CHAPTER 15

Best Practices in Teaching the New Literacies of Online Research and Comprehension

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This chapter will:

- Define a dual-level theory of New Literacies, useful to guide instruction, especially in the New Literacies of online research and instruction.
- Explain how we should interpret the Common Core State Standards in reading with both a lens to the future and a lens to the past, integrating instruction in the New Literacies of online research and comprehension with traditional reading comprehension.
- Provide 10 research-based principles that inform instruction in New Literacies and provide two specific ideas to implement each principle in the classroom.
- Provide a glimpse into what New Literacies classrooms may be like in the future.

New Literacies for New Times: Research and Theoretical Perspectives

The Internet is a very disruptive technology (Christensen, 1997), altering traditional elements of our society from newspapers to music. The

Internet is also altering the nature of literacy, generating New Literacies that require additional skills and strategies. Most importantly, it is reshaping the nature of literacy education, providing us with many new and exciting opportunities for our classrooms.

We live during a time in which new technologies continuously appear online, requiring additional skills to effectively read, write, and learn, sometimes on a daily basis. Consider, for example, just a few of these new technologies: Twitter, Facebook, Google+, Siri, Foursquare, Dropbox, Skype, Chrome, iMovie, Contribute, or any of many, many mobile "apps" and ebooks. Each requires additional reading and/or writing skills to take full advantage of its affordances. In addition, new tools for literacy will appear on the Internet tomorrow with additional, New Literacies required to use them effectively. Finally, each online tool regularly is updated; each time this happens new affordances appear, requiring additional skills and strategies. It is clear that the nature of literacy regularly and continuously changes in online spaces.

Thus, when we speak of New Literacies in an online age we mean that literacy is not just "new" today; it becomes "new" every day of our lives. Proficiency in these continuously new, online literacies will define our students' success in both school and life. Most importantly, how we adapt to a dynamic definition of literacy in the classroom will define our students' future. One might even suggest that, over a lifetime, learning how to learn New Literacies is more important than learning a specific literacy of reading or writing. Every specific literacy that you know today will change repeatedly and substantially during your lifetime.

Some believe there is little to teach; our students are already "digital natives," skilled in online literacies (Prensky, 2001). It is true that today's students have grown up in an online world and are developing proficiency with gaming, social networking, video, and texting (Alvermann, Hutchins, & DeBlasio, 2012; Zickuhr, 2010). However, this does not necessarily mean they are skilled in the effective use of online information, perhaps the most important aspect of the Internet. Studies show that students lack critical evaluation skills when reading online (Bennet, Maton, & Kervin, 2008; Forzani & Maykel, 2013; Graham & Metaxas, 2003) and that they are not especially skilled with reading to locate information online (Kuiper & Volman, 2008).

New Literacies

As we try to understand these New Literacies we encounter a conundrum: How can we develop adequate understanding when the very object that we seek to study continuously changes? Our field has never before faced

an issue such as this, since literacy has generally been static, permitting us, over time, to carefully study and understand it. One way out of this conundrum may be to think about literacy on two different levels, using a dual-level theory of New Literacies (Leu, Kinzer, Coiro, Castek, & Henry, 2013).

A dual-level theory of New Literacies conceptualizes literacy at lowercase (new literacies) and uppercase (New Literacies) levels. Lowercase theories of new literacies explore several types of elements: (1) a set of new literacies required by a specific technology and its social practices such as text messaging (Lewis & Fabos, 2005); (2) a disciplinary base, such as the semiotics of multimodality in online media (Kress, 2003); or (3) a distinctive, conceptual approach such as new literacy studies (Street, 2003). Lowercase theories of new literacy are better able to keep up with the rapidly changing nature of literacy since they are closer to the specific types of changes that rapidly take place. Multiple lowercase theories also permit our field to maximize the lenses we use and the technologies and contexts we study. Every scholar who studies new literacy issues is generating important insights for everyone else, even if we do not share a particular lens, technology, or context. How, though, do we come to understand these insights, taking place in many different fields from many different perspectives? For this, we require a second level of theory, an uppercase theory of New Literacies.

New Literacies, as the broader concept, benefits from work taking place in the multiple, lowercase dimensions of new literacies by identifying the common findings that appear. Leu and colleagues (2013) suggest that this broader New Literacies theory currently includes these common findings:

1. The Internet is this generation's defining technology for literacy and learning within our global community.
2. The Internet and related technologies require new literacies to fully access their potential.
3. New literacies are deictic; they rapidly change.
4. New literacies are multiple, multimodal, and multifaceted, and, as a result, our understanding of them benefits from multiple points of view.
5. Critical literacies are central to new literacies.
6. New forms of strategic knowledge are required with new literacies.
7. New social practices are a central element of new literacies.
8. Teachers become more important, though their role changes, within new literacy classrooms. (p. 1158)

This chapter will use the findings from this broader New Literacies theory to provide the context for understanding one lowercase form, the new literacies of online research and comprehension (Leu et al., 2013).

The New Literacies of Online Research and Comprehension

The new literacies of online research and comprehension frames online reading comprehension as a process of problem-based inquiry involving the skills, strategies, dispositions, and social practices that take place as we use the Internet to conduct research, solve problems, and answer questions. At least five processing practices occur during online research and comprehension, each requiring additional new skills and strategies when they take place online: (1) reading to identify important questions, (2) reading to locate information, (3) reading to evaluate information critically, (4) reading to synthesize information, and (5) reading and writing to communicate information.

How does the nature of reading and writing change online? What, if any, new literacies do we require? We are just discovering some of the answers to these questions (Afflerbach & Cho, 2008). First, it appears that online reading comprehension typically takes place within a problem-solving task (Coiro & Castek, 2010). In short, online reading comprehension is online research. Second, online reading also becomes tightly integrated with writing as we communicate with others to learn more about the questions we explore and as we communicate our own interpretations. A third difference is that new technologies such as browsers, search engines, wikis, blogs, e-mail, and many others are required. Additional skills and strategies are needed to use each of these technologies effectively. Keyword entry in a search engine, for example, becomes an important new literacy skill during online reading because it is required in search engines, an important new technology for locating information. Other online technologies require additional new skills and strategies during online reading. Finally, and perhaps most importantly, online reading may require even greater amounts of higher-level thinking than offline reading. In a context in which anyone may publish anything, higher-level thinking skills such as critical evaluation of source material become especially important online.

There are several reasons why the new literacies of online research and comprehension are important to classroom reading programs. First, they focus directly on information use and learning, so these skills are central to education at all levels. Second, the ability to read and use online information effectively to solve problems defines success in both life and work (PIAAC Expert Group on Problem Solving in Technology-Rich Environments, 2009). Third, these new literacies are not always included in

literacy programs (International Reading Association, 2009). Finally, our students often appear to lack these skills (Bennet et al., 2008).

National Standards

New Literacies and the new literacies of online research and comprehension appear to be recognized in recent policy initiatives. Nations have integrated this research into new curriculum and educational standards, seeking to prepare youth for work and life in an online age of information.

Australia

Australia has recