# Sabbatical Report
## Julie Turner

SABBATICAL TOPIC

How successful is the Inquiry method of teaching and learning in the preparation of students for learning in the future?

**School development background to sabbatical study:**

In order to relate the journey that was undertaken for my sabbatical study, I will be dividing this report into three major sections. In the first section I will background my own particular school situation so as to develop an understanding of the place where my school was at, prior to the study and hence the reasons why I chose this particular topic to study. I will also include relevant definitions of terms that will be used frequently in the report.

Secondly, I will outline how the study was conducted, the findings from the various sources used and the conclusions reached as a result of those findings.

Lastly– provide some hopefully helpful suggestions as to how Inquiry Learning might be assessed in our new era of education.

**My situation:**

I am from a sole-charge school about 90 minutes north of Auckland on the lovely east coast. My school has a reasonably stable roll of 15 to 20 children and these children range in age from 5 to 13. I had for some time struggled with the multi-level nature of the class and was giving thought as to how I might better cater for these diverse needs in the classroom.

In 2005 I attended the Principal's Conference in Melbourne. Lane Clark, a Canadian educationalist, presented a keynote address on her Inquiry Learning model, and it was at this time that I realised the potential for this programme to, in part, solve the problems that I was having in meeting the needs of all the children in a multi-level teaching situation.

Over the next three years, I developed my own school model of Inquiry, a graphic image of a waka going on a 'learning' journey, guided by the stars (stages in the process) was introduced. Units were planned and the children were developing an understanding of the process of Inquiry. I was fortunate to be able to move through

these changes at my own pace, not having to get other staff ‘on board’ with the thinking or changes to delivery of unit studies.

I had spent considerable amounts of time extending my own knowledge of Inquiry through reading, attending workshops at Conferences and visiting schools that were using Inquiry –based learning, so felt confident that this style of learning was embedded into the school and that I could justify the reasons for choosing to use Inquiry, should I be asked.

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**Sabbatical Intention:**

There are basically three reasons why I chose ‘Assessment of Inquiry Learning’ as the topic of study for my sabbatical.

As I had now reached a point where I felt comfortable about delivery of my classroom programme particularly in the contextual curriculum areas of Social Studies, Science, Technology and Health, the next natural progression was to review the assessment of this Inquiry based learning

I was aware that my assessments of units studied were based solely on how well knowledge had been retained. Once the assessments were completed, these were then placed in the children’s portfolios and sent home to parents. The information provided was of no further use to me or the children.

Through involvement with the ATol contract, I was beginning to gain an understanding of formative assessment practices and the value of these in raising student achievement.

Secondly, having been around education for more years than I care to remember, I have always been cautious when new ‘flavours of the month’ are adopted by so many schools with little obvious reflection as to their value in relation to the programmes that are already in place. I was curious to know why schools had chosen this approach to learning and whether schools felt that the Inquiry approach to teaching and learning was achieving what they hoped that it would.

The introduction of the new curriculum document also acted as a catalyst for this rethinking of my own assessment practices. Now that the Key Competencies were to become a feature of planning, how closely related to the Inquiry objectives were the Key Competencies and how were we going to know if we were successful in meeting the objectives of either or both.

These wonderings then set the scene for my study and it was with these questions in mind that I embarked on my own learning journey.

Definitions

For the purposes of this study, I feel it is necessary to firstly be quite clear about the definitions or understandings that I have of the two terms - 'Inquiry Learning' and 'Assessment'

For ease of writing and reading, I will henceforth use the word 'Inquiry' to mean 'Inquiry Learning and Teaching'

There appear to be as many definitions of inquiry learning as there are models, but my preferred definition is taken from Bernard Patterson(1) when he presented at the Northland Information Literacy Project day.

He defines Inquiry learning to be

"a process of education – based discovery where a learner

- is guided to see issues and ask meaningful questions
- decides how to find appropriate answers to their questions
- and communicates and interacts with their new knowledge"

I like this definition because it indicates that there is a process of learning involved, and that this process may address either issues or questions, that the process is guided by the teacher and that the information or knowledge gained as a result of the process, is used in a meaningful way.

To further define this process of Inquiry Learning it is necessary to recognise that the degree to which the teacher guides this learning determines the level of Inquiry that is being used in the classroom. Herron (2) has developed a continuum of the levels of Inquiry, and these have been modified by Jan Marie Kellow (3) to sit more comfortably within the New Zealand Primary classroom. The first stage is 'confirmation' in which students answer a teacher presented question, through to the forth stage 'Independent Inquiry', where questions are student formulated and ownership of all aspects of the inquiry belong to the student. (These levels can be seen in more detail on Jan-Marie's website)

In terms of assessment, I have taken the terms of formative and summative assessment to mean:

"Formative assessment refers to those activities undertaken by teachers and by students in assessing themselves. These provide information to be used as feedback to

modify the teaching and learning activities in which they are engaged. Such assessments become formative when the evidence is actually used to adapt the teaching to meet the needs" (4)
Summative assessment takes place at the end of a course or term and is used to provide information about how much students have learned and how well a course has worked" (5) Gipps
Andrew Short once provided a useful gardening analogy regarding the difference between summative and formative assessment.
'Summative assessment of the plants is the process of simply measuring them. The measurements might be useful to compare and analyse, but in themselves, they do not affect the growth of the plant. Formative assessment on the other hand is the garden equivalent of feeding and watering the plants – directly affecting the growth'. (6)

I feel that it is also necessary to clarify firstly that when considering assessment of Inquiry learning, I would be focusing on student outcomes as the result of an inquiry study, rather than assessing the quality of the unit itself. The degree to which the unit has met the objectives of a quality inquiry unit should be reflected in the achievements of the children and therefore can be used as an indicator of the success of the unit.
Secondly, when researching Inquiry via the internet, I restricted my searches to informational or literacy based Inquiry rather than scientific Inquiry.

In order to investigate this question of how successful Inquiry Learning is in the preparation of students for learning in the future, I decided that there were three avenues available to me from which I could gain the information I needed. The first source of information was the internet. Here I found a multitude of sites, like 'Galileo' which is a Canadian based educational organisation specialising in information on Inquiry, 'Inquiringmind' which is a New Zealand site with some excellent and relevant information, 'Concept to Classroom' an American based site which provides additional information for readings etc, to name but a few. I was able to read through most of the relevant writings of experts in the field of Inquiry learning.
Secondly, I was able to contact via e-mail, more 'local' experts from New Zealand who had already researched extensively and some who had had practical experiences in the classroom.

Lastly, I visited about 12 schools, some of these while on Conference down in Palmerston North and others that had been recommended to me by organisations like 'Team Solutions' who had knowledge of schools that had been using Inquiry Learning for some time.

When visiting the schools, I had the following list of questions at the ready designed to illicit the information that I needed.

These questions were:

1) What model of Inquiry Learning do you use?
2) Why did you decide to use Inquiry in your school?
3) How do you assess whether you've achieved your goals in terms of your reasons for choosing Inquiry
4) What do you do with the information gathered?
5) Do you report this information to parents/children?

Findings:

Responses to the first question were varied, and as already mentioned, the models available for Inquiry learning are many and varied. Most popular however, were the following:

- The Action Learning model' Gwen Gawith
- Inquiry Learning model Lane Clark
- 'The Big 6' Eisenberg & Berkowitz
- 'Sauce' Trevor Bond
- 'The Research Cycle' Jamie McKenzie
- 8 W's Lamb
- Strategies for Integrated Learning' Kath Murdoch

Each followed roughly the same format, firstly, existing knowledge is identified, questions are asked, information is gathered, sorted and then used to answer the original questions. The culmination of a study is usually some form of action. This action may be a task or activity or a sharing of what has been learned.

Bernard Patterson (1)has simplified this process into three stages 'Input, Process, Output' and this model is reflected in Red Beach School's 'Get it, Sort It Use It' cycle which certainly had benefits for children when needing to articulate their model of learning.

All schools visited had used one or more models as the basis for their own school Inquiry model, but most had adapted them to suit their own specific school situation.

The reasons for deciding to use Inquiry as a vehicle for teaching and learning at first appeared diverse but in actual fact, all had the common theme of schools trying to find better ways of engaging students in learning. These reasons were

(a) to increase the passion and motivation for learning. One Principal felt that the children were just 'going through the motions' and he felt that by using Inquiry the children would be more motivated to learn if the topic studied was more relevant to them, their own interests and passions. Other Principals / D Ps saw Inquiry as a way of eliminating some of the disruptive or behavioural issues in the school, by similarly 'hooking in' disaffected learners. This thinking ties in with that of Russel Bishop (7) in the Ko Tahitanga programme operating in some secondary schools. An aspect of the programme is the opportunity that students have to 'co-construct' their learning and so have more ownership and influence over what they learn.

(b) One school had used Inquiry as a way of meeting the needs of the Gifted and Talented students in the school. They soon realised that Inquiry could be adapted for all students from New Entrants through to their Year 8's. They saw this as a way of meeting individual needs at both ends of the spectrum and enabled their school to begin the process of personalising the learning for their students.

(c) Still other Principal's/ DPs felt that with the new thinking around Knowledge and the need for the acquisition of knowledge to be meaningful, that any study undertaken needs to have an authentic context and have relevance for the children in their daily lives. In days gone by 'Japan' may have been the title of a unit study and much information about Japan gathered and memorised for a test at the end of the unit, to determine how much had been 'learned'. No further use was made of the learning. Many now feel that a study needs to sit within an 'understanding' to be gained as a result of the study and that this may be centred around three or four different geographical or historical contexts , which exemplify the understanding, and that once understood, the knowledge gained be used in some meaningful way. With one school, the action as a result of an Inquiry unit was to collect as many pairs of shoes as they could and these were then sent to needy children in Africa. Another school developed a wetland area as part of their

environmental study. Both these examples show how learning has resulted in an action that is personally meaningful for children in their own lives.

(d) Others felt that Inquiry lends itself to meeting the needs of delivering the 'new curriculum document', particularly in the area of the Key Competencies. Understandings that are going to present themselves for units of study can be directly related to a Key Competency. The two examples mentioned above may well sit within the competency of 'Participating and Contributing'

(e) Other reasons for using Inquiry were centred around the Charter that schools had developed as a result of consultation with their community. The words 'Life long learners' were frequently sighted on these documents and many schools saw Inquiry as a means of developing the skills within children so that they could become 'life-long learners'. Inquiry, gives the children the skills and a process to follow whenever they have a task to complete or a problem to solve.

This link between Inquiry and life long learning is referred to in the following article from the National Library.

*"Inquiry learning* is an integral part of teaching programmes in Social Studies, in Science as the *investigative approach*, and in English as *information processing*.

Information only has value if an individual has learned how to use it.

Information literacy takes the user through the holistic process of learning to learn. It incorporates the skills and behaviours that are required to manage and use resources and the information infrastructure effectively. Skills for accessing, evaluating, collating, interpreting and using information are essential for life long learning. These skills are important within everyday life in our communities and continue to be developed in continuing education, work and leisure activities.' (8)

(f) One Principal's response to the question as to why they school had decided to use Inquiry was because she had told the staff that they had to! The Principal herself was passionate about Informational studies and convinced about the value of such within the classroom programme. Staff were initially reticent about embarking on the course of study that was involved, but most were converts at the conclusion of the study.

(g) The only other response given to the question related to the possibility of integrating all curriculum studies through Inquiry. One school had already

integrated Social Studies, Science, and Technology and was beginning to investigate ways in which reading could be structured using the Inquiry approach, but this was in the early stages of thinking.

