

4

Beyond Inert Facts Teaching for Understanding in Elementary Social Studies

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Only one in three Canadians knows who scored the winning goal that long-ago day in Moscow. Just half can place the significance of the Last Spike and almost no one knows the name of the judicial decision that gave women the right to be appointed to the Senate. These are the findings of a new poll that shows that Canadians continue to be dismally ignorant of their own history. (Campbell 2000, A1)

It cannot be too strongly impressed, that Education consists not in travelling over so much intellectual ground, or the committing to memory of so many books, but in the development and cultivation of all our mental, moral, and physical powers. The learned Erasmus has long since said: "At the first it is no great matter how much, but how well you learn it." (Ryerson 1847, 56–57)

The annual release of the Dominion Institute's Canada Day quiz fuels newspaper reports, such as the first quotation above, decrying students' ignorance of national historical facts and petitioning educators to teach more Canadian history. Similar reports are made about Canadians' geographic illiteracy based on students' inability to recall basic information (Canadian Council for Geographic Education 2005). Should we be alarmed about these consistently poor results?¹ Does this necessitate spending more time on content knowledge in history and geography?

Alternatively, the problem may not be that we don't teach enough history and geography but, as suggested by the second quotation, the ways in which these subjects are taught may contribute to the forgetting of these facts. Ironically, if we stress covering more facts, we may fuel a worse problem than lack of recall of details. Consider the following interview between Sam, a ten-year-old student, and Pauline, a student teacher at the University of Calgary:

Pauline: Out of the things you do in school, what would you say is the subject that you like least?

Sam: Probably language arts and social studies because they're boring. I don't like writing that much, so I don't like language arts too much, and social studies you've got to listen and learn words and stuff.

Pauline: So in social studies you're sitting there, listening to the teacher talk, are you?

Sam: Yeah, but it's still boring. We listen to her talk and we have to read these things. Last year we did about the war, Alberta, its history and stuff like that. And we had to read stuff and the teacher had to read stuff too. Just have to memorize these vocabulary and stuff and write them down.

Pauline: So if someone said, "What do you do in social studies?" what do you think you'd tell them?

Sam: Listening, memorizing, and writing. (Carswell 1990, 15)

Perhaps for similar reasons, a 1943 American survey by prominent social studies educator Edgar Wesley found very little difference in the scores on a general knowledge test of American history between high school students who had studied American history and those who had not. It is also revealing that the same test was administered to a sample of adults drawn from *Who's Who in America*. The study concluded that "many well-informed, useful, successful, and even distinguished persons cannot answer 75 per cent of the items" (Wesley, cited in Barr, Barth, and Shermis 1977, 40). This last finding underscores another key conclusion: there is an important difference between "remembering" historical or geographic information—factual recall—and "understanding" these events. For example, students may not remember that the term "Last Spike" refers to the final joining of the Canadian Pacific Railway in 1885, yet they may nevertheless have some understanding of the significance and key features of this event. As historian George Wrong noted in 1924, "Education is what is left when we have forgotten most of the

facts we have learned” (cited in Osborne 2000, 36). Clearly, understanding the key ideas is more complicated and more important than simple recall of dates, place names, and terminology. Unfortunately, many public reports calling for the teaching of more “content” fail to make this distinction clear.

In this chapter, I explore how we might teach social studies content in ways that foster understanding rather than mere recall of information and that stimulate student interest, not irrelevance. My reference in the title of this chapter to “inert” facts comes from Alfred North Whitehead’s famous book, *The Aims of Education*, in which he suggests that “the central problem of all education” is in preventing knowledge from becoming inert (1929/67, 5). By inert, Whitehead means “ideas that are merely received into the mind without being utilized, or tested, or thrown into fresh combination” (1). Harvard educational psychologist David Perkins defines inert knowledge as “knowledge that learners retrieve to answer the quiz question, but that does not contribute to their endeavours and insights in real complex situations” (1993, 90). His colleague at Harvard, Howard Gardner, notes that “Coverage is the enemy of understanding” (cited in Antonelli 2004, 42). The paradox of “less is more” may be especially true in this respect: less direct teaching of facts may result in greater understanding of and interest in the content which may produce increased long-term retention of information.

Calling attention to the need to see our task as engendering understanding, not transmitting information, has been a persistent theme in social studies. John Dewey wrote in his influential book, *How We Think*, that “the aim often seems to be—especially in such a subject as geography—to make the pupil what has been called a ‘cyclopedia of useless information’” (cited in Hare 1994, 72). In 1960, Shirley Engle warned of a “ground-covering fetish” by which he meant the practice of “learning and holding in memory, enforced by drill, large amounts of more or less isolated descriptive material” (302). Walter Parker (1989, 41) urges that learning not be seen as “the warehousing of facts” but as the “progressive construction of understandings” and teaching not be the “telling of fact” but the leading of a construction project in which the teacher acts as a contractor—not actually building the house but contracting to students the sorts of labour that will culminate in their building of a house.

These admonitions to engage students in thinking about and with the content of the curriculum are easier said than done. Numerous challenges must be identified and overcome. This chapter focusses on teaching factual information in ways that promote understanding; in the next chapter, John Myers and I consider how to teach concepts in ways that promote conceptual understanding. By factual information, we mean beliefs about the way the world is and why it is this way. These include what in social studies are typically

called “facts” and “generalizations.” “Confederation occurred in 1867” and “John A. Macdonald was Canada’s first prime minister” are examples of facts. “Early European exploration of North America was motivated by the desire for economic and political gain” and “Natural resources have dominated Canada’s economic and social development” are examples of generalizations.²

Teaching for Understanding

Before examining how to teach factual knowledge in ways that increase students’ understanding, it may be useful to clarify what it means to understand as opposed merely to possess (or recall) information about something. Three attributes seem especially significant:

