



Dr Robert Swartz speaking with Becky Reagan at the Spencer on Byron, Takapuna

CAN WE TEACH STUDENTS TO MONITOR, ASSESS, AND IMPROVE THEIR OWN THINKING?

Robert Swartz, August, 2008

Carmen Vasquez is about to give her students an assignment to write a persuasive letter to one of the main characters in a novel they are reading. This assignment is not part of a writing program, but rather is integrated into a lesson she has taught in which she had two main objectives: giving the students practice in developing an understanding of the traits of the characters in the novel through identifying their histories as portrayed in the novel, and developing skill at decision making. The latter is played out in the lesson as the students “become” one of the characters and have to decide the best thing to do at a crucial juncture in the novel. To do this they need to predict the reactions of the other characters to the options they are considering.

This lesson is part of a broader thinking-skill program in Ms Vasquez’s school in which the teachers infuse instruction in various forms of skilful thinking into their content instruction. In this case the students have been introduced to a strategy for skilful decision making that includes focal points such as developing options, carefully considering their consequences both pro and con, assessing the importance of the consequences, and determining the best option by comparing and contrasting the results. They have just done this. Now it is time to communicate their decisions as recommendations to the character.

Instead of giving this assignment directly, however, Ms Vasquez says “I am going to ask you to write a letter to Mrs. Preston trying to convince her that the option you chose is the best course of action.

But before you do that I’d like you to think together about something. I want you to imagine that you are this character and have received such a letter yourself. You’re not sure what to do at this point, and you want to listen carefully to what others advise you to do. But you want to be sure that any advice you get in such a letter is the result of careful thinking – in this case, careful decision making. Take a few minutes, talk together with a partner, and jot down a few things that you would like to see in the letter that will indicate that the writer has used as skilful thinking as anyone could to decide what he or she thinks is the best thing to do.”

This is not just an interesting type of extended metacognitive activity in Ms Vasquez’s classroom. What interested me about it was that it was the start of a process whereby Ms Vasquez would be teaching her students how to responsibly engage in a type of formative self-assessment of their own thinking. Usually in school classrooms it is the teacher who does the assessment of student progress. This has its functions and purposes. But in our lives outside of school one of the key skills we need to acquire to get along in the world is the ability to monitor, reflect on, and reshape our own behavior in light of our assessment of whether it is working to achieve our personal and/or social goals. People who can’t do this often repeat the same mistakes again and again with sometimes devastating results. The same is true of our own thinking. Unless we can monitor how we are engaging in the thinking tasks we engage in and assess their effectiveness we, too, are likely to repeat the same mistakes again and again. This includes impulsive thinking, vague and disorganized thinking, and inconclusive thinking. These can be equally disastrous in our lives.

How is what Ms Vasquez is doing in her classroom directed at helping students learn how to monitor, assess, and appropriately modify their own thinking? Well, what I observed with great delight, was a process that put this into practice. What resulted from the little interesting activity I just described was a collaboratively developed checklist of what we would expect in a persuasive letter that would show that the writer had thought through the issue with skill and care. In effect the students were setting the standards they expected for well thought-out recommendations. The students set such standards as, amongst others, that a number of options – not just one or two – were considered carefully, that the writer had considered both the pros and cons of each option, that he or she had chosen the option recommended by determining that it was better than the others, and that in these considerations the writer had views about which consequences of the options considered were more important considerations than the others, and why. That’s a pretty good set of criteria for careful and skilful decision making.

These students, of course, focused on these criteria because Ms Vasquez had worked with them at the outset to specify what made decision making skilful, and they all identified the need to consider these points, which were then recorded on a “Thinking-Strategy Map” and posted



THE SKILFUL THINKER

Teachers of Thinking - Aotearoa Collaborative

on the wall. So, I thought, this should not be a surprise. What was a surprise, though, was how Ms Vasquez had them make use of these criteria as they did their persuasive writing. First, she worked with them to develop them into an organized checklist which had, after each item, a "Thinking Suggestions" box. Then, when they wrote their letters, she asked them to work in peer-editing pairs and use this checklist to record what was in their partner's letters and what wasn't, with suggestions as to how to rethink the matter so that the items not present could be included (or those present could be improved).

Actually, this was not so easy for some of the students. Some of them missed indicators in their partner's writing for some of these criteria, and mistook others. But with the pairing, and with some open discussion of some of the sticky points prompted by the teacher, and I could see that they were getting better at it – they were learning!

