THE SKILFUL THINKER 2

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When I asked Dr Gwen Gawith for a photo of herself for this article she sent her painting of a cat. This is what semi-retired researchers do when they stop!

How structured does inquiry need to be?

Dr Gwen Gawith

This question is in 'how long is a piece of string' territory because it depends entirely on what you mean by 'inquiry'.

Interpretations of 'inquiry' fit on a continuum. Describing extremes of the continuum will allow you to see where your interpretation fits, how much structure is needed, and get to the real question which I think is, 'Is the inquiry often interpreted to the detriment of thinking?'

Extremes of inquiry curriculum

1. If you see inquiry as a synonym for 'brainstorming, asking questions, finding out stuff and presenting it' then the structure is already implicit so why would you need more?

2. If you see inquiry as the school-level equivalent of real research, structure is determined by what you are researching. At primary level 'topic' research is most common. There are numerous frameworks including my 1983 Action Learning framework and dozens of derivatives and alternatives. More recently there's DART (part of 3Doors) and a great framework from Alberta*. The difference between these frameworks is the degree to which they build in a stage requiring the cognitive processing of information, the use of analytical, synthetic, critical and creative thinking skills. (This is what you won't find in my Action Learning Framework, but you will find with DART and the Alberta Framework).

a) The essence of the first is what I call 'cognitive bypass learning'. Brainstorming > questions > pasting up information manually or electronically, requires little analytical thinking (pulling information apart), synthetic thinking (combining similar information from different sources), critical thinking (establishing the value of the information – its relevance, accuracy, authority, balance/ bias, etc), and creative thinking – interpreting, applying information. Children find this approach BORING (2005 NEMP findings).

b) Structurally the difference between PhD research and what a New Entrant child does lies only in the conceptual complexity of the topic and the skill level of the researcher. The steps are the same, but with both, the essence of real research is that it always involves finding and analysing evidence to support claims (or theses, hypotheses, problems, etc) and interpreting/ applying it. Information is always processed through the mind, using analytical, synthetic, critical and creative thinking skills.

Structure

1. Real research involves analysis of existing knowledge to establish gaps in this knowledge.
2. Real research involves reading, listening, viewing to find information to plug these gaps.
3. Real research involves a long process of mental processing of the data - analysing, synthesising, theorising.
4. Real research involves interpreting, re-interpreting, applying the information in some way – formulating solutions to problems, deriving conclusions from the data, working out effects, and the like.

The structure (four basic steps which can expand into sub-steps) is the same for a New Entrant class researching bread, visiting a baker to see the process and applying their knowledge by baking their own bread (with help) or analysing how students and teachers 'do' research/ inquiry in NZ classrooms, translating the problems into 'tools' and applying the tools in classroom trials. I did 8 years of intense cognition, but it's a difference in degree, not structure! The New Entrant class synthesised data they'd gathered about ingredients and baking, calculated quantities and followed a recipe to bake their bread – a lot of thinking.

With junior learners the process is more concrete and tactile, with secondary and tertiary students it's more abstract and conceptual, but the structure and the need for coaching by experienced teachers remains the same. Whether called research or inquiry, if teachers set a purpose requiring children to analyse, synthesise, interpret and apply information and if they coach the cognitive tools required, the learning will be meaningful.

*Alberta Framework: www.learning.gov.ab.ca/k_12/curriculum/bysubject/focusoninquiry.pdf or go to www.lrc.learninggov.ab.ca and find links to inquiry pdf

Glenda has been teaching for 20 years. She trained at North Shore Teachers' College where she became a lecturer in physical education in the 80s. She has been a physical education teacher at Avondale College and is presently leading the senior syndicate at Browns Bay School.

Member Profile - Glenda Bradley
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Glenda working with her class during a peer assessment task.

THE TITANIC SINKS, WHO WAS TO BLAME?

On my visit Glenda's Year 6 class, Room 20 were working on a social studies investigation into the sinking of the Titanic. The thinking skill emphasised during the unit was causal explanation.

The Scenario that set the scene for Room 20's guided inquiry was, 'In 1912 Captain Smith was on the bridge of the R.M.S. Titanic. It was the largest ship in the World and thought to be unsinkable. We know it hit an iceberg and sank. Knowing why it hit the iceberg, causing so many lives to be lost, is the key to determining whose responsibility it might have been. Using skilful causal explanation and your research can you work out who, if anyone, was responsible?

During my visit the class was listening to oral concluding performances. Many presented these as a news reporter interviewing a researcher. As they listened, the class had the task of tallying the times the pair gave reasons and the times the reasons were backed up with evidence. This type of peer assessment had certainly strengthened the children's oral reporting. Glenda says that with explicit teaching of the terms 'reasons' and 'evidence' all the pairs presenting now explained their reasons and backed these up with some form of evidence. This is a big improvement on the previous unit where only four were able to do this. She had earlier reinforced this by asking the pairs to use two different highlighter pens to mark their 'reasons' and 'evidence' on the draft of their oral report.

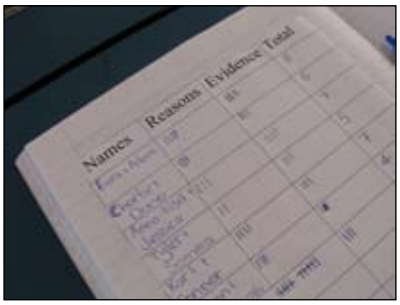
Talking to a group of students about their new insights and understandings, it was clear that these children had thought deeply about their inquiry.

"I just realised it wasn't all the Captain's fault. I now know more than one person can be responsible." Alison, 10 years old.

"We really had to access what each person was like, if they were 18 and had never done the job before or 50 and very experienced." Leo, 10 years old.

Asked how skilful causal explanation helped his thinking Leo explained, "I was quite quick to blame the lookout but you really have to think it through. If you don't look at all the facts and assess all of that you can't blame anyone. It stops you jumping to conclusions."

Alison's art work.



Malia's work book.

I asked Anna-Liisa about the usefulness of the graphic organisers. She replied, "They helped great because you forget what your information is, so you just look in your book and it is just there!"

Glenda has been lucky enough to have attended two of the International Conferences of Thinking. The first she attended was held in Harrogate, England in 2002 and the second Norrkoping, Sweden in 2007.

The original idea for this unit came from Rebecca Reagan and can be found in "Teaching Critical & Creative Thinking in Language Arts Infusion Lessons, Book C1 Grades 5 & 6, Robert J. Swartz, Mary Anne Kiser, Rebecca Reagan, Critical Thinking Books & Software ISBN 0-89455-733-5

Becky has been teaching for 36 years. She has worked as an instructor and consultant for NCTT for the last 14 years, working in Singapore, USA, New Zealand, Spain, United Arab Emirates, Saudi Arabia and Malaysia. She is the co-author or contributing author of 6 books. Her expertise is in extending good thinking into the language arts.

Member Profile - Rebecca Reagan
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Becky working with Dr Bob Swartz during a recent presentation at the Spencer on Byron Hotel, Takapuna.

DEEP AND CAREFUL THINKING PRECEDES DEEP AND CAREFUL WRITING

Becky is a contributing author to a new book, due to be published in December of this year, titled 'Habits of Mind: Stories from the Classroom' edited by Art Costa and Bena Kallick.

Becky believes deep and careful thinking precedes deep and careful writing. "It is so much easier to write if one has something thoughtful to say."

The idea for the method she calls 'cognitive composition' came when she first started using thinking skills in her classroom. When she asked her students to write, she just wasn't getting the quality she knew they were capable of giving. Cognitive composition involves the engagement of skilful thinking to guide the composition of a piece of writing. She believes it is in the prewriting phase that the quality of the writing can be enhanced. By linking a habit of mind, such as communicating with clarity or striving for accuracy, to both the thinking skill and the writing process you truly enhance the quality of the writing.