- **Understanding implies basic comprehension of information.** Understanding a fact is not mere patter off the lips in response to a stock question. At the least, understanding implies that students can thoughtfully rephrase the answer in their own words. Richard Lederer has compiled an amusing “history” of the world gathered from students who apparently so poorly understood what was taught that they got their facts wrong. His report of students’ account of ancient Rome is as follows:

Eventually the Romans conquered the Greeks. History calls people Romans because they never stayed in one place very long. At Roman banquets, the guest wore garlics in their hair. Julius Caesar extinguished himself on the battlefields of Gaul. The Ides of March murdered him because they thought he was going to be made king. Nero was a cruel tyranny who would torture his poor subjects by playing the fiddle to them. (1987)

- **Understanding implies appreciation of significance and interconnection.** Remembering that Confederation occurred in 1867 is not the same as understanding this fact. Understanding something about Confederation requires knowing the significance of this event and how it fits into the larger historical picture. Imagine asking students: “Which is the more important event in Canada’s development as a nation—Confederation or the first basketball game?” We would have little confidence that students really understand Confederation if they chose the first basketball game. This is because we would doubt that they correctly appreciated the relative magnitude of the implications of these events. Imagine also asking: “What is the relation between Canadian self-rule and Confederation?” If students could not see any connection, we again might doubt that they understood Confed-

eration, since they seem to have little appreciation of the constellation of ideas that interconnect with the specific event or phenomenon. For this reason, amassing discreet facts adds little to understanding since it is the interrelationships that are central. Ken Osborne (2004, 4) supports this view when he observes that “It is possible, for example, for a student to master a whole list of outcomes describing the First World War, but still have no real understanding of the War as a historical phenomenon.”

- **Understanding implies some grasp of the warrants for belief.** A final aspect of understanding is the need to appreciate, to some extent at least, what kind of evidence is required in deciding whether one should accept or reject a proposed statement of fact. Imagine students are told that certain statements in their textbook are thought to be false, say, that Confederation was not in 1867 or that early European exploration of North America was not motivated by the desire for economic and political gain. If students had no idea whatsoever what might count as supporting or refuting evidence for these claims, then we might wonder how well they understood what these claims signify.

Our task, if we are concerned to promote understanding, is to help students comprehend, connect, and seek justification for the information they receive. Much can be said about teaching in ways that engage students and foster understanding. In the following sections, I explore various suggestions clustered around two general themes:

- Inviting students to think critically about the content
- Strategies for framing effective critical challenges

Thinking Critically about the Content

According to Whitehead, ideas remain inert if students do not use or test them. A similar sentiment was expressed in the very first assessment of “best practice” in Canadian schools by Egerton Ryerson in his *Report on a System of Public Education for Upper Canada* (1847, 58):

If the mind of the child when learning, remains merely passive, merely receiving knowledge as a vessel receives water which is poured into it, little good can be expected to accrue. It is as if food were introduced into the stomach which there is no room to digest or assimilate, and which will therefore be rejected from the system, or like a useless and oppressive load upon its energies.

One hundred and sixty years ago, Ryerson concluded that students must, in some fashion, “digest” the ideas they

encounter—they must put the knowledge into use and assimilate or own the ideas. Answering comprehension questions after reading a text and/or taking notes while listening to the teacher are merely acts of receiving transmitted information. As Alfie Kohn reports, “Lecturing was defined by writer George Leonard as the ‘best way to get information from teacher’s notebook to student’s notebook without touching the student’s mind’” (2004, 189).

Students are digesting the content only when they think deeply about the material—that is, they begin to make reasoned judgments about or with it. As Parker notes, “Thinking is how people learn” (1988, 70). This certainly does not mean that it is inappropriate to transmit information—we must transmit information to our students. The point is that passing on information—including “covering” the pioneers and “doing” human migration—is not the heart of our task. This is merely a means to an end. Our real objective must be to support students’ ability and inclination to think rigorously with and about these ideas.

The need for students to think continually about the content is crucial. It is not sufficient to “front-end load” considerable content and at a point near the end of a unit or term invite students to reflect on the ideas they have heard and read about. As Ryerson’s metaphor suggests, information that has been passively acquired is not digested in a way that makes it available for future use. It ceases to be—because it never was—food for thought. For this reason we must find ongoing ways to involve students in thinking as they learn, so that they will, in fact, learn.

The most powerful way I know to help students digest what they are learning is to invite them to think critically about it using an approach I helped develop as part of The Critical Thinking Consortium.³

RECOGNIZING WHEN WE INVITE CRITICAL THINKING

The obvious place to begin to engage students in thinking critically is with the questions and tasks we invite them to consider. What does a question that invites critical thinking look like and how does this differ from other good questions we might ask students? We may often ask students to “think” about things, but only some of the time do we ask them to think “critically” about these things. To illustrate this difference, consider the questions in Table 4.1.

Although all three types are appropriate and valuable questions to ask of elementary students, only one type invites students to think critically.

- **Factual questions.** The questions in Column 1 ask students to recall or locate a correct answer from a source. Typically,

TABLE 4.1 THREE TYPES OF QUESTIONS

TOPIC	COLUMN 1 QUESTIONS OF FACTS	COLUMN 2 QUESTIONS OF PREFERENCE OR LIKING	COLUMN 3 QUESTIONS REQUIRING REASONED JUDGMENT
Communities	Where is Medicine Hat?	Would you prefer to live in Toronto or Medicine Hat?	Would moving to Toronto or Medicine Hat better meet your family's needs?
Community roles	How do police officers contribute to our community?	If you could be anyone you wished, would you want to be a police officer?	Which contribution made by police officers is the most important to our community?
Inuit	What did the Inuit traditionally use to make tools?	Which Arctic animal would you like to have as a pet?	Which animal—the seal or the caribou—contributed more to traditional Inuit life?
Explorers	What three Native peoples did Simon Fraser encounter on his descent down the river?	How would you have felt if you were with Simon Fraser on his journey?	Was Simon Fraser a rogue or a hero?

