Evaluating Online Sources:
Helping Students Determine Trustworthiness, Readability, and Usefulness

Mark Baildon and Rindi Baildon

Increasingly, young people are interacting with information from a range of complex online sources (e.g., images, videos, websites, etc.) that inform them about content that is typically part of social studies. This makes helping students learn to become skilled careful and critical readers of all texts (from textbooks, trade books, magazines, and newspapers to websites, music, and video) an especially important component of social studies education.[1]

However, developing the thinking skills necessary to read and understand complex information sources can be challenging with young students. This is especially true for teachers wanting to help students develop thinking skills that are central to the research process as they investigate social studies topics and issues. In particular, young students need to select good sources of information by discerning which are reliable or credible, which are appropriate for them as readers, and which are useful for learning about the particular topic they are studying. Helping students develop these thinking skills can be daunting for teachers in elementary classrooms. However, these challenges can be managed through instructional approaches and classroom activities that engage online sources with an explicit focus on these challenges.

Rindi Baildon is a fourth grade teacher at the Singapore American School (a private pre-K-12 international school in Singapore with an American-based curriculum for 3,800 mostly expatriate students). This article highlights the ways Rindi engaged her students in discussions about the challenges of reading Internet information sources and how she and her students identified specific strategies they could use to determine the trustworthiness, readability, and utility of information sources during the research process. Together, she and her class developed a set of questions and a research guide that students could use to scaffold their thinking with different information sources in a research project.

The Challenges of Working with Online Information Sources

Internet information sources pose special challenges for all readers, young and old alike. The Internet includes varied text structures and formats that can be challenging to read, such as non-linear hypertext, multimedia texts, and interactive texts.[2] Online information sources are often multimodal—combining linguistic (through print), visual (via images and graphics), aural (audio), non-verbal mixed with verbal (video), and numerical (e.g., statistics, graphs, tables) modes. Taken together or independently, the modes in a particular online source can reference other kinds of information and connect to students' prior knowledge and experiences in different ways.[3] Especially for young students, these sources of information are challenging to analyze and are often pitched at higher reading levels, or they may be poorly written and organized.

Because it's relatively easy to create and disseminate digital texts, and because many online sources are not vetted and authorship may be difficult to determine, there is also a greater likelihood that students will encounter useless information (of little relevance or use) and misinformation (wrong or incomplete).[4] Students may also encounter "doctored" information (edited photos and videos clips) or Internet hoaxes and attempts to deliberately deceive people.[5]

No wonder elementary teachers might avoid using Internet resources in social studies research activities. Instead, teachers may select appropriate information sources for their students—sources that are reading level appropriate, reliable, and useful. However, students also need to learn how to manage these informational challenges. One way to do this is to explicitly teach and guide students in making good decisions about the information they encounter in their investigations. Helping students develop systematic and strategic ways to make important decisions about information can help students develop thinking skills that are critical in the information age.

Evaluating Sources as Part of the Research Process

Determined to help students develop important research skills, Rindi designed a series of activities that required students to discuss and deliberate about information sources. These activities, which have been developed and refined over the course of the past three years, are taught at the beginning of an interdisciplinary research unit about the impact of human activity on the environment. In these lessons, students investigate the destruction of rainforests and the consequences of environmental degradation in both ecological and human terms. During the unit, students study the geographic locations of rainforests, the indigenous cultures of rainforests, and the impact of human activities such as slash and burn farming, mining, and logging. Students also learn about key scientific features of rainforest ecosystems, such as canopy structures, the diversity and interdependence of species, and plant and animal adaptations. They have multiple options for sharing their learning to culminate the unit, with students able to create posters or murals, do multimedia presentations, and write reports.

Right from the start, Rindi engages her students in important conversations about the kinds of thinking necessary to work with information sources as they research a topic. Teacher and students work together to develop guiding questions that can be used throughout the unit to scaffold students' thinking about information sources. How the class created and used this research resource guide comprises the narrative of this article.

