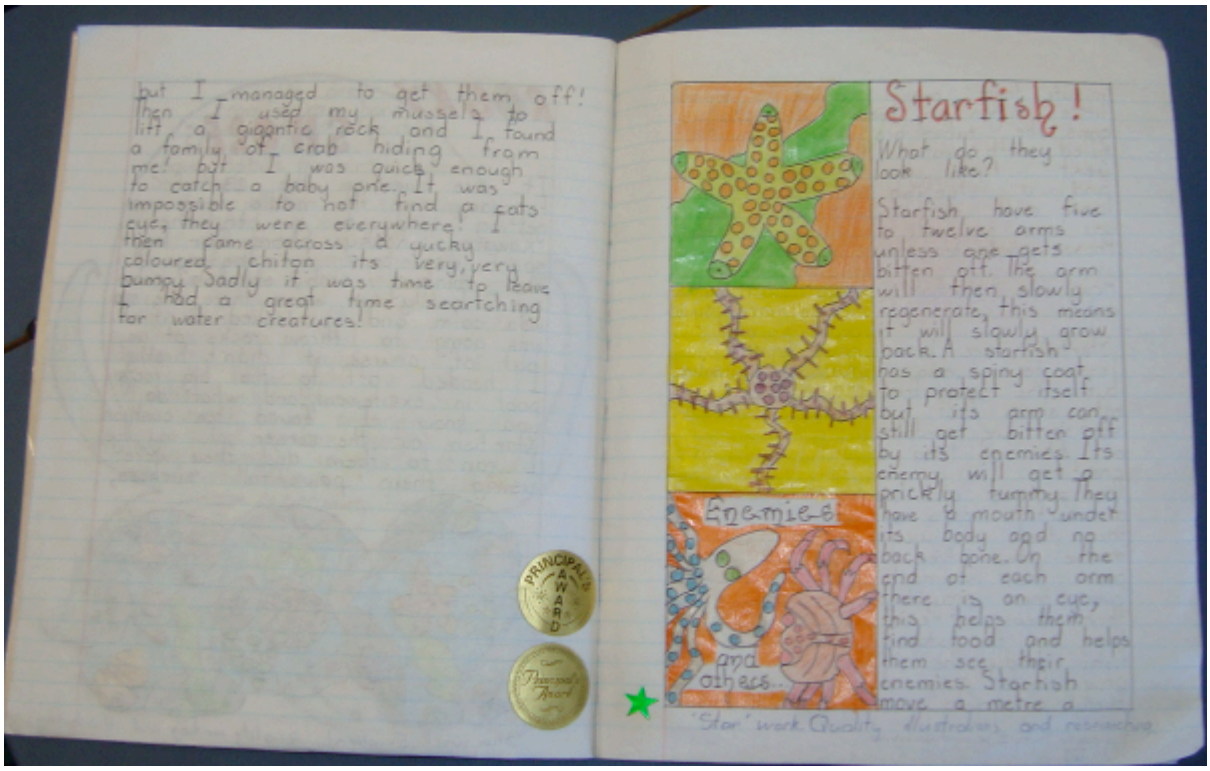


Figure 2 Quality work Woodleigh school

I was really impressed with the model developed and used by St. Josephs School in Opunake, Taranaki using the honeycomb concept from the effective literacy handbook. The model followed specific skills at each age level, each year building on the previous until by year 7 / 8 students had the skills available to carry out independent Inquiry learning programmes, still based around a shared theme though.

Figure 4 Honeycomb planning St. Josephs

I was equally impressed with teacher Katherine Dixon from Puketaha School in Hamilton who had developed an individualised Inquiry programme with her Year 7 / 8 students based around written language, but developing an authentic theme from which students carried out specific stages of Inquiry.

At Mosston School we developed our own model based around Kath Murdoch but when it came time to answer the question, “How do we know we are making a difference to student learning over time?” we struggled to come up with a model that effectively answered this question.

The second question we wanted answers to was, “How does assessment fit within the Inquiry process?”

Thirdly I wanted to find schools using examples of “Good Practice” I could send my teachers to, to help them grow professionally or to be able to re- affirm for them the quality work they were doing.

Following are my personal thoughts and views based on observations and talking to people mentioned in my acknowledgements. These are the conclusions I have reached.

At the end are my observations of how Australian schools carry out their version of the National Standards. My intention had been to talk about Inquiry but these particular schools don’t appear to value the process highly. It is used as a tool by individual teachers based on their levels of interest and having to ensure the syllabus requirements by which the schools are being driven are met. Standards was pretty much consuming the schools at this particular time of year.

Who Inquires?

Effective Inquiry is totally dependent on the knowledge and enthusiasm of the classroom teacher. The relationship they build with their students, their understanding of the Inquiry process and where they want their students to get to, their ability to guide / direct students in their learning through effective questioning, teacher input, expectations, time management all contribute to the students Inquiry growth. They need to be able to reflect effectively on student achievement outcomes so they know where new learning needs to be taken. They need to be able to guide students to create new knowledge, understandings and theories, and present these through a variety of 21st Century mediums.