In seeking responses to the third question, relating to how schools assess their unit of study in terms of their own objectives for using Inquiry, I found that there was quite a lot of variation in terms of assessment practice in the schools that I visited. These practices seem to be undergoing quite a substantial change which is, in part, related to the introduction of the revised curriculum document. Fewer achievement objectives, the opportunity for more flexibility of topic coverage (this has resulted in many schools adopting a thematic or integrated approach to curriculum delivery), the push to 'lift the tail' of underachievers through focusing on literacy and numeracy, and the value of using formative assessment practices have all impacted on the way schools assess students and the way that these assessments are reported to the students themselves and parents/ community.

Many schools have moved away from reporting to parents through portfolios to the more preferable and less time consuming interviews with teacher / child / parent. (If portfolios were used within a school, most of the information given, related to Literacy and Numeracy ) Often this was being used as an opportunity for parents to view work in books or around the classroom, that the student had completed. Interviews to set the student's goals for the following year and present the end of year report also seem to be gaining favour.

Some schools, having only recently embarked on their own Inquiry journey, hadn't yet considered how to assess the learning, and said that they would be considering that once the Inquiry process was embedded in the school.

Only one school had an example of assessment that, although being used to assess how well the students had progressed in their use of 'Habits of Mind', could easily be transferred to Inquiry. This involved the students self assessing their position on a matrix under the four headings – 'novice, apprentice, practitioner and expert' at the beginning of a study and then again at the end. Progress could then easily be tracked and recorded for the student and parent's information.

Lastly, if an Inquiry unit's objective is to develop an understanding of the world through a particular study, then that therefore is also, by definition, developing a Key Competency.

If we study the reasons for schools choosing to use Inquiry, many parallels can be drawn between these reasons and the Key Competencies, e.g. by providing an authentic context for learning, we are engaging in 'Participating and Contributing', by developing Life long learners are we fostering the skills of 'Managing Self'

'Inquiry learning provides an excellent vehicle for developing these competencies because it integrates knowledge, skills, experiences and strategies in rich contexts' (9)

If we were to assume therefore that there is a distinctive relationship between the objectives of Inquiry and the Key Competencies then we must also ask the question as to whether we should be assessing the Key Competencies and given the fact that there seems to be some disagreement between 'experts' over this question, it is not surprising that school leaders may be a little confused. This provides another issue when considering how we are to assess Inquiry in our schools.

Rose Hipkins produced a paper entitled 'Assessing the Key Competencies' and this was circulated to schools in 2007. In this paper she outlined ways in which schools might consider assessing the Key Competencies through the use of tools such as learning logs, learning stories, portfolios and rich tasks.

Lester Flockton has an alternative point of view however and he states

'To assess the Key Competencies is to fail to understand that they are only as good as they are lived in life (and school is a fraction of a partitioned part of life, not an adequate representation of life). This is the challenge'. (10)

He continues to say that the only requirement on the part of the school is to demonstrate that they are helping to develop the Key Competencies and that nowhere in the curriculum document does it say that these need to be assessed.

Furthermore, and possibly most significantly, I was unable to find any schools that were actually using independent inquiry, (the fourth stage of Herron's levels of Inquiry as mentioned earlier). Most schools were at level one or two of these levels. I considered that the possible reasons for this are that:

- I didn't visit those schools that were using independent inquiry

- The skills necessary for working independently successfully take time to develop as concluded by Gwen Gawith

‘Inquiry provides one context for practising these skills. A century of research evidence suggests that most students struggle to learn these skills in the context of Inquiry / research projects because it requires learning too many complex skills in a short space of time’

After 30 years of teaching in this area, I would ONLY recommend using a research or inquiry framework *after* students have learnt and rehearsed the component skills in short, incremental doses in variety of interesting contexts. (11)

- To work independently, a certain level of maturity is necessary to be able to decide not what is known, but what is not known, and a desire to seek answers to those questions

‘To do an inquiry well, you have to know what to focus on, and how to address what you don't understand. You have to be able to continually discern what the next step should be as you push into the limits of what you know. You have to know what is likely to be productive inquiry, and what is not. That's the real art, and it is an art we almost never teach to children. How do you learn to expand your knowledge? You have to be able to recognize what you don't know, and become fearless in going beyond that boundary’.(12)

For these reasons it becomes difficult to truly determine the success of the Inquiry method of teaching and learning.