these questions have a single correct answer. The answer already exists and the student's job is to locate it. For this reason, I sometimes refer to these as "Where's Waldo?" questions after the children's picture book series with the same name. The books consist of sets of pictures each containing hundreds of figures including a funny-looking character named Waldo. Children are challenged to locate Waldo among the maze of other individuals in each picture. Although finding the correct answer can be difficult, it is not a "critical thinking" challenge because the essence of the task is to find a predetermined object as opposed to thinking through a problem. Often questions such as "Which factors led to the changes in traditional aboriginal lifestyle?" and "How does the harvesting of natural resources affect the environment?" are simply "Where's Waldo" questions because the correct answer can be found in students' notes, their textbooks, the library, or in their memory. The students' task is to locate the answers in the source. Despite this limitation, these questions are useful in raising ideas to the fore. However, if we asked only these questions, we should not presume that students have digested the information, rather they will have simply regurgitated it.

- **Preference questions.** The questions in Column 2 invite students to share their feelings—what they like and dislike. There are no wrong answers to these questions, in that they are matters of taste: some students like living in large cities, others prefer smaller communities; some students welcome adventure, other students do not. This type of question invites students to offer their "opinions" on matters where their answers are essentially personal

preferences. Almost no answer could be said to be unacceptable. Who is to say that all students should prefer to be a police officer or a teacher? Or that no one should prefer Toronto over Medicine Hat or vice versa? All answers are valid.

- **Reasoned judgment questions.** Both factual and preference questions are valuable questions to ask of students—they both have a place in any teacher's repertoire. But they do not invite students' "critical" reflection. Only the questions in Column 3 invite students to think critically because only they require students to make a judgment about which of the possible answers they might select makes the most sense or is the most reasonable. Although there may be several (in some cases many) reasonable answers to these questions, some answers are unreasonable. For example, although plausible arguments can be made for having either a hamster or a frog as a class pet, it is unlikely that a lion would be a good idea. Questions in Column 3 ask students to go beyond locating facts and merely espousing a personal preference. When thinking critically, students are not merely reporting what they know or like. They are, in effect, offering a judgment or an assessment among possible options, determining which would be the more reasonable or justifiable choice.

The significant feature of a reasoned judgment is that we must resort to criteria. We require some basis other than our own preferences and whims for selecting one option over another. For example, in deciding whether Toronto or Medicine Hat would better meet a family's needs, it would

be useful to consider health factors, availability of suitable employment, quality of life, safety, and ease of travel. These factors form the criteria involved in making a reasoned judgment about Toronto or Medicine Hat as places to move the family.

The close relationship between the term “critical” and “criteria” is instructive. Mathew Lipman (1992) suggests that “critical” thinking is “criterial” thinking—to think critically is to think in light of or using criteria. A useful definition of critical thinking is as follows: *To think critically is essentially to assess the reasonableness of various options in light of appropriate criteria.* Notice that students may judge whether Simon Fraser, for example, was a hero on very narrow and dubious criteria, such as looks, fame, and wealth. Other criteria might include contribution to society, hardship endured, personal attributes, and respect for others. A central part of our job in helping students think critically includes inviting them to consider an appropriate set of criteria when deciding on the wisest conclusion to be derived from them.

JUDGING EFFECTIVE CRITICAL CHALLENGES

Developing effective questions or tasks that invite students to think critically is not a straightforward matter. We need to think critically about our questions. As mentioned above, if thinking critically involves thinking with criteria, we need to consider what criteria to use in judging whether a question or task is an effective critical thinking activity.

We believe an effective critical challenge will meet four criteria, which are listed in the left-hand side of Table 4.2. In the right-hand side, these criteria are applied to a question we might ask about the illustration “The ‘Suburb of Happy Homes’” (Wilson, in Evenden 1995, 20), showing life in Burnaby, British Columbia in 1942.

THE “SUBURB OF HAPPY HOMES”

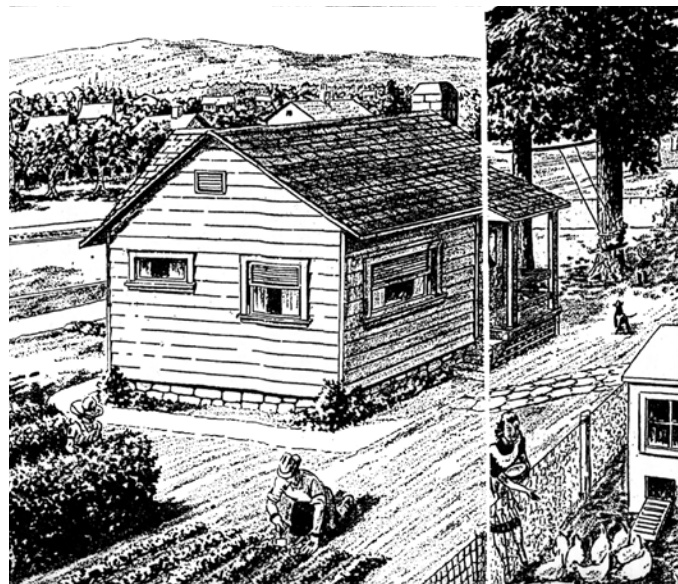


Illustration by Fraser Wilson.

We could, of course, ask any number of questions including Column 1, information or factual questions (e.g., “How many people do you see in this picture?”), and Column 2, preference or feelings questions (for example, “Would you like to live in this house?”). Instead, let us focus on a Column 3 question inviting reasoned judgment: “What is the season and the period of day (morning, afternoon, evening, or night) of the scene depicted in this illustration?” Older elementary students may be asked a more specific and challenging question: “What is the month, day of the week, and time of day (within an hour) of the scene depicted in the drawing?” Let’s explore the merits of this question by considering four criteria for an effective critical challenge.

TABLE 4.2 THE BURNABY PICTURE ACTIVITY

CRITERIA FOR EFFECTIVE CRITICAL CHALLENGES	CRITERIA IN ACTION: WHAT IS THE SEASON (OR MONTH) AND TIME OF DAY?
<p>Clearly invite reasoned judgment among plausible alternatives</p> <p>It is essential that challenges pose questions or tasks that invite students to judge the reasonableness of plausible options or alternative conclusions. Since criteria give judgments rigour, the appropriate criteria should be implicit in the question. For example, when deciding which solution is the most reasonable, students might consider feasibility, effectiveness, and fairness.</p>	<p>Students must choose among the various seasons (or months) and time periods. Determining whether this requires “reasoned” judgment or mere expression of preference depends on whether we use criteria as the basis for our judgment. On what grounds might students judge whether summer or winter (June or January) is a more reasonable suggestion for the time of year? The implicit criterion for judging the more reasonable answer is consistency with the available evidence. Students are to judge which conclusion (spring or winter) is most consistent with the evidence in the picture (for example, the clothing worn, height of the vegetation), and with general knowledge about the world (for example, the look of plants at varying times of the year).</p>

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TABLE 4.2 THE BURNABY PICTURE ACTIVITY (CONT.)**CRITERIA FOR EFFECTIVE CRITICAL CHALLENGES****CRITERIA IN ACTION: WHAT IS THE SEASON (OR MONTH) AND TIME OF DAY?****Are perceived as meaningful by students**

If students view a challenge as irrelevant and unimportant, they are unlikely to engage seriously in the activity and, over time, are likely to regard critical thinking as a boring or trivial exercise.

The challenge to decipher the time period of the scene is likely to be more engaging than the suggested Column 1 question about the number of people in the picture and the Column 2 question asking whether the students would like to live in the house. If students had just studied about the seasons and about the times of the day, they might be especially intrigued by the invitation to apply their knowledge to solve the puzzle. Generally speaking, it is engaging to be asked a question that invites exploration, discovery, or reflection.

Advance students' understanding of the content of the curriculum

Critical thinking should not be an add-on, nor should it interrupt the pursuit of other curricular goals. Rather, challenges should involve students in thinking critically about what we want them to learn from the curriculum. In this way, they are more likely to develop an understanding of the desired curriculum outcomes.

Meeting this requirement, of course, depends on what students are supposed to be studying. By examining the picture, students are likely to learn about life for a family living in a suburban community more than sixty years ago. This might be one of the outcomes in the curriculum. Alternatively, if the curricular outcome deals with the differences between past and present communities, then a more appropriate critical challenge might be to decide whether the quality of life was better for people living at the time of the drawing or in contemporary times.

Are focussed in order to limit the background knowledge required

If students are without crucial background knowledge, then the value of posing challenges may be lost. Elementary students, particularly in the primary grades, are likely to flounder if they lack basic information presupposed by the challenge.

The proposed challenge is relatively focussed if we compare it to related questions we might ask, for example, "What is the month, day of the week, and hour of the day of the scene depicted?" Notice that the greater number of choices (twelve months as opposed to four seasons; four time periods as opposed to twenty-four hours) requires more sophisticated knowledge. The addition of the question about the day of the week adds further complexity, including requiring knowledge of the customs operating in Burnaby in 1942 (Would a family toil in their garden on a Sunday? Would the adults be at work on a Saturday morning? Would the children go to school?). Compare the knowledge required to determine the time of day for the scene depicted in the picture with that required to answer the following question: What is the average annual income of this family? Clearly, this later question would require considerably more background knowledge about the living conditions of wartime Canada.



Applying the criteria for an effective critical challenge is an important step in developing critical challenges. None of the following questions are effective invitations to think critically. For each question, decide how many of the four criteria discussed in Table 4.2 are missing to a significant extent:

- Which African animal is the fastest?
- What is your favourite part of the school playground?
- Name three things that you noticed about this website.
- After reading this passage, identify the reasons why ozone is being depleted.

Strategies for Creating Effective Challenges

Initially, at least, it is deceptively difficult to generate effective critical challenges. Many experienced teachers have observed that it is much like the early days of planning lessons. Our very first lesson plan took many of us days to create. Our second lesson plan was a little quicker and by the time we had planned our tenth lesson we could do several in an hour. A similar pattern applies with developing critical challenges: initially it takes time and persistence to develop effective critical thinking questions and tasks, but eventually it can become second nature to us. In this section, I offer strategies to help you learn to develop critical challenges that satisfy each of the criteria discussed in Table 4.2.

INVITING REASONED JUDGMENT

The crucial criterion for a critical challenge is that it invites students to offer a reasoned judgment—otherwise it won't require students to think critically. Over the years we have noted the various forms that critical challenges may take. There are

at least six ways of inviting students to make reasoned judgments. Each of these ways is discussed in Table 4.3. It may help you to think of these different forms when creating your own critical challenges.

TABLE 4.3 SIX WAYS TO INVITE REASONED JUDGMENT

CRITIQUE THE PIECE One way of framing a critical challenge is to invite students to assess the merits or shortcomings of a designated entity, such as the following:

- a person (for example, a historical figure, a literary character, a contemporary leader)
- an action (for example, the proposed solution to a problem, a historical event)
- a product (for example, a passage in the textbook, a poster, an essay)
- a performance (for example, a speech, a presentation)

Primary level critical challenges

- Are our proposed questions about (topic) powerful? (Possible criteria: give lots of information, are not obvious, are relevant to the person)
- Has the author provided a fair and full account of what actually happened?
- Is the Wolf in *The True Story of the 3 Little Pigs* good or bad?
- Is the person in the (picture, story) contributing a lot, some, or a little to the family (or community)?
- Were the good old days that good? (Possible criteria: shelter, diet, health, wealth)

Upper elementary level critical challenges

- Is Simon Fraser a hero or a rogue? (Possible criteria: contribution to others, hardship endured, noble character traits, respectful of others)
- Rate the quality of life of a slave in ancient Rome.
- Is this poster an effective visual presentation for the intended audience? (Possible criteria: catchy, convincing for the audience, clearly and concisely presented)
- Evaluate the effects of Confederation. Was it a positive or negative event for aboriginal peoples?
- On a scale ranging from great to horrible, assess what it would be like to live at this time considering the quality of the environment, comforts, and fun things to do.