Well, ok, this activity had, so far, yielded a student-developed set of standards for determining whether skilful thinking was behind the recommendations made in these letters, had started to sensitize the students as to how to apply these standards, and had created a spirit of cooperative and friendly advising. How does this yield formative self-assessment?

The next step in Ms Vasquez's process was a masterstroke. She had, of course, asked the students to revise their letters based on the peer assessment that they had just engaged in. But then she asked them to use another copy of the checklist to assess and improve their own revised letters and rewrite them a second time. The specific task was to fill in the checklist to self-evaluate, use it then to rewrite their letters again, and then submit the final draft of their letters together with their checklist to show how they engaged in the process.

I reflected again that this was not so easy, and that there needed to be a process of learning about how these different criteria could be expressed in their letters, but I also reflected on how enthusiastic about this task the students had become, and how this was motivating them to make sure they made their letters as clear as they could be. This, too, was a learning process.

I thought to myself: What better way to start these students on a task that I was sure this teacher was going to extend to other contexts that could involve them more directly in assessing their own thinking, and to ultimately developing this as a reflective habit that would be with them for the rest of their lives. These students, I thought, would be learning how to not make the same thinking mistakes twice!

BOB SWARTZ IS RETURNING IN OCTOBER

Bob Swartz is returning to Auckland in October to work further with collaborative members and other interested teachers.

Workshop 1 - Introduction to Infusing Thinking Skills

Wednesday 22 October

Course Fee \$250 Collaborative members \$200.

Workshop 2 - Infusing Advanced Thinking Skills

Thursday 23 October

Course Fee \$250, Collaborative members \$200.

New skills if you attended the May workshops.

For details contact Birkdale Intermediate School - office@bis.school.nz

MEMBERS RETURN FROM STUDY AT HARVARD UNIVERSITY, BOSTON

A team of collaborative members, Diane Shearer, Wainui School, Roger Shearer, Birkdale Primary, Kyle Brewerton, Beach Haven School, Paul Engles and Janet Yelas, St Marys (Northcote) and Richard Coote, Debbie Adding and Mark Shearer, Birkdale Intermediate have just returned from attending Project Zero's Summer Institute at Harvard University's Graduate School of Education. They spent six days working with teachers from around the World looking at the features of a 21st Century classroom. Daily keynote presentations were alternately given by Project Zero's co-directors Dr David Perkins (Smart Schools) and Dr Howard Gardner (multiple intelligences). Contact these members if you want further details about attending Project Zero.

PRESENTATION IN BARCELONA, SPAIN

Collaborative member Richard Coote, Principal of Birkdale Intermediate School, has just returned from assisting Dr Robert Swartz in a presentation to teachers from the Col.legi Monsserrat in Barcelona. The school of 800 pupils was interested to learn how Birkdale Intermediate implemented its 'Thinking Curriculum.' The two schools intend to keep in contact and have already begun a joint project on 'teaching for transfer.' The schools will prepare a set of homework tasks and class activities for near and far transfer. Both schools see this as a way to support their teachers as they develop their students skilful thinking.



The cubicle at the rear housed the two interpreters who were employed to overcome the language barrier. With everyone wearing ear pieces the English speakers heard English and the Spanish speakers Spanish.



Member Profile - Nick Neubert
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Nick has been teaching for 13 years. He trained at the Auckland College of Education (now the Faculty of Education at Auckland University). He has taught in both GATE and mainstream classes. He is currently Deputy Principal at Birkdale Intermediate. Among his primary roles is mentor for Beginning Teachers, quality of teaching and learning, and quality of curriculum. Conducting research into learning and teacher effectiveness is a major focus for him.

pedagogy* and the use of PBL as a learning model to infuse thinking skills.

In 2008, as part of a cluster of schools who are on a Ministry of Education 'EHSAS' (Extending Higher Standards Across Schools) contract, BIS has started to conduct further and extensive research into its PBL model, teacher implementation and student achievement. Nick and principal Richard Coote, and team leader Debbie Adding, are conducting the research over a period of a year. It includes:

- Multiple observations of all classroom teachers.
- Testing and interviewing students.
- Interviewing teachers about their understandings, perceptions and implementation of PBL at the school.

The observations of teachers focuses on the co-construction of research questions and thinking maps (Swartz, 1994). These are observed in conjunction with specific effective teaching indicators, recognition again of the importance the school places on effective pedagogical practice as being a co-requisite of an effective learning model and raising student achievement.

A student cohort was selected to undergo a written test of their understandings of and ability to apply a specific thinking skill, in this case 'Skilful Compare and Contrast' (Swartz, 1994). These same students were also interviewed to measure their new insights and understandings from a PBL unit.

Finally, using Nicki Gemmill, an independent consultant, teachers will be individually and confidentially interviewed to ascertain across the school, teacher understandings, perceptions and implementation.

Once the research is completed in December this year, the school will be in a position to add to the research literature on the efficacy of a PBL model, the infusion of thinking skills, and effective pedagogy on student achievement.

* As part of the research and specifically the use of indicators of effective teaching, Nick used the work of Berliner (1986) to derive a specific set of indicators to observe the Birkdale Intermediate School teachers against. He recognises though, as Alton-Lee (2003) describes it 'the tension between curriculum-specific pedagogy and generic characteristics of quality teaching.' The research conducted in 2005, however, suggested a strong link between those indicators identified by Berliner and student achievement at BIS. Alton-Lee (2003) affirms that 'what counts as best evidence is classroom-based research that has demonstrated a systematic relationship between pedagogical practice and student achievement outcomes.' The research undertaken at BIS is in part an attempt to demonstrate just such a relationship.

The school will publish the results of this research in this newsletter early next year.

WHAT RESEARCH AT BIRKDALE INTERMEDIATE IS TELLING US

At the heart of any educational endeavour is the desire to provide a quality curriculum for our students, a curriculum that is both engaging within the context of 21st century learning and that can demonstrably show improved student achievement as an outcome. As a solution, the school has spent a number of years developing and refining its own version of Problem-Based Learning (PBL), an enquiry model that the school has customised around the infusion of thinking skills (Swartz, 1994) and underpinned by effective pedagogical practice. Taking the approach that no learning model should stand on its own merits, divorced from effective pedagogy and measurable student outcomes, they have conducted research into their enquiry learning model.

The first round of research was undertaken in 2005. Nick Neubert, as part of a Post-Graduate paper at Auckland University, with Asin Ali of Al-Madinah School, conducted research to establish how teacher implementation of PBL affected student achievement. After 25 observations of lessons it was found that students of teachers who closely implemented PBL against a set of 'effective teaching' indicators (Berliner, 1986) achieved significantly better than students not in the research cohort. On average, 92% of the students in the research cohort achieved assessment expectations. This was in contrast to the rest of the school where only 66% achieved assessment expectations. This difference in student achievement confirmed for the school both the importance of effective





Sandy has been teaching for 19 years. She is the Team Leader for Kiwi Team at Wainui School and is the leader of the 'Innovation Team' responsible for finding new ideas to strengthen the school's curriculum and trialling these in her classroom.

Member Profile - Sandy Blackburn
Teacher, Years 3 and 4
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Sandy and a group of her students discussing the volcano Vesuvius after a student brought this topic into the class for discussion.

THIS PLANET REALLY ROCKS!

When I visited Sandy's class they were all hard at work on their inquiry for the term based on questions about geology. They had been undertaking this research for 6 weeks when I arrived to observe them in action.

Sandy explained that after discussing the unit's title, 'This Planet Really Rocks!' the class then completed a brainstorm. From the large group of questions that came from this, and with Sandy's guidance, they decided on the question the whole class was challenged to answer, 'How do we use rocks in our every day lives?'

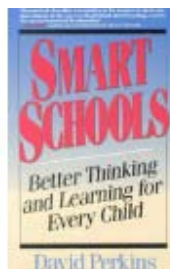
Each week the class works on questions related to this e.g. 'How do active volcanoes effect people?' A small number of students work independently, most work in collaborative groups and some under direct teacher guidance. Sandy also adds in teacher guided activities throughout the inquiry to build their knowledge. The class built a sand mountain to look at erosion by wind and water. They filled a container with a mix of sand, dirt and water to watch the sediment settle and discussed the formation of sedimentary rock.

As part of their inquiry Sandy invited a parent, Maria Morris, to work with the class on an art topic using Oamaru stone. This light coloured limestone is reasonably easy for these Year 3 and 4 children to carve. The mini theme for the week was around the question, 'How are rocks used in Art?'

Among other professional learning opportunities Sandy has attended the ULearn conferences for the past three years.



A student working on her piece of Oamaru stone.



A BOOK WORTH READING

Smart Schools, Better Thinking and Learning for Every Child by David Perkins. The last time I looked on www.fishpond.co.nz it was discounted to \$31.95