Students practice and develop their skills over the course of the unit as they research their own questions about the causes and consequences of deforestation and the loss of habitats and cultures in rainforest regions. Rindi is able to monitor and coach students' skill development as they work with various online information sources during the unit.

Thinking about Trustworthiness

Rindi begins the unit by presenting a photo depicting a giant tsunami wave at its crest before crashing onto a heavily populated beachfront, and rising up over a stormwall.[6] Rindi asks students, "What do you think of this photo?" which typically prompts a range of responses. Initially, many students accept the photo as an accurate depiction of a tsunami, which is, after all, an event of nightmarish proportions. But some students question the accuracy of the image. Students wonder why people aren't running away. They observe that the waves are higher than the buildings, and notice that something doesn't look quite right about the photo. Students refer to their prior knowledge, remembering what their parents had told them, or referring to other images they had seen. By the end of the discussion, students question whether the photo is real.

At the end of the discussion and after she has revealed the image to be a fake, Rindi asks, "Why do you think I showed you this photo?" This prompts discussion about the trustworthiness of photos, which can easily be doctored. Rindi follows this activity by compiling a slide show of photos that have been doctored. These are taken from a *Time* Photos website displaying the "top 10 doctored photos" and *Life* magazine's "Real or Fake?" website that gives 45 different photos from Life's archives that students can try to decide are real or fake.[7]

These two activities (along with showing a couple of examples of popular doctored YouTube videos) are used to discuss with students the need to think carefully about information sources, such as photos, because they may not be reliable or trustworthy. Rindi guides her students to notice important details in the different photos and to draw on their prior knowledge to help them evaluate whether a photo might be real or fake. Rindi models this careful reading of online photos by helping students notice important details in the photos, by referring to her own prior knowledge that helps her assess information, and by teaching students how to read URL addresses to help identify information about a site's author or sponsor. For example, a "dot com" suffix indicates that the publisher of the website is a for-profit corporation. A "dot gov" suffix means that the website is supported by a government agency. The website Spartacus Educational (**www.spartacus.schoolnet.co.uk**), which provides many free lesson plans and student resources for learning, is run by a company (co) in the United Kingdom (uk).

At this point Rindi guides her students to discuss important ideas related to trustworthiness when looking at different sources of information:

- Is there an author or photographer identified with the source?
- Do I recognize the author or creator?
- Does the URL seem supported by a larger organization (like a university, museum, or government agency) or is it a

"hobby" website created by one person?

- Have I found this same information in books or websites?
- Does my gut feeling tell me that what I am reading and seeing is trustworthy?
- Does this information fit with what I might already know about this subject?

Rindi encourages students to ask these questions to help them determine the trustworthiness of a source. After this, she checks to see if students can apply these guiding questions (prior to the development of the Research Resource Guide Sheet) by having them visit a website with information about the Pacific Northwest Tree Octopus (a fictitious creature).[8] Surprisingly, most students believe the information on the site and deem it trustworthy. This provides another opportunity for Rindi and her students to discuss the need to think more carefully and critically about the trustworthiness of all sources of information, including websites. This also points to the need for a scaffold that can remind students to ask important questions as they work with different sources, as well as the need for ongoing guided practice in thinking about information sources.

Thinking about Readability

The next activity focuses on helping students think about the readability of information sources. Rather than select information for students to use in their research, the goal is to help students develop the thinking skills to determine which information sources are suitable for their reading level.

Rindi designed an activity titled, "Readability: Can You Read It? Can You Understand It? What Makes Resources 'Readable' For You?" She gives students three different levels of information sources: below grade-level (numerous photos, easy-to-read text, minimal amount of information); at grade-level (text supported with pictures, text easy to read, some challenging vocabulary that could be figured out in context); and above grade-level (small print, difficult vocabulary not easy to figure out in context, encyclopedia-style format, few or no charts or photos to support text).[9] Her instructions to students are "Imagine that you are doing research. Look at each resource and answer these two questions":

- Are you able to read and understand this resource?
- Would you use this resource to collect information? Why or Why not?"