As they proceed through the learning stages it is important that high expectations and standards are maintained.

I believe from my observations that effective Inquiry must be actioned school wide to maximise learning for students. This allows for the building of stages of learning through the school. Each stage builds on the one before it to move from teacher directed, through teacher guided and into the ultimate stage of pure Inquiry which is student controlled and teacher supported.

Inquiry must be authentic for students – something that can be applied to their own environmental / community surroundings or by providing an opportunity to extend

their thinking beyond the known into creation of new knowledge, understandings and theories that they can express from a sound base.

A school wide model allows for focused assessment to occur based around building on specific skills of information research and developing good questioning techniques which promote deep thinking, as students move through classes to reach the pure form of Inquiry.

It encourages collegial interactions amongst teachers to ensure each stage is taught and developed well to prepare students for the next and also to share learning outcomes, issues, concerns, consistency in expectations and standards, as well as reflection as a team. I was influenced by the Island Bay concept of a learning journey on the classroom wall which can be shared with students, other teachers and Board members as part of walk throughs, and with parents of students who can see the process and product of their children's learning clearly displayed.

It develops the concept of teacher inquiry. Teachers need to be constantly evaluating reflecting, re teaching, adjusting, motivating, setting new learning goals, thinking of ways to further support and extend student thinking.

A school wide model gives teachers and students "clear hooks to hang their coats on".

Figure 3 SOLO Gordonton school

Teachers can express their individuality within a clearly structured model – "Individualism inside conformity". Clear school expectations and directions are placed on teachers while allowing them to bring their own unique character and way of working with students – teacher / student relationships – to the learning environment.

It is vital teachers have a shared ownership of the model as they are the vital link in ensuring the model works. Focused, exploring, excited, motivated teachers will naturally infect students with the desire to want to learn – no matter what the context. It is difficult for Primary teachers as they have to be so versatile in their thinking. Each teacher has areas of strength and weakness. Strength in art or science or social studies will optimise that learning in their classroom perhaps to the detriment of others. A good Inquiry model will allow a variety of curriculum contexts to be explored which means teacher knowledge needs to broaden into different fields of Inquiry. A good teacher will take on each challenge and use it as a learning experience for themselves as well as their students. They won't be afraid to share their uncertainties with their students but instead will use the opportunity to make it a learning experience together.

The concept of 'ako' describes a teaching and learning relationship where the educator is also learning from the student and where educators' practices are informed by the latest research and are both deliberate and reflective. Ako is grounded in the principle of reciprocity ……. (quote from Ka Hikitia – Ministry of Education document on Managing success for Maori).

I observed this attitude happening in one senior classroom in particular with an excellent teacher practitioner. The students were "wired" for learning. Learning was student led and teacher guided. Quality of product was amazing. Students knew where they were on the Inquiry learning continuum. The down side for this teacher was that they were on their own and had to begin the process from step one. Imagine if the skills they needed had been developed further before reaching the senior room.

It is important that Inquiry is viewed within the context which is the major focus. For example science Inquiry should be approached from a scientist's point of view, social sciences from a social studies view, using the language and skills relating to that particular curriculum concept.

Teacher Inquiry is a vital element in developing effective Inquiry in the classroom. Keeping a portfolio of progress encourages personal critical reflection which helps a teacher focus on what they are trying to achieve with student learning in their classroom. I observed one excellent example of this through teacher Nyree Olliver from Puketaha school, where she has developed a personal learning journal which she has improved in quality of reflection and critical self analysis over time.

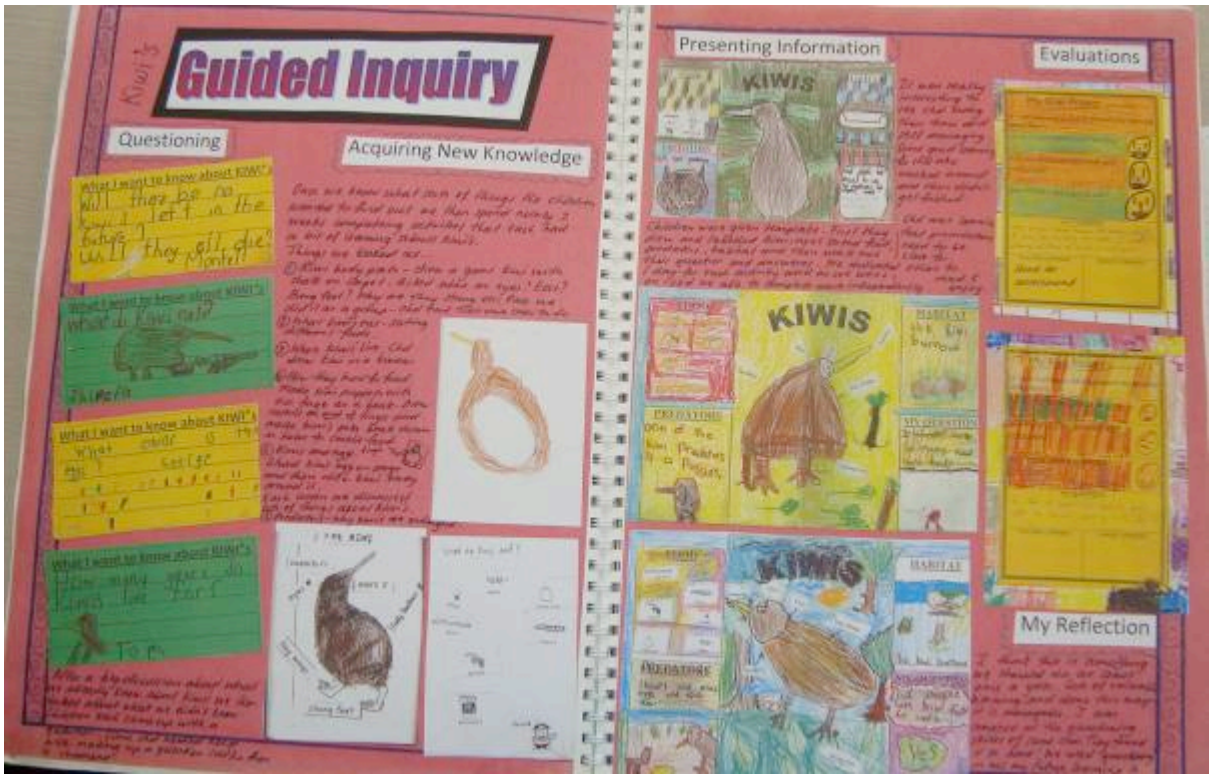


Figure 4 Teacher journal - Nyree Olliver, Puketaha

Teachers in my own school have also been involved in this process with some excellent results. Evidential portfolios are created using the concept of photo illicitation (Lorraine Williamson – Opunake Primary school, Taranaki) around the schoolwide beliefs developed below:

THESE ARE OUR KEY BELIEFS ABOUT TEACHING AND LEARNING AT MOSSTON SCHOOL 2010

Students will have the foundation skills of learning

I am guiding my students to achieve to the national standards expectations in literacy and mathematics

Students are prepared to become enthusiastic future learners

- I Know my students and their needs - learning, social, emotional, physical;

- I am inspiring my students to want to learn

- My students are able to apply new and creative thinking to learning experiences

- I am working with students to measure their progress and challenging them to achieve to the best they can.

Students are provided with Inquiring teachers

- I am able to plan, assess, evaluate and reflect effectively

- I am prepared to grow professionally to ensure a quality learning environment for my students

- I regularly collect and use evidence that shows I am making a difference to students learning.

Students are part of Quality learning environments

- I am able to work collegially to create a positive teaching and learning environment in our school;

- My expectations and standards are reflected in my classroom physical and emotional environment;

- Students are constantly engaged in learning

What is Inquiry?

Some quotes and ideas I found:

- It is all about contributing citizens. Being able to “walk the walk”. Planning to take a social action. Improve the lives, world, environment of self and others. “I am a contributing citizen locally and globally” – Wendy Hildred St. Marys Foxton
- Developing life long learners through applying knowledge from one thing to another. Thinking beyond the question. Ensuring sustainability of the process – Dee Luckin St. Josephs Opunake (Honeycomb model)
- SOLO – (Structures of Observed Learning Outcomes). Pre-structural,Uni-structural, Multi-structural, Relational, Extended Abstract
- As teachers, we are surrounded by curious students who are constantly asking questions. Our ultimate goal is to develop in our students the knowledge, abilities, attitudes and processes necessary to discover the answers to their questions, to develop other questions and to enter the world of life long learning – Info tech education 2002
- A sequence of activities and experiences is developed to build on and challenge student perceptions. The sequence is inquiry-based in that it begins with student’s prior knowledge and experience and moves through a deliberate process wherein that knowledge is extended, challenged and refined.
  During the process students and teachers draw on a range of resources and work across key learning areas. – Kath Murdoch’s model
- Some models establish a social, environmental or exploratory need, immerse students in the model through visits, guest speakers, etc. Then the issue is highlighted, student prior knowledge and assumptions recorded, followed by the “I wonder” type questions which lead into deeper thinking and research processes.
  Process and product is focused on leading to valuable learning outcomes, new knowledge and understandings, presentation to an appropriate audience. The “So What” stage follows which encourages deeper student thinking and how the ideas, knowledge and understandings can be applied to further improve our environment, community, social situation, or our thinking around why or how things happen.- personal opinion
- If a whole school philosophy for teaching and learning is developed, outlining powerful teaching strategies, and how to create quality learning situations, then the teaching and learning programmes across the whole school will better meet the needs identified as necessary for learners in the 21st Century.

We should evaluate the programme against identified needs and learning objectives. – info-tech education 2002

21st Century thinking

One of the many great things about the new curriculum is its leadership in developing the 21st Century learner. One of my personal areas of contention is how much teachers who are part of the 20th Century Industrial Age educational thinking (Sir Ken Robinson) are attempting to apply Information technologies to improve learning for our 21st Century learners who are so much more technologically savvy. A prime example I keep alluding to is that we are still using the old pencil and pen in an exercise book as our main form of recording information and learning. Modern tools of communication are so much more efficient and if these were more accessible to schools they would be part of the 21st C. classroom for every child. Product is still very important but more focus could be placed on the visual language part of the curriculum and using these I.T. resources to develop Inquiry skills rather than wasting time on decorating exercise books and colouring in, etc.

One thing I observed wherever I went was students immersed in their exercise books, desperately trying to keep them in tidy order, or not bothering, depending on the attitude of the teacher. Few were motivated to do it for themselves.

Imagine having a mobile phone beside each child getting feedback by txt or email on a piece of work they completed and emailed to the teacher – this could happen at any time of the day or evening and would be instant. Perhaps a sharing of ideas would occur between classmates and teacher by skype, email, txt.

It was great to see some schools really attempting to make computers a part of their every day classroom life. There was a mixture of exercise books and computers in these classrooms.

Imagine if our Government showed real initiative and gave every school in N.Z. a grant to provide a notebook for every child, as is happening with teachers laptops, then supported schools / families to maintain these. Now that would make us world leaders in education!

Another important focus is the importance placed on the role of the teacher in improved student learning, something we have always known but has not necessarily been so clearly expressed before. In my travels and observations effective learning was achieved, or failed, directly through the attitudes, knowledge enthusiasm and understandings of the teacher in the classroom environment.

Teachers also need clear direction, which is the role of the leadership in a school. I came across a few teachers who were completely self reliant and motivated. These people were re- inventing wheels through their own trial and error which gave them ownership but used up unnecessary energy which effective leadership could have helped overcome. The examples of good leadership I observed showed a consistent approach to learning throughout the school which led to better monitoring of student achievement. Teachers were generally more comfortable and able to apply their

energies to improving teacher/ student classroom interactions, relationships, effective teaching and ensuring improved quality of learning outcomes.

When do we apply the Inquiry process?

An effective model can be applied across the curriculum and through the Key competencies when developing positive social, learning and self management skills. This was clearly evidenced in one model I observed where the classroom behaviours were monitored against the same criteria as the learning areas through the Inquiry model.

There are various schools of thought around the inclusion of the “core” subjects, particularly mathematics, in the Inquiry programme. I am sure pressure being placed through the recently introduced National Standards has diverted school leaders away from encouraging integration of literacy and mathematics into Inquiry. It requires deep thinking by teachers to find ways of allowing these subjects to be taught as part of Inquiry. There is a fear that important elements will be overlooked and with the current attitude of “downward” thinking where we look back from secondary requirements rather than scaffolding learning up using a more interactive approach from Primary, through Intermediate then into secondary, is stifling the creativity that we are renowned for as a country.

This thinking was highlighted for me at a Principals Association meeting where two guest speakers spoke.

The first was a Ministry of Education spokesperson talking about how we needed to be part of the “Knowledge Wave” society in the way we led education into the future. I am sure they did not really know what this meant at the time – it was a catch phrase. Current thinking and practice at secondary level seems to be mostly concerned with preparing students for University rather than meeting their individual strengths and requirements(?)

The second speaker was from a major advertising firm who emphasised the importance for New Zealanders of retaining our uniqueness as a creative society, which is what I believe Inquiry is all about. This is why we are sought after around the world. When you think of the examples that support this argument (e.g. inventiveness through various engineering feats, film making props, agricultural development, etc.) what we should be focusing on is exploiting our natural talents and providing our young people with the opportunity to develop their creative spirit. Spending two thirds of their day at school on core subjects alone at primary level does not necessarily help achieve this. By integrating these subjects into Inquiry it gives real purpose to learning right across the curriculum while focusing on learning to achieve the outcomes I mentioned in my quotes of what Inquiry is, earlier on.

It is interesting that our successive Governments seem to be so “hung up” on how well we stand up against other Countries in the world in education when they are not necessarily looking at who we are as a country – our cultural make up and diversity. Perhaps the “long tail of failure” is occurring because the type of education they are asking us to deliver doesn’t match the creative needs of our unique society.

Inquiry education, in my view, is the style that suits our creative teachers and students. The new curriculum if allowed to be effectively implemented without constraints, will allow us to be a forward thinking and educationally mature country in the world. The old world view of education – based around regurgitation of facts and knowledge, no longer applies. Knowledge is gained through logical and creative thinking, developing new understandings and applying new theories to current thinking – challenging current views.

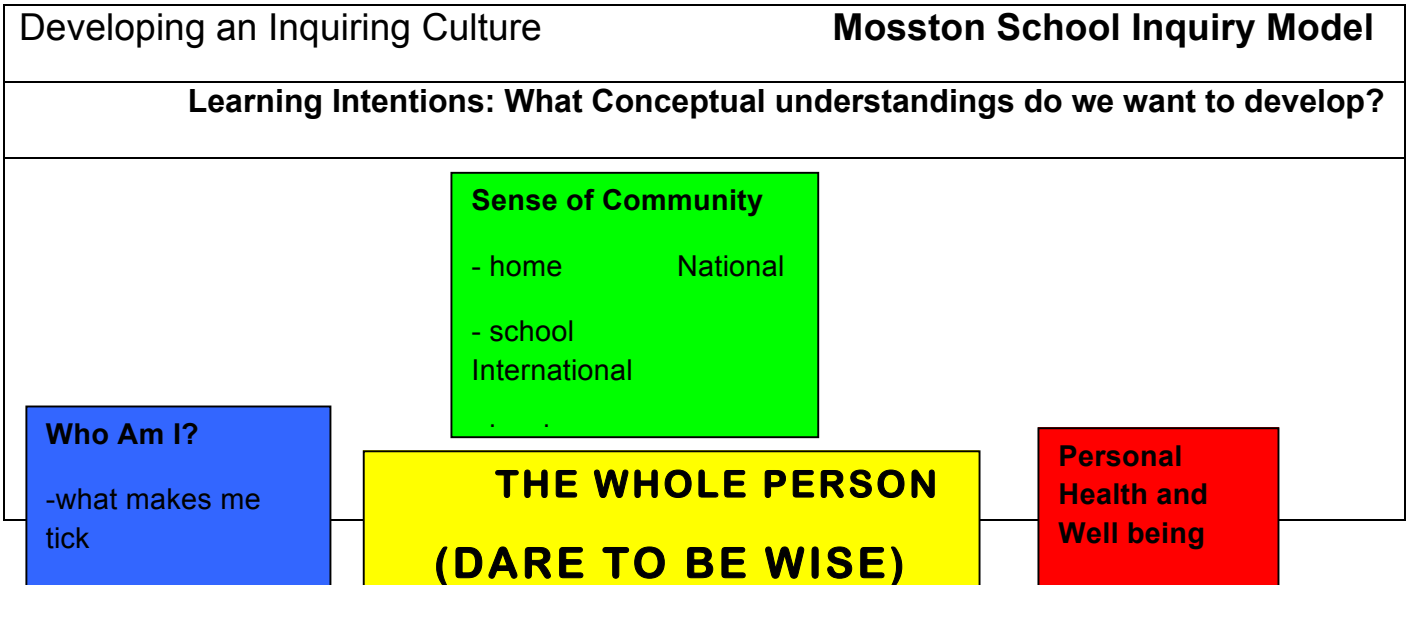
Inquiry Vs. Curriculum

A major confusion has developed in my mind after talking with another Principal on my travels. What is important to know about how our students are progressing? Is it their inquiring minds or is it how well they understand the scientific, social science, technological process and the language involved. And which of these is the more important to carry out assessment on? We certainly can't and don't want to assess everything! If we assess the curriculum areas based on the achievement objectives of the curriculum I believe we are falling back into the trap of the old curriculum where we were unable to measure progress over time and learning became compartmentalised – pockets of learning leading nowhere.

I had a very interesting discussion with my Deputy Principal about a health topic covered earlier in the year. When assessing the outcomes it was based on knowledge based learning. The question became – "So what?" How is this learning going to help me develop an inquiring mind and apply my thinking to future learning opportunities.

I believe it is important we teach our students how to look at learning in context – i.e. from a scientists, social scientists, technologists, artists, point of view, etc.

But I also believe the focus should be on developing inquiring minds and the skills that help this happen. The key competencies are an important part of developing the dispositions of learning but there are other skills as well. After listening to the Principal and staff from Island Bay School in Wellington at a seminar they held, and in consultation with the Massey University Advisory who have provided a possible matrix to help measure progress and criteria to guide us in Inquiry, our school has developed a model based on Kath Murdoch's Inquiry model and Island Bay's belief system of developing an Inquiring Culture. We have also incorporated the Assessment as Learning Tool to assist with the learning process



Understanding and caring for the World we live in

Always striving to Improve

- How things Work
- New technology
- Inventions

How I can Express myself

Success Criteria will be established through a **Context** (Curriculum area and strands).

Our aim is where possible to cover each curriculum area and strand at least once over a three year cycle as we develop these conceptual understandings.

Inquiry Model – We have developed a school wide Inquiry model to develop the contexts for learning.

Our **School Beliefs,** which encompass the **Key Competencies** and **Values**, will develop the WHOLE person through these conceptual understandings.

Learning Outcomes will be measured through the ways students are able to demonstrate the understandings they have developed, the new knowledge they have gained, their ability to transfer this knowledge and to make new assumptions based on creative thinking and actions that lead to real outcomes.

This process is continually cyclical and reflective. A class story board will show evidence of the learning growth that is taking place.

Tuning in: What we know

What we think we know

I wonder? (thinking questions we want answers to)

Finding out: Questioning

Research – sources and resources

Thinking responses

Sorting out: Information research

skim, scan, note take, recording in own language

apply and transfer relevant information to a range of tasks or contexts

explore feelings, values, attitudes associated with the topic

Taking Action: What new learning has happened?

Using elements of what we know to create our own ideas, knowledge and understanding

Presenting – demonstrating my new learning to an appropriate audience

Going Further:

Gaining independence to explore other authentic contexts myself based on my new learning

Extending my thinking even further – theorizing, developing new knowledge and understandings

Assessment will be measured through the following strategies:

Tuning in	**Finding Out**	**Sorting Out**	**Taking Action**	**Going Further**
- good questions - thinking responses - What I know - how well I express myself	- how well I gather information - how well I use information	-How well I use information gathering skills -how well I apply information -how effectively I can relate to the topic	- changes in thinking - how well I tell others what I am thinking -variety of presentation approaches - quality of presentation	- how well I create new knowledge - wise theories I develop - how well I can apply what I have learnt to other authentic situations

What Does Learning & Teaching Look Like in my Classroom? (Model from AtoL contract MUCE)

THE ROLE OF INQUIRY LEARNING PROCESSES IN MY PROGRAMME	Teacher directed inquiry. Process not explicitly taught.	Some activities involve student questions. →	Some units involve student questions. Research/inquiry skills are taught within units.	Student questions form the basis and direction of programmes of work. Inquiry skills actively taught, practiced and used. Students confidently use the inquiry process independently.
STUDENT ENGAGEMENT AND DECISION-MAKING.	Learning programmes tend to be teacher selected and directed	Students have some choice within the classroom programme.	Students are involved in some decisions about the classroom programme and their learning.	Students are involved in: - the planning process - the assessment process through self & peer assessment - asking questions of themselves and others -managing their learning linked to their existing ideas and their individual needs
THINKING SKILLS AND STRATEGIES RELATED TO THE INQUIRY PROCESS.	Thinking skills and strategies are not explicitly taught. Lower order thinking predominates- knowing, understanding, applying	Planning and programmes reflect teaching of some thinking skills and strategies. Evidence of some higher order thinking within one or two aspects of the unit.		Students select and use a range of relevant, appropriate thinking skills and strategies in relation to their learning / information need. Students critically evaluate the effectiveness of strategies and tools. Thinking skills and strategies demonstrate three types of thinking- reflective/metacognitive, critical/logical and creative. Use of a range of approaches linked to thinking type-
STUDENTS' ARTICULATION OF LEARNING.	No learning intentions discussed <u>or</u> displayed.	Discusses some learning intention(s). No display of these or written comments in books.	Discusses and displays some learning intentions and success criteria. Students beginning to identify what they are learning.	Learning intentions and success criteria are negotiated, written up and displayed. Students know and can discuss learning intention and success criteria. Examples of good practice modelled / shown/displayed.

DATA SOURCES	Data sources tend to be gathered by the teacher. Focus tends to be secondary sources i.e. books, websites, videos.	Students involved in some selection of data sources. Sources primarily secondary.	Primary data sources used. Students involved in field trips, interviews, expert panels.	Primary data sources are central to the process. Students are making effective use of a range of relevant primary sources. This may involve the planning, selection, organisation and evaluation of such sources.
SELF AND PEER ASSESSMENT	Teacher directed assessment.	Developing strategies for self assessment in some areas. Focus tends to be on how well the student thinks they did.	Self assessment is being explored with some discussion related to criteria and quality.	Students are required to self and peer assess in relation to negotiated criteria and are required in reflection to focus on the quality of work. Students take increased responsibility for their learning.
AUDIENCE AND ACTION	Teacher is the primary audience for the learning. Limited student awareness of the purpose for the learning.	Learning is shared within the classroom. Students can discuss purpose for learning, Action may be teacher initiated and contrived.	Learning is shared with other classrooms. → Action may arise from students.	Students share their learning with significant audiences and have a real purpose for the learning. Action drives the inquiry and is authentic, making a real contribution to students' lives or the lives of others.