So to summarise, for the variety of reasons given, there was a mixed bag of assessment practices observed in the schools that I visited–ranging from those who had just begun their thinking around assessment of Inquiry to schools that were quite a way down the track, developing their own systems of assessments that suited their particular learning environment. Assessments were also centred around the levels of ‘confirmation’ and ‘structured inquiry’, rather than independent inquiry, as outlined earlier in this report.

**Assessment Practice:**

So with the information that I had gathered so far, I was beginning to develop an idea about the kind of assessment that I would like to use in my own classroom to determine the success or otherwise of an Inquiry unit.

I determined that any assessment of Inquiry needed to be:

- recursive rather than linear. Inquiry itself requires constant reflection in a spiral form whereby questions asked are constantly revisited and reviewed to determine whether they are the right questions and that they are finding the information that is needed.

‘Review belongs in non-linear processes because this is what helps learners decide 'where to next'. A learner should be able to consider and reflect on how well they have gone with the stage or step just finished, and then use that review to help them decide which part of the process the need to go to next’. (13)

- Involve both summative and formative assessment. The teacher needs to be aware of whether the unit of study was successful both in terms of the way in which the unit was structured and in terms of the children’s acquisition of knowledge and skills. Information gathered from this assessment can then be used as the basis for a subsequent unit of study.
- Include aspects of recommended formative assessment practice e.g Discussed with children prior to the unit with criteria for assessment clearly set out at the beginning. It should consist of peer, teacher and self assessment, including group or individual assessments. Remembering also that ‘any assessment is only as good as the action that arises from it’(14)
- Assess both the process and the product of the unit. I was beginning to see this as the major difference between inquiry and more traditional methods of covering a unit of study. While it is important to assess the product or the action of a unit of study i.e what has been done with the knowledge gained, the process involved is equally as important. It is worthwhile, I think to be able to see where the student was prior to a unit of study and compare this to where they have moved to as a result of the study.
- Be manageable and practical. Being aware of the increasing demand that ‘personalising learning’ puts on teachers, I was determined to create a form of assessment that was at worst equal to the present assessment workload, and at best, less work. I wanted also to be able use activities within the unit of study as assessment opportunities so that ‘the line

between learning activities and assessment activities ideally would be nonexistent. A student watching another student complete a process could use an observation checklist to assess the peer's performance. The student observer and his/her peer are both learning and assessing. The functions are simultaneous and inseparable'.(15)

- Include parents / caregivers in the process. The new 'Ka Hikitea' recognises the need to be inclusive of parents and whanau for successful learning.…

'improved whanau-parent partnerships focussed on presence, engagement and achievement' (16)

- Reflect coverage of the Key Competencies. As mentioned by Lester Flockton, the only requirement on schools is to ensure coverage of the Key Competencies, I believe however that there needs to be some form of identifying whether this teaching has been successful considering the importance of the Key Competencies in developing life long, connected confident, actively involved learners.

In order to assess the process of Inquiry effectively therefore I would need to develop a form of assessment that was to include all the features listed above. The idea of a portfolio initially appeared to be the most effective way of collecting, organising and storing the required information, and so I began the task of developing an assessment tool that met most if not all of the above criteria.

