
PROFESSIONAL READINGS FROM TC²

From “finding out” to “thinking about” Changing research assignments into critical challenges

By Patricia Finlay

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Two students arrive in the library shortly after the dismissal bell and ask “Does the library have any stuff on Japan?” “What do you want to know about Japan? the geography?, its sports?, its art?” I respond. They look at each other and reply, “We don’t know... everything! Our teacher has asked us to write a report on Japan.”

Does this sound familiar? Because of this type of scenario my focus, as a teacher-librarian for many years, has been to work with classroom teachers to cooperatively plan and teach units of study that incorporate the research process. Until recently my emphasis has been on assisting students to develop the skills to locate suitable resources, to acquire information, and then to organize their information before completing their final product or presentation. Research assignments became more effective as teachers and teacher-librarians combined their expertise. In collaboration with the teacher-librarian, the assignment on Japan might have looked like this:

Listed below are topics on Japan. Choose one and write a report. You must include at least three different sources of information in your bibliography. After two periods of work in the library your notes will be collected and



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marked. The final report should be two pages long. You will be marked for information on the topic, spelling, grammar, punctuation and presentation.

This was a significant step forward. I was able to teach students the skills of locating resources and of collecting and organizing information in context with their classroom work. Marks that included notes and bibliographies gave weight to the process of research as well as to the final product. Students felt less frustrated as the sources of information were accessible and the directions for their assignment were more explicit.

Despite these improvements I still felt personal dissatisfaction with the research projects. Students often had little knowledge or input about their topic before beginning. As they read and took notes they didn't know whether information was important or superficial. They didn't ask questions about their topic or think critically about the information they gathered. Their reports were largely a regurgitation of facts from whatever sources they managed to use before the deadline. Research was "finding out about" a topic rather than "thinking about" a topic.

Like many teacher-librarians, I recognize a need to shift from the traditional research skills model to a model of information problem solving. As changes in communication technologies and information storage and retrieval systems accelerate, the importance of information problem solving becomes more apparent. The traditional model focuses on information gathering, the locating and recording of information. It is based on the view that information is an objective "thing" residing in books or other resources. Information problem solving stresses the posing of questions, the use of search strategies and the assessment and interpretation of information. Information is

viewed as a process of constructing personal meaning. Students must become capable critical thinkers to be effective at information problem solving.

My struggle is to find ways, in collaboration with teachers, I can stimulate and teach students to think critically about the information they gather. My introduction to, and subsequent work with, a model of critical thinking developed by The Critical Thinking Consortium – TC2 is giving me a direction to pursue.

According to the TC2 model, we can help students improve as critical thinkers by infusing opportunities for critical thinking throughout the curriculum. They define critical thinking as the thinking through of problematic situations about what to believe or how to act where the thinker makes reasoned judgments that embody the qualities of a competent thinker. Problematic situations which are deliberately presented to students for consideration are labelled as critical challenges. The development of critical challenges is a natural entry point for teacher-librarians to use in order to design research assignments which go beyond "finding out about". Critical challenges are the deliberately set tasks or questions that provide the impetus and context for critical thinking. They can be created in all subject areas and for all grade levels.

Critical challenges can be distinguished from two other types of tasks or questions:

- "Where's Waldo?" This type of question or task requires the identification or retrieval of information. Its the typical "find out

about” question. Students are expected to “know” the answers from memory or find the answers from sources such as textbooks, library resources, lecture notes, etc. These questions have “correct” answers even though the answers may be complex or difficult to find (eg. Describe the tourist attractions of Japan.).

- “All answers are valid” These are questions which invite students to offer their opinions on matters where their answers are essentially personal preferences or guesses. If we ask students to choose a favourite character in a novel or make a prediction about something with which they are not familiar, it would be difficult to say their responses were not acceptable (eg. What would you like to see as a tourist in Japan?).

Both “Where’s Waldo?” and “All answers are valid” questions are valuable to ask. However they are not critical challenges as they do not explicitly invite students’ critical reflection.

- “Critical challenge” A question or task is a critical challenge only if it requires students to make a judgment about which of the possible answers they might offer makes the most sense or is the most reasonable. If there is only one plausible option or a correct answer is obvious then it does not call for critical thinking. A guess, a preference or an impulsive conclusion would be difficult to support as a reasonable judgment. Making a reasonable judgment is the key impetus for critical thinking to occur (eg. Which tourist attraction best exemplifies Japan’s religious beliefs?).