Model provided by Anne Radford: MUCE

Inquiry Process: Assessment Criteria (draft – Fairfield school)

Knowledge	Level 1	Level 2	Level 3	Level 4
Tuning In	Asks a simple question related to the topic	Asks a question that focuses on a specific aspect of a topic	Asks focused questions that attempt to either clarity or extend knowledge and understanding of the topic	Asks clear focused questions With support, plans each step in the inquiry
FINDING OUT	Collects information from one source (oral, written or visual) with teacher support	Collects information from one or two sources (oral, visual or written) with some teacher support.	Independently collects specific information from one or two sources, including oral, written and visual.	Sorts and processes information by focus questions Uses note – taking skills and completes a bibliography Discusses usefulness of information collected
SORTING OUT	With support finds answers to questions posed by self and/or others	With support and with teacher leading begins to make notes and to sort information	Sorts information using headings and sub headings and refers back totheir focus question Uses note – taking skills	Sorts and processes information by focus questions Uses note taking skills and completes a bibliography Discusses usefulness of information collected

TAKING ACTION	States in simple terms an answer to a question Describes where this information was found Presents this information using one media form only (oral, visual, written)	Makes two or more statements related to the sorted information Describes how this information was collected and sorted Presents information using two media forms (oral, visual, written)	Makes several supported statements related to each focus question Explains and justifies the Inquiry process used Presents information clearly and uses the presentation method correctly	Makes several supported statements related to each focus question Statements are supported with evidence Presents information using a range of media (oral, written, visual)
DRAWING CONCLUSIONS	Children can articulate in their own words what the information gained from the Inquiry means to them in terms of the bigger picture			
GOING FURTHER	With support talks about how this information will be useful for others and / or for our environment / community	States groups of people who could benefit from using this information States how this information could help to improve features of physical and social environments	Describes how two groups of people may view this information differently States some of the advantages and disadvantages that may result from the use of this information	Explains how and why groups of people may view this information in positive, negative or neutral terms Explains a range of consequences that may result from the use of this information

Model provided by Fairfield school, Dunedin

Inquiry and Assessment as Learning (A.L.)

A.L. is a very effective tool or process for ensuring student voice and inclusion in the whole learning process. It fits in nicely with the concept of “Ako” mentioned earlier – we are all teachers and learners. While carrying out Inquiry based learning, A.L. is used to guide teachers and students in what they are aiming for in their learning, indicators for measuring ongoing progress and assessing how well they are achieving their expected outcomes. Students are being challenged to express their learning to others in worthwhile, focused and quality ways. They are also asked to evaluate and reflect based on the “So what” aspect of their learning.

Learning intentions are reflected while students and teacher are deciding what it is they need to find out, how they are going to go about the process of finding out, what they expect to learn during the process.

Signs of success are reflected through the product and what they will do with their knowledge. They will gain greater ownership of their learning if they know why they are learning this particular thing and can visualise how they are going to go about their learning.

Learning outcomes are reflected through the interpretation, conclusions and applications and forms of presentation to a particular audience. They are also shown in the student’s ability to create new questions, thinking, understandings and theories from what they have learnt.

(from Gwen Gawith’s model showing the relationship between 3Doors Inquiry learning and Assessment as Learning).

In Conclusion:

Once again I want to thank all the people and schools I visited who both influenced and clarified my thinking.

Bruce Hammonds made the simple statement that the best way to assess a student's achievement in Inquiry is to have them carry out the process independently.

I agree with this statement in theory and observed it actually happening in various forms in some classrooms I visited. It is important that we understand independent does not mean leaving the students to their own resources to "get on with the task". Teachers I observed were working extremely hard to "guide" their students through the Inquiry process and they worked within clear parameters. I believe it has to be that way to achieve the curriculum based outcomes and key competency skills teachers want from the topic. True integration across the curriculum also has to be achieved and this requires careful direction.

When used properly, Inquiry based learning is the tool for the 21st Century learner.

Students are able to use the language of Inquiry as long as it is broken down into child friendly language.

Good inquiry can be used for a variety of purposes, including classroom management processes and development of the key competencies.

The teacher is the central link to effective Inquiry. Their relationship with their students is paramount in ensuring quality learning occurs.

Leadership in developing and maintaining a school wide model is vital to ensuring student progress can be measured over time. It also provides teachers with clear direction as to expectations for student learning.

Inquiry learning for the 21st Century learner is different than it was for the 20th Century learner. Finding out what the differences are, their implications for teachers and students, and rising to the new challenge is the task school leaders need to embrace to ensure the intentions of the new curriculum are met and the concept of life long learning is maintained.

Assessment as Learning in Inquiry is a valuable medium for ensuring students are immersed in the whole process.

I believe we have the recipe right through our new curriculum.

The challenge is in the way we chose to interpret and apply this recipe.

Acknowledgements

I want to thank the following people who inspired my thinking or who provided me with access to high quality teachers in their schools:

Gordonton School Hamilton – David McNair – Inquiry learning

Puketaha school, Hamilton – Bob Moffitt – Individualised learning

Woodleigh school, New Plymouth – Clyde Pierce– Integrated learning

Puketapu school, Bell Block New Plymouth – Christine Murphy (classroom teacher) - Inquiry

St. Josephs school, Opunake – Dee Luckin – Integration and Inquiry

Merrilands school, New Plymouth – Graham Wilson– Inquiry learning

Westend school, Palmerston North – Gary Punler – Ariki Project

St. Marys school, Foxton - Wendy Hildred– re establishing Inquiry with a new staff

Mosston school – revisiting our own Inquiy model

Island Bay, Wellington – Perry Rush

McAndrew Bay, Dunedin – Bernadette Newlands – Inquiry and Lexile

Andersons Bay, Dunedin – Hamish McDonald – Inquiry and Lexile

Fairfield, Dunedin – Andy Larsen – Inquiry and the curriculum

Bruce Hammonds who inspired my thinking

Barry Potter and Anne Radford MUCE Advisory who questioned my thinking to the point of distraction!