JUDGE THE BETTER OR BEST Perhaps the easiest way to frame critical challenges is to invite students to judge which of two or more options (teacher-provided or student-generated) best meets the identified criteria. For example, you might ask students to determine the best solution to a problem.

Primary level critical challenges

- Which community (X or Y) would best meet the needs of all your family? (Possible criteria: safe, healthy, fun, jobs)
- Of the three ways, which is the best contribution you can make to your (family/environment)? (Possible criteria: is safe, possible for you to do, would help someone)
- Best thing about: What is the best thing about being in (school, a family, other groups)?
- Most important contribution: Which of the four ways that (community, industry) helps the (community, family, school) is the most important? (Possible criteria: helps most people in important ways)
- Greatest legacy: Which (tradition, celebration, story) from the past is the most impressive? (Possible criteria: applies today, means a lot)
- What is the biggest (physical, daily life) difference between our present community and (past community, another community)?
- Which of the two characters in the story would make the better friend? (Possible criteria: helps people, doesn't say mean things, forgives mistakes)

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TABLE 4.3 SIX WAYS TO INVITE REASONED JUDGMENT (CONT.)

- Upper elementary level critical challenges**
- Who was the greater explorer—Vancouver or Cook?
 - Which is the more effective form of Arctic transportation: the dogsled or snowmobile?
 - Which of the five selected items is the most impressive legacy of ancient Egypt?
 - Fresh water is an endangered commodity. 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.
 - You have been asked by the curator to select from a nominated list of paintings the one that best exemplifies the Group of Seven. Which painting do you choose?
 - Should this potential recreational site be developed or left untouched?
 - Would life be better sixty years ago or right now for a young person in our community?

REWORK THE PIECE In a third approach, students are invited to think critically as they transform a product or performance in light of new information or an assigned perspective or focus. For example, they might be asked to rewrite an account from the perspective or point of view of someone other than those in the original text—describing how a logger as opposed to an environmentalist, or a king as opposed to a peasant, would look upon relevant issues, for example. The criteria they would consider might include detailed and specific information that is consistent with the given facts and reveals the new perspective.

- Primary level critical challenges**
- Rewrite the story from another (person/character's) point of view. (Possible criteria: must include same details, be believable, show a difference)
 - After reading the traditional version of the Three Little Pigs (told from the pigs' point of view) and *The True Story of the 3 Little Pigs* (told from the wolf's point of view), write a fair-minded account of what happened at the third pig's house.
 - Picture the quality: Take a photograph that captures a community quality (for example, peaceful, safe, active). (Possible criteria: fits the quality, has sufficient detail)

- Upper elementary level critical challenges**
- Write two letters, one from the traditional perspective of First Nations peoples and one from a historical non-aboriginal perspective, about the practice of holding potlatches.
 - Create a picture book that shows changes in your community as seen through the eyes of many groups.
 - Predict what might have happened if any one of the historical events had turned out differently.
 - Redraw the picture showing the Burnaby family scene as it would appear in the present time (or in a different season of the year).

DECODE THE PUZZLE Another approach to framing critical challenges invites students to use clues to solve a mystery or to explain a confusing or enigmatic situation. For example, asking students to use evidence from the Burnaby picture to determine the season and time is an example of decoding the puzzle.

- Primary level critical challenges**
- Tell the story: Based on our simulated dig of (dinosaur remains, pioneer community), tell the story of what occurred on this site. (Possible criteria: uses all the facts, is believable, clearly tells the story)
 - Using the personal qualities and characteristics as clues, identify the mystery class member.
 - What am I? Offer an informed guess of the purpose and functioning of a mystery object. (Possible criteria: fits all the facts, makes sense)
 - Using clues in the pictures, explain who, what, where, when, and why. (Possible criteria: based on information in the picture, uses lots of clues)
 - Interpret the pictures and determine their proper sequence.

TABLE 4.3 SIX WAYS TO INVITE REASONED JUDGMENT (CONT.)

- Upper elementary level critical challenges**
- What is the cartoonist really saying in this drawing?
 - Using the clues in the various images, identify the four different communities represented.
 - Find out as much as you can about the region using the mapping technique you have been assigned (for example, scale, colour, contours).

DESIGN TO SPECS Another effective means to frame a critical challenge is to ask students to develop a product that meets a given set of specifications or conditions. These specifications provide the criteria for judging which of the possible choices will be most effective. For example, if asked to design a rich habitat that meets the needs of an assigned animal, students would consider factors such as need for exercise, shelter, and safety to determine the specific objects to include in the habitat.

- Primary level critical challenges**
- Using the materials provided, build a structure that will achieve the specified results.
 - Design a plan for a website that meets class-developed qualities.
 - Design a symbol that best shows three of our community's qualities. (Possible criteria: fits the qualities, has sufficient detail)
 - Prepare a package of three helpful items for a homeless person. (Possible criteria: easy to carry, meets needs, shows we care)
 - A picture is worth a thousand words: Take a photograph that captures a community quality (for example, peaceful, safe, active). (Possible criteria: fits the caption, has sufficient detail)
 - Create a family shield that represents your family heritage and tells something about your identity.
 - Write a poem about the key features in a community that represent its land and people.

- Upper elementary level critical challenges**
- The premier has asked for concise notes on the day's front-page news. Your notes must be less than one-half page in length, focus on the important issues, and clearly summarize the main points.
 - Create a travelogue or itinerary to be used by an out-of-province family when planning their vacation to learn about the natural and human-made features in our province.
 - Prepare a persuasive letter (or an oral statement) directed to a specific group expressing your views on the preservation of national parks.
 - Create a poster-size advertisement to discourage fellow students from smoking, effectively employing the techniques of persuasion without distorting the evidence.
 - Generate three "powerful" questions to ask a classroom visitor. (Possible criteria: informative, relevant to the person, requires some thought in order to answer)
 - Create a plan to address a community or national concern. (Possible criteria: effective, efficient, sustainable, culturally responsible)
 - Write a story that is true to the time period, involves all the characters in a meaningful way, and captures the mood of the scene.

PERFORM TO SPECS A final approach to critical challenges invites students to perform a task or undertake a course of action that meets a given set of specifications or conditions. Perform to specs is very similar to design to specs with one important difference: the focus on the latter is on the design of a product whereas perform to specs involves acting in real time. Role-playing can be an opportunity to perform to specs if students don't simply act as they wish, but instead think carefully about which actions would be consistent with their assumed character, plausible given the context or situation, and believable.

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TABLE 4.3 SIX WAYS TO INVITE REASONED JUDGMENT (CONT.)

Primary level critical challenges	<ul style="list-style-type: none"> • Personally make a lasting contribution to (a family member, a community member, the school). • Charades: Portray a mystery community member. (Possible criteria: brief, simple, no words, and informative) • Passing along kindness: Perform an act of kindness to another member of the class. (Possible criteria: makes the other person happy, you feel good about it, is simple to do)
Upper elementary level critical challenges	<ul style="list-style-type: none"> • Mount a school-wide media campaign on an issue of concern to students. • Undertake an action that makes a lasting contribution to someone else's life. • Create a tableau that accurately and clearly expresses the feelings and tensions present during the assigned historical event. • Provide feedback to a fellow student in a manner that is constructive, respectful, clear, and honest. • Dramatize a role play that is true to the time period, involves all the characters in a meaningful way, and captures the mood of the scene.

FRAMING MEANINGFUL QUESTIONS

Terrell Bell offers the following advice: “There are three things to remember about education. The first one is motivation. The second one is motivation. The third one is motivation” (source unknown). In addition to ensuring that our questions or tasks invite critical thinking, it is important they motivate students to want to learn.

One of the most compelling reasons for using critical challenges as a method of teaching subject matter is the inherent appeal of being invited to think about one's own beliefs and not simply to find answers that others have produced. “The Power of Critical Challenges” is typical of many testimonials I have received about the motivational effect of inviting students to think critically.

In developing critical challenges, the following kinds of qualities in a task have greater likelihood of appealing to students:

- real-life consequences (for example, sending a letter to an actual official instead of drafting a letter to a fictional person)
- connections to present-day, topical issues
- personalized to students' lives
- tied to compelling themes (for example, justice, mystery)
- sensational details or images
- fun or engaging activities (for example, simulations)
- activities that open with an engaging hook (for example, an anecdote, role play, or a powerful example)

Another way to promote student engagement is to reduce the impediments that are likely to confound or bore students. Following are a few suggestions:

- Strip away many of the trivial or extraneous details. For example, students need not study every major explorer or region, but perhaps only two or three representative examples.
- Minimize the kinds of tasks that student will regard as drudgery:
 - ◆ Provide manageable “inputs” (for example, avoid assigning long reading passages).
 - ◆ Limit the burden of the products that students will be required to produce without sacrificing the core understanding. For example, instead of requiring that students write an extended paragraphs, ask them to summarize their arguments in note form on a chart.
- Minimize the likelihood of student frustration:
 - ◆ Keep the task focussed so students are unlikely to get bogged down. For example, if the main purpose of an activity is to develop students' ability to analyze a current issue, supply them with a few relevant background pieces rather than expecting everyone to find their own sources.
 - ◆ Ensure that students have the “tools” they will need to successfully address the task.

PROMOTING UNDERSTANDING OF THE CURRICULUM

The underlying theme of this chapter is the importance of fostering student understanding of the content of the curriculum. To do this requires making the content problematic in some way so students think critically about it, and not merely regurgitate it. Thus, a key requirement of any critical challenge is that it addresses the content we want students to

THE POWER OF CRITICAL CHALLENGES

Recently I was selected to be a part of the team that would be writing the Online Teacher’s Guide for the new Alberta grade 7 social studies curriculum. As a part of this process, the team was given the opportunity to learn how to develop critical thinking challenges. After spending a few intensive days in Edmonton learning about critical challenges and how to create them, I decided to create one for my current junior high social studies class. These lessons were some of my most successful classes of the year. One particular lesson with my grade 8 class stood out.

I created a critical challenge on the historical figures involved with the War of 1812. We focussed on three individuals: Tecumseh, Laura Secord, and Isaac Brock. The challenge asked students to decide which of the three historical figures was the “most heroic.” After creating criteria as a class for what would constitute a “hero,” students were given fact sheets for the three individuals. Once the students had decided which of the three was the most heroic according to their criteria and prepared their arguments, we were to debate the heroism of the three historical figures.

I was not prepared for the lively debate that ensued. Rarely have I seen my students so engaged as they debated the heroism of Brock, Tecumseh, and Secord. My role changed quickly from teacher to referee, as I almost needed to restrain some students physically. As the bell rang, the debate raged into the

hallway and on into their next class. I felt very satisfied with the lesson, as this level of engagement is rarely seen at the junior high level. However, it was not until later that night that the impact of that critical challenge really hit home.

I am the school basketball coach and that night we were playing in the city championship. It was a thrilling back-and-forth game that ended with the other team hitting a last second three-point shot to beat us. After the excitement had died down, I was in the gym cleaning up when I heard some players arguing in the hallway. I thought that some of my players were upset about the game so I went to investigate. As I opened the door, the first thing I heard was one of my players yell:

“How can you seriously say Isaac Brock was not the most heroic of the three, when he risked his own life and *died* for what he believed in?”

A smile crept across my face as I realized that the players were not arguing about the championship game they had lost only moments before, but rather, they were arguing about the topic introduced that morning in social studies. This seemingly simple critical challenge had fostered curricular understanding in a way that was perceived as meaningful and important to my students. I left the school that night as a critical challenge convert anxious to engage my students by creating more.

This story was written by Chris Good, vice-principal, École St. Gerard School, Alberta.

understand. The examples in Table 4.4 illustrate the curricular understanding that is promoted through various critical challenges.

While developing critical challenges that help students “uncover” the curriculum takes practice, the bigger perceived obstacle is finding the time to address all of the subject matter that needs to be taught (Onosko 1989).

I want to explore this claim that inviting critical thinking means that teachers will be unable to “cover” as much of the curricular terrain as they would otherwise do if they dealt

with everything in a more transmissive and less probing manner. One reason for this claim is a perception by some teachers that they are responsible for covering the entire textbook or for addressing all the main features of every era, region, or civilization mentioned in the curriculum. In a study of 1,800 social studies educators in British Columbia, one teacher wrote, “I don’t have enough time to cover even 10 per cent of the textbook and other resources.” Another recommended that steps be taken to “ensure that teachers do not feel that they have to ‘cover’ everything in the book (content) to pre-

TABLE 4.4 LINKS TO CURRICULAR UNDERSTANDING

CRITICAL CHALLENGE	CURRICULAR UNDERSTANDING PROMOTED
Decode the Burnaby picture	Learn about the customs and lifestyle within a suburban community in the 1940s.
Ask powerful questions of a World War II veteran who has come as a class visitor	Learn what the war meant to people who were involved in it and why society continues to commemorate this event.
If you were required to move either to Medicine Hat or Kingston, which community would best meet your family members’ needs?	Learn how different communities meet people’s basic needs in different ways.

pare their students for their next year” (Case 1993, 6). More recently, Osborne noted that the pressure of high-stakes testing forces teachers to “cover” their courses even when they know that they need to spend more time on certain topics if students are to properly understand them (2004, 25–26).

The perceived need to cover large quantities of material may arise to some extent from a belief that our crucial task as elementary social studies teachers is to transmit information about the world. One of my objectives in this chapter is to encourage teachers to see promoting understanding as our crucial task. This would mean that we need not “get through” the textbook or “cover” every explorer or region in a unit in order to meet our responsibilities to the curriculum.

Years ago, Hilda Taba offered useful advice about balancing the quantity of information with the quality of understanding. She believed that “coverage” of topics was impossible—there was always too much to cover. Instead teachers should sample rather than survey the content. Thus, the important question for Taba was not “how many facts, but which facts we want students to think about” (Fraenkel 1992, 174). John Dewey talked of “generative knowledge”—knowledge that had rich ramifications in the lives of learners (Perkins 1993, 90). The most generative knowledge is found in powerful conceptual and factual insights that apply across many circumstances. For example, is it important that students study all the major early Canadian explorers or is it sufficient that they consider one or two explorers and come to appreciate the extent to which personal, economic, and cultural motives drove early exploration? Is it imperative that students study all the major technological inventions and their effects or is it sufficient that students come away with a few broad understandings, grounded in specific instances, of the way technology has transformed (for better and worse) almost every aspect of Canadian society? These broader insights, which span cultures and time periods, are the sorts of generative understandings that are worth emphasizing.

It is sometimes thought that devoting considerable amounts of time to in-depth studies means that students are in danger of acquiring very narrowly circumscribed understandings. There are two ways in which this shortcoming can be mitigated using a sampling approach. The notion of a geological survey of the surface of an area followed by more probing exploration at carefully selected sites is an apt metaphor for the sampling of topics. Students may receive via mini-lectures, films, or fact sheets highly condensed overviews of a period or culture, which then sets a context for more focussed case studies of particularly promising issues.

It is also useful to consider that critical challenges need not be large-scale undertakings. Although in-depth challenges are valuable, there are many opportunities to pose “mini” challenges that take ten or so minutes to complete

(for example, which of the three differences between an Inuit and a southern community would have the biggest impact on daily life?). Even when critical challenges are extensive, the time spent can be justified provided many curriculum outcomes are addressed during the course of working through the challenge. “Bundling Curriculum Outcomes” illustrates the dozen or so outcomes in the grade 2 Alberta curriculum that would be addressed by bundling them within the critical task of deciding who would be most deserving of the honour if the school was to be renamed.

MANAGING THE ACQUISITION OF BACKGROUND KNOWLEDGE

Students need background knowledge in order to deal competently with critical challenges. If students lack this information, and if they do not acquire it as they address the challenge, the value of posing challenges may be lost. Students are less likely to develop their ability to think critically if they are fumbling in the dark. For this reason, it is important to anticipate and manage the information required by a challenge either by narrowing the challenge or by finding effective ways to help students acquire the information.

LIMIT THE INFORMATION REQUIREMENTS

One way to limit the amount of background knowledge required is by narrowing the challenge or, as my colleague Selma Wassermann would say, “make it compact.” Critical challenges must be sufficiently delimited so students need not possess encyclopedic knowledge in order to realize success.

Answering the question “Who is the greatest hero in our community’s history” is a task that could fill a book. A more focussed challenge is preferable, possibly, “Of the three people we have studied, who is the greatest hero?” Similarly, completing the task “Assess the legacy of the Industrial Revolution” could fill volumes. A more focussed challenge would ask, “Based on the following two reports and your own knowledge, is the steam engine the most significant invention originating from the Industrial Revolution?” or, perhaps, “In the first fifty years of the Industrial Revolution, which invention most altered industry and commerce?”