There are four criteria that an effective critical challenge must meet. These criteria can also apply to effective research assignments. Let’s turn the research

assignment on Japan into a critical challenge and then evaluate it on the four criteria.

Your parents have been given the opportunity to move for two years to Vancouver or Tokyo. They want your help in making the decision. Which would be the better choice for your family and why?

- *Does the question or task require judgment between plausible alternatives?* The question clearly asks students to make a reasoned judgment between plausible alternatives. A reasoned judgment is a criteria-based (or reason-driven) position. Criteria for judgment are the measures that we use when assessing an action, idea or object. In this case, students will have to discuss on what basis to judge a city and set the criteria for making their decision. As the students locate and acquire information they will be required to go beyond retrieval of facts as it will be necessary to continually weigh the value of the information for their task. At the same time students will have to assess the credibility and reliability of the information and its source. Because the students are engaged in a more thoughtful research process “new” information may even compel them to revisit their criteria.

- *Is the challenge focused so as to limit the requisite tools?* In setting up the assignment the teacher and teacher-librarian will have to identify the intellectual tools that would be needed to think through a particular task or question and then assist students in acquiring those tools which they may not already possess. The five categories of tools are background knowledge, criteria for judgment, critical thinking vocabulary, thinking strategies and habits of mind. Research skills are included within these categories. If students lack any of the crucial tools for a particular challenge then its value is lost. One way to avoid this situation is to

focus the challenge which will limit the required tools. Students will then be able to do a competent job. Compensation for those tools that students do not already have can be provided by teaching new concepts and strategies and/or supplying support materials. The key intellectual tools for the critical challenge on Japan would be background knowledge, criteria for judgment and thinking strategies. The challenge could be made more manageable and focused by identifying and supplying some pertinent resources for the students to use, by limiting the number of criteria for judgment and by providing a data comparison chart for recording information.

• *Will the challenge be meaningful to students?* By giving this question a realistic and personal context, the task is more meaningful to students. Critical challenges should arise within meaningful contexts, often real-life. However it is sufficient that the thinker sees the challenge to be interesting or stimulating and that the context provides an adequate grounding for deciding what would be reasonable. Critical

challenges are more likely to be engaging if they create dissonance with the students' preexisting beliefs, or have an obvious connection to the local community or to a personal concern of the students, or have been suggested by the students themselves.

• *Is the challenge embedded in the core of the curriculum?* This assignment fits with B.C.'s Grade 6 Social Studies curriculum that focuses on contemporary world cultures. Critical thinking must be taught, learned and assessed in context since the context determines what qualifies as a reasonable response. Why create a separate area of study when the curriculum offers a rich source of opportunities for critical thinking. By reframing assignments on the key elements of subject matter in the form of critical challenges students will confront the material in the context of thinking critically about it and not merely as a matter of retrieving information. Here are other examples that show how a twist on a typical research question or task can make the assignment more meaningful and thought provoking.

Research Assignment

Report on a famous explorer.

Who were the Group of Seven?

How can we prevent water pollution?

Make an anti-smoking poster.

Critical Challenge

Who was the greater explorer, Vancouver or Cook?

You have been asked by the curator of an art gallery to select from a nominated list of paintings the one which best exemplifies the work of the Group of Seven.

Fresh water is an endangered species! Identify all the threats to safe water supplies. Which threat is the greatest concern and why? Identify possible solutions to the threat and justify which one offers the most realistic chance of success.

Create a poster advertisement to discourage fellow students from smoking, effectively employing the techniques of persuasion

Find out about frogs.

without distorting the evidence.

*Design the ideal habitat for a frog
which would meet its needs for
food, for protection from enemies
and for reproduction.*

This brief introduction to a model of critical thinking has focused on the concept of critical challenges which is especially applicable to teacher-librarians and our goal of teaching information problem solving. As we collaborate with other teachers to develop research assignments we can help reframe questions and tasks to stimulate and to promote critical thinking. A further challenge is to help teachers and students become better critical thinkers about electronic information technologies, as consumers and as creators. However, this first step in using the model, provoking students to “think about” their research topics, can get us started on teaching the tools to enable students to become capable critical thinkers and information problem solvers.