As I was already using a portfolio system, and felt that it was an effective method of reporting to parents, particularly each Inquiry in the areas of literacy and numeracy, I decided to retain this and designate a section of the portfolio to be used for the unit study. This would include:

- A generic template as a title page for the study.
- The objectives of the unit, cut and pasted from my unit plan, or co-constructed with the children
- The Key Questions and foundation questions to be explored. Children write these into their portfolio, this makes these questions very visible and explicit

- Three matrices – for skills, knowledge and Key Competency. Students would be required to mark where they believed they sat at the beginning of a unit and again at the end – using the headings ‘beginner, novice, practitioner and expert’ Students would also be made aware through discussions about success criteria, how they could improve so that they can move up to the next levels.
- Documentation to support shifts in the matrices e.g if the skill being developed is questioning, then there may be a recorded ‘before and after observation by the teacher that can be used as evidence of a shift in ability level over the course of the unit. This evidence may also be in the form of self or peer assessment, narrative response, test-multi-choice or short answer, etc.

Having determined that students would need to acquire several skills so that they could eventually become independent Inquiry learners, I set about developing a list of those skills that would be necessary for each stage of the Inquiry process. Fortunately, I hadn’t gone too far down this track before I realised that all the necessary skills are informational skills and that many schools had developed continuims using Gwen Gawith’s ‘Action Learning’ model as their basis. Trevor Bond in his ‘SAUCE’ model of Inquiry book also has a set of these necessary skills .

Similarly, it is necessary to have a list of Key Competency sub headings so that when we are focussing on say Managing Self, for example, we know that we are specifically learning about how to ‘get ready for learning’ and that each of these subheadings has a supporting list of success criteria. Again, I acquired as many lists of the Key Competencies as possible and developed my own grid with the respective Key Competency and the sub-headings. This now forms part of the student tracking through the school. When we complete a unit I am able to mark the level that was achieved (beginner, novice etc..) by the end of the unit, into each individual student’s tracking record.

This method of assessment to me is easy to develop because many of the sheets within the portfolio are generic, and because the activities that provide the evidence of a shift across the matrix are observations or activities that occur

within the framework of the unit. There should be few special activities that are developed purely as assessment tasks.

Obviously, this assessment process is in draft form and will continue to evolve as we progress on our journey.

Observations:

Before concluding this report, there are a couple of cautionary notes that I would like to mention. Firstly, I feel that it is necessary to ensure that we maintain coverage of the whole curriculum. I noticed that many schools used the 'action' stage of their Inquiry unit to mostly complete some environmental task or seek solutions to an environmental issue. This, I think, is because environmental activities are visible, worthwhile and topical. Personally, I'm still struggling with how to teach some aspects of science using an Inquiry approach, and indeed wondering whether this approach suits all curriculum areas or subjects, and concluding I think, that it may not.

Secondly, I believe now that as an ideal, Inquiry is a worthy path on which to travel, but through experience, I'm learning that it takes time to develop the skills necessary when working with Primary school children. In the words of Karen Sewell… if we as leaders can 'keep the herd generally heading in the right direction' we'll be doing well.

Conclusion:

In conclusion, we are not going to be able to truly determine the success or otherwise of our teaching strategies until today's students head off  out of school in the year 2020 and beyond, and even then it may take some time to discover whether we've created the lifelong learners that we aspire to develop.

We can however define what attributes we would like our children to have, based upon the knowledge we have now about what their future may be like.

To me, the use of Inquiry as a way of curriculum delivery will provide students with the skills, abilities, attitudes and values necessary to be successful citizens of the future. However, for a variety of reasons, there seems to be little evidence that schools have reached a point where they can say that their students are working at an independent level of Inquiry. When that level of independence is achieved, then I think we can have some confidence that students will have the necessary skills to be successful in whatever path they choose to follow in life.

**Acknowledgements**

I relished the opportunity to have many professional conversations. Being from a sole-charge school, there are few opportunities to have this type of focused uninterrupted discussions with collegues. There are so many dedicated professionals in our schools who have obviously spent a good deal of time thinking about ways in which we can improve outcomes for our students. Thank you to those schools who were so welcoming and were prepared to share their ideas with me.

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