Again, Rindi leads a class discussion on how students can determine if information is readable. For example, when she asked students if they would use texts they considered below their reading level, many students typically don't think such texts should be used. Rindi, however, points out that sometimes these sources can provide needed information about a particular topic or validate previously found information. With challenging, above-grade-level sources, she requires students to be able to comprehend information with little or no adult help. They should be able to retell information in their own words.

As a result of whole class discussions, the class jointly developed a list of questions:

- Can I can read and understand this on my own?
- Can I understand most of the words and not lose meaning if I have to skip words?
- Is it a "just right" read for me?
- Is the layout easy enough to follow?
- Can I stop and retell what I have just read in my own words?
- Are there pictures or charts that help me understand the text better?

During their research, students are guided to consider whether information is too complicated to understand, sentences are too long and difficult to read, or the information is "kid-friendly."

Thinking about Usefulness

Since the unit focuses on human impact on the environment, Rindi then asks students to imagine they are researching the destruction of rainforests. She asks the class to brainstorm possible research questions, such as:

- What kinds of human activity affect rainforests?
- How does human activity affect animal and plant life?
- What are the consequences of this activity for people living in the rainforests?
- What can we do to stop rainforest destruction?

Determinations of utility depend on the need for specific content or information. Rindi also teaches students how to develop a research plan to help them think about the information they need. Having good research questions and a research plan helps students make decisions about whether or in what ways an information source might be useful.

Referring back to the three texts used in the readability activities, the class discusses which source(s) would help them answer these questions or what useful information they provide. Based on this activity, the class came up with the following questions to ask themselves as they searched for resources to use in their research:

- Does this resource have what I am looking for?
- Is this worthwhile, or am I wasting my time on this resource?
- Does it follow my research plan?
- Do I need it?

A Research Resource Guide

To make sure students are reminded to ask questions about the information sources they encounter during the research process, Rindi and her class developed a Research Resource Guide (**FIGURE 1**, page 14). This guide summarizes how students can scaffold their thinking about the readability, trustworthiness, and usefulness of information sources.

The Research Resource Guide helps students to bridge the gap between what they are able to do on their own and what they can do only with help. It's an example of "process-structured questions" that help cue students' practice with a thinking skill.[10] While scaffolds are meant to be temporary, adjustable, and

gradually reduced or removed, young students may need plenty of practice to ensure thinking habits are firmly ingrained before they can be mostly self-directed.

Conclusion

Students in this fourth grade classroom became more adept at determining the trustworthiness, readability, and usefulness of information sources from these activities. Students used more "kid friendly" resources, suitable for their particular readings levels. They also cited factors such as finding the same or similar information in other sources, consideration of authorship, and examining URLs and the date of sources to determine the trustworthiness and utility of information.[11]

Before these lessons, and working on their own, students typically use superficial or irrelevant criteria to evaluate information sources.[12] With careful guidance from teachers, however, students can learn to ask the right questions necessary to make good decisions about information sources.

Students in this fourth grade classroom are learning to ask and answer a series of systematic questions that are vital in an age of information overload.[13] Developing the kinds of criteria and guiding questions constructed in this classroom also approximates what disciplinary communities (historians, social scientists, geographers, etc.) do to monitor and self-correct their own efforts. Ongoing dialogue and deliberation within a supportive classroom enables learners to make "good enough" decisions about the information or data central to disciplined work.[14] Employing guiding questions and scaffolds to help students make strategic decisions about which sources of information to use in their research supports more disciplined ways of thinking.

Learning to ask questions repeatedly and deliberately about information and developing criteria through dialogue and deliberation to guide decision-making processes are not only important literacy and inquiry strategies, they are important forms of "public reasoning."[15] Teachers can help students develop questioning strategies; they model and make visible the kinds of thinking students are expected to do; and they provide supportive coaching and feedback as students practice skills. This is just the beginning for these fourth grade students as they learn to ask important questions about the information sources they are likely to encounter in their lives. 🖾

Notes

1. Mark Baildon and James Damico, *Social Studies as New Literacies in a Global Society: Relational Cosmopolitanism in the Classroom* (New York: Routledge, 2011). National Council for the Social Studies, "Position Statement on Media Literacy," www.socialstudies.org/positions/medialiteracy.