Becky also believes that fear of the blank page effects students as it does adult writers. "Unless you have been taught, you don't know how to put your ideas on the paper." To assist with this Becky has designed a series of 'writing maps.' These have been "developed to help students organize their writing, based on the structure of the thinking in which they had been engaged." These 'writing maps' have been detailed in the new book. Some are very detailed, giving sentence by sentence guidance while others are more open giving guidance for each paragraph. I asked Becky about the differing level of guidance provided by the 'writing maps.' She feels that the level of guidance needed will need to be determined by the teacher. Like Bob Swartz's 'skilful thinking maps' these writing ones will eventually be internalised by the students. "To begin with they will need more structure."

The chapter leads you through carefully linking the elements of skilful thinking, graphic organisers, habits of mind and writing maps to enhance your students' writing.

Becky hopes that her contribution to the new book will give teachers renewed enthusiasm for their students writing and enhance their ability to extract quality writing.

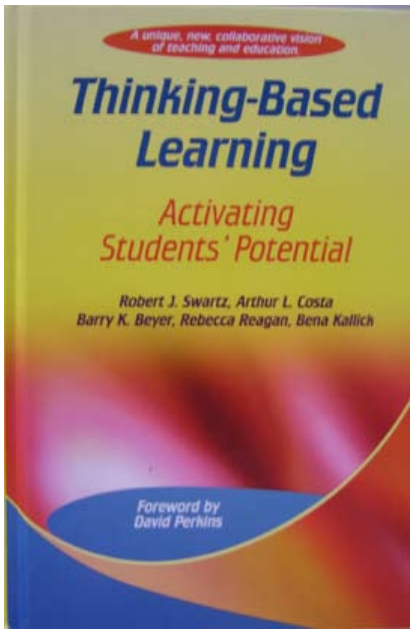
The book will be available through the Association for Supervision and Curriculum Development (ASCD) web site.

Check it out around December:

http://www.ascd.org/portal/site/ascd/index.jsp/

TEACHERS OF THINKING AOTEAROA COLLABORATIVE

NEW THINKING-BASED LEARNING BOOK PUBLISHED



This book needs to be in the library of every school and teacher who is serious about improving their students' thinking.

Thinking-Based Learning: Activating Students' Potential. Robert J. Swartz, Arthur L. Costa, Barry K. Beyer, Rebecca Regan, and Bena Kallick - Foreword by David Perkins

Available from the National Centre for Teaching Thinking at:

http://www.nctt.net/

Mention you are a member of the collaborative and recieve a 10% discount.

JOINING THE COLLABORATIVE

Membership of the 'Teachers of Skilful Thinking, Aotearoa Collaborative' is simple. If you are interested in improving your students' thinking skills and would like to receive the collaboratives newsletter all you need to do is email:

Richard at rcoote@bis.school.nz

That's it, you are now a member! There are no fees or other commitments.

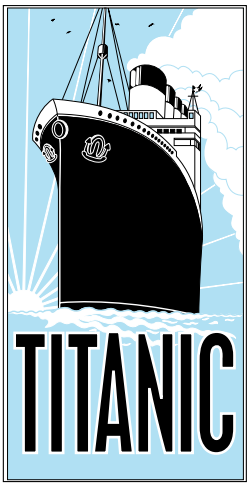
BACK ISSUES OF 'THE SKILFUL THINKER'

Back issues of our newsletter will soon be available on Birkdale Intermediate's web site. Click on the 'Thinking Based Learning' button at:

www.bis.school.nz

SKILFUL CAUSAL EXPLANATION

TITANIC UNIT AND CD AVAILABLE SOON



This unit on the 'Titanic' can be preordered by collaborative members from Birkdale Intermediate School for $60. Its thinking focus is skilful causal explanation. It is suitable for Years 6 - 8. There is a teachers guide and CD of resources. The school purchased copies of many of the original documents from The National Archives, Kew, United Kingdom. These along with other material are presented in an exploratory environment of a White Star shipping office of 1912. Click on the filing cabinet and read the original documents, click on the newspaper and read articles on the sinking. There is a lot to explore. Using skilful causal explanation, why did the Titanic hit the iceberg?

The exploratory environment of the Titanic CD