My Deputy Principal for capably taking over the Principal role for the term and Board of Trustees for allowing me to go on my sabbatical

Teachers and support staff of my school who are highly motivated to apply the principles of Inquiry

Principals of Victoria Park and Kensington, Perth Western Australia – Australian national Standards Itinerary

I also want to thank the Otago NZPF for their NZPF conference, providing a beautiful environment in Queenstown and a programme packed with inspirational speakers.

Australian National Standards (National Assessment Programme in Literacy and Numeracy)

This is my view of the Australian National Standards based on interviews carried out with the Principals of Victoria Park and Kensington Primary Schools in Perth Western Australia.

Every year a test is administered throughout Australia to measure ***proficiency*** in Literacy (including reading, writing – deeper features based on established exemplars, spelling, grammar and punctuation) and Numeracy (including number, geometry, space, measurement, chance and algebra from Y7).

It is carried out by students in years 3,5,7,9 (Australian designations) and is held in the 4th week of May . This is to ensure students learning is the responsibility of both the current and previous year's teachers. Each subject test is given across the country within the same daily timeframe for every school.

It is an externally prepared test based on set criteria and expectations for a child of that particular cohort. These have been established as a result of extensive data analysis over a long period of time. In West Australia the WALWA (West Australia Literacy and Numeracy Assessment) programme has been operating for the last ten years and similar assessment systems have been in place in other areas of Australia as well.

Schools are provided with resource teachers manuals which gives them step by step guidelines for preparing students to carry out the tests. This arrives in schools at the beginning of term 2 and explains the do's and don'ts of administering the tests.

Students who have poor reading skills can be assisted as long as there is no reference to the actual answer.

Once the students have carried out the test it is sent off to central office of the Ministry of Education where tests are marked independently by recruited teachers, data is collated and analyzed and the results are returned to the school as well as being placed on the national website – myschool.com – which is freely available for public viewing.

Results are analyzed for several purposes:

1. The Ministry breaks down outcomes for each school in each curriculum area and compares with like schools and all schools across the country. They use this information to identify and compare succeeding and failing schools. A failing school may be placed on a special programme where resources, support and a special operating programme are provided to the school to help boost its performance. If the school continues to fail other measures may be implemented – including replacing the Principal. They are starting to take more account of a school's social status now.
2. Schools are provided with their own data which is for school use and to assist in reporting to parents and their community on individual students achievement.
   In Western Australia the WALWA tests continue to be used for the in-between levels.
   Teacher judgements also become part of the comparison and the reporting process.
3. Principals can use this information to pinpoint particular classes where there is a pattern of poor performance which can be included in the teacher performance management process.
   Again, because of the timing of the tests it needs to be remembered that student progress is the responsibility of both the current and previous year's teachers.
4. Teachers can see areas of strength and weakness in student performance. This may lead to school wide focus for a particular year(s) on developing an aspect of learning. Teachers can also see which of their students are performing well and those who are struggling, for grouping and focused teaching purposes.
5. Parents can see how their child is performing against national expectations and , along with the school, make decisions on learning support programmes.

Comments/Questions / Concerns

1. When results are placed on the myschool.com site there is also a clear statement about the nature of the tests and emphasises that it is a SNAPSHOT of learning. The factors that may affect student / school are also presented. It is important that school websites are of high quality as these are referred as a place to find out more about individual school implications
   - But will non educators go beyond the data to look at this information?
2. Students who are identified as "Special" learners are still expected to attempt the tests. If a school is given an exemption for a student(s), and there are strict guidelines provided, that student is still placed against school outcomes as a "0" result which can affect the school's overall outcomes.

3. W.A. still has a syllabus driven programme across the curriculum. Inquiry learning is regarded as a supporting process or strategy used by teachers voluntarily in the main depending on their personal interests.
4. Have the Australians got it around the wrong way by introducing the standards and then a country – wide curriculum which is what they are in the process of currently developing.
5. In West Australia children don't start school until they are 6 and then in half yearly intakes. A child turning 6 just after the intake has to wait 6 months before they enter the school which makes them a half year older than a child who has just turned 6 before the intake – so what?
6. To me the reality is that the format Australia has used to carry out the standards is the only real way to gather accurate data nationally. But how important is this in terms of children's learning and measuring student achievement. Perhaps the importance lies in measuring "trends" but the supporting P.D. and resources need to be put in place to attend to these. Schools can often accurately pinpoint these trends anyway.
7. At least the Government has come on board funding the data analysis process for schools so teachers can get on with teaching. In- school and state wide assessment still seems to occur. Schools do not just rely on the standards snapshot as their sole measurement tool.