2. Julie Coiro, "Reading Comprehension on the Internet: Expanding our Understanding of Reading Comprehension to Encompass New Literacies," *The Reading Teacher* 56, no. 5 (2003): 458–464.

3. Mark Baildon and James Damico, "Judging the Credibility of Internet Sources: Developing Critical and Reflexive Readers of Complex Digital Texts," *Social Education* 75, no. 5 (2011): 269–273.

4. Nicholas C. Burbules and Thomas A. Callister, Jr., *Watch IT: The Risks and Promises of New Information Technologies for Education* (Boulder, CO: Westview Press, 2000).

5. Snopes.com, www.snopes.com covers Internet hoaxes, rumours, misinformation, etc.

6. Snopes.com, www.snopes.com/photos/tsunami/tsunami2.asp#photo. The image is also at About.com "Urban Legends," urbanlegends.about.com/library/n_tsunami_picture.htm.

7. "Top 10 Doctored Photos," *Time* Photos, www.time.com/time/photogallery/0,29307,1924226,00.html; "Real or Fake?" *Life* magazine, www.life.com/archive/realfake.

8. Pacific Northwest Tree Octopus is a website created by Alan November for teaching purposes, zapatopi.net/treeoctopus.

9. For example, a below-grade-level reading was an article from November 2011 *Your Big Backyard* , "Mighty Moose"(www.nwf.org). A grade-level reading was a February 2010 *Ranger Rick* article on orangutans, "Life in the Trees is a Breeze" (www.nwf.org). The above grade-level reading was from a NASA Earth Observatory website on tropical deforestation. earthobservatory.nasa.gov/Features/Deforestation.

10. Barry K. Beyer, "How to Teach Thinking Skills in Social Studies and History," *The Social Studies* 99, no. 5 (September/October, 2008): 196–201.

11. Rindi Baildon and Mark Baildon, "Guiding Independence: Developing a Research Tool to Support Student Decision-Making in Selecting Sources of Information," *The Reading Teacher* 61, no. 8 (2008): 636–647.

12. Ivar Braten, Helge I. Stromso and M. Anne Britt, "Trust Matters: Examining the Role of Source Evaluation in Students' Construction of Meaning Within and Across Multiple Texts," *Reading Research Quarterly* 44, no. 1(2009): 6–28.

13. Bill Kovach and Tom Rosenstiel, *Blur: How to Know What's True in an Age of Information Overload* (New York: Bloomsbury, 2010).

14. Michele Lamont, *How Professors Think: Inside the Curious World of Academic Judgment* (Cambridge, MA: Harvard University Press, 2009).

15. Mark Baildon and James Damico.

MARK BAILDON *is Associate Professor and Deputy Head in Humanities and Social Studies Education at the National Institute of Education in Singapore.* **RINDI BAILDON** *is a fourth grade teacher at the Singapore American School. Rindi and Mark, who are married, met in a psychiatric hospital in Denver, Colorado (Rindi was working as a music therapist and Mark was a mental health counselor). They have taught in schools in the United States, Israel, Singapore, Saudi Arabia, and Taipei.*

FIGURE 1.
Research Resource Guide for Evaluating Online Sources

Readable
Can I understand the information on my own, or with a little help? Is this resource "kid friendly"? Is this a "just right" resource for me?

Trustworthy
Does this resource list the name of its author or publisher?
Do I recognize the author or publisher?
Is the publisher one person, or is it an organization (like a museum, university, or government agency)?
Is the information current? (Is there a date showing when it was written or posted?)
Can I find other sources with the same information?

Useful
Does the resource have what I am looking for? Does it follow my research plan? Do I need it?