PROVIDE BACKGROUND INFORMATION EFFICIENTLY

Acquiring background knowledge is obviously necessary, but teaching it often gets in the way of critical thinking. It is useful to remember that “background knowledge” is the focussed information needed to address the task at hand; this is *not* the same as “general information” which might be described as the fuller

BUNDLING CURRICULUM OUTCOMES⁴

Critical Challenge

If we had to rename our school to honour a person in our community's past, who would you choose as the most deserving person?

Outcomes

The following grade 2 outcomes in the Alberta social studies curriculum could be addressed by this challenge.

Values

- 2.2.1 appreciate how stories of the past connect individuals and communities to the present
- 2.2.2 appreciate how aboriginal and Francophone peoples have influenced the development of the student's community

Knowledge and understanding

- 2.2.6 inquire into: What individuals or groups contributed to the developments of their community?
- 2.2.7 inquire into: How have the people who live in the community contributed to change in the community?
- 2.2.7 inquire into: How is the presence of aboriginal and/or Francophone origins reflected in the community today?

Dimensions of thinking

- 2.S.1 compare and contrast information from similar types of electronic sources
- 2.S.2 arrange events, facts, and/or ideas in sequence

Social participation

- 2.S.6 participate in activities that enhance their sense of belonging within their school and community

Research

- 2.S.7 access and retrieve appropriate information from electronic sources for a specific inquiry
- 2.S.7 organize information from more than one source
- 2.S.7 process information from more than one source to retell what has been discovered
- 2.S.7 draw conclusions from organized information

Communication

- 2.S.9 identify keywords from gathered information on a topic or issue

range of facts about a topic that is acquired for general interest or potential value. We often tell students more than they need to know and thereby reduce the amount of time available for them to think about what they really need to know. The following list includes several strategies to teach background knowledge:

- **Don't presume that background knowledge needs to be front-end loaded.** Students can acquire necessary information as they work through the challenge and even after they have answered the challenge provisionally (for example, after students offer their considered response invite them to undertake further study to confirm whether they are right or not).
- **Deliver it economically.** One way to communicate background knowledge is to embed critical challenges in picture books. In this way, students should acquire the information they need simply by listening to or reading a story. Other mechanisms for the efficient communication of information include the following:
 - ◆ Provide point-form notes
 - ◆ Deliver short mini-lectures on the key ideas
 - ◆ Distribute teacher- or student-prepared briefing sheets
 - ◆ Use visuals to communicate information
- **Make use of students as information sources.** It is often productive to tap into the collective wisdom of the class through class and group sharing. For example, in analyzing the Burnaby picture, each student might work

with a partner and then share their tentative conclusions with the entire class so that everyone has the benefit of each others' insights. Only after a common basis of background information has been developed, might students individually produce their own definitive response to the critical question. Another strategy is to divide topics among groups of students who pursue specific areas in some depth and then share their findings with the rest of the class, thereby broadening the scope of everyone's understanding.

- **Think carefully about student research.** Despite its popularity, independent library research is typically neither efficient nor reliable as a means of providing background knowledge: many students waste considerable time looking for material that does not give them all the information they need. Library research projects may be best directed to teaching students how to conduct research and not used as a means for acquiring background knowledge.
- **Where possible, frame the very acquisition of background knowledge as a critical challenge.** Find ways to chunk the acquisition of a body of knowledge into smaller bits and then frame a challenge for each segment. For example, if students were eventually to consider whether life was better now than it was sixty or more years ago, the Burnaby picture challenge could be used to teach them about life in the 1940s. In addition, students might be asked to think critically about questions they

would ask of people who were alive at the time as another information-gathering strategy requiring critical thinking. The following critical challenges can be used to invite students to think critically as they acquire background information:

- ◆ Select the five most important facts or events from the chapter.
- ◆ Decode the contents of the picture (answer the 5Ws, who, what, where, when, and why).
- ◆ Rank the causes or benefits in order of importance.
- ◆ Rate the effect of a particular event or policy from the perspective of various groups.
- ◆ Which of the provided sources offers the least reliable information?
- ◆ Think of a powerful question and a thoughtful answer on an assigned topic.

Conclusion

The focus of this chapter is on using critical thinking as a method for teaching content knowledge. I have argued that knowledge acquisition is not a matter of transmitting bits of information, but of developing student understanding of the ideas behind the facts. Superficial coverage of information or acquisition of facts for their own sake is of marginal value—if for no other reason than it appears that much of it is forgotten almost as soon as it is taught. Our primary task is not to present students with prepackaged information for mental storage but to help them internalize, question, and utilize relevant information. I have suggested that engaging students in thinking critically about and with the content of the curriculum is most effectively accomplished through meaningful, focussed challenges for students to address.

Using a curriculum guide or learning resource as a focus, create several critical challenge questions or tasks. Endeavour to meet all of the following criteria when framing each critical challenge:

- Does it invite students to make a *reasoned judgment*?
- Is it likely to be perceived as *meaningful* by students?
- Does it *promote understanding* of curriculum content?
- Is it *focussed* to limit the amount of background knowledge?

ENDNOTES

- 1 Surveys throughout the twentieth century show repeatedly that students remember very little of the history learned in schools (Osborne 2004, 35–36).
- 2 The word “concept” is used ambiguously in social studies by some to refer to generalizations and by others to refer to the ideas or meanings captured by words such as “justice,” “table,” “sustainable,” and “community.” We use “concept” exclusively in this latter sense.
- 3 For further information about The Critical Thinking Consortium, which has worked with many thousands of social studies teachers and published numerous resources, go to www.tc2.ca.
- 4 This example was developed by The Critical Thinking Consortium for Alberta Education as part of its online guide to support implementation of the provincial social studies curriculum. Many other critical challenges can be found on the LearnAlberta website: <http://onlineguide.learnalberta.ca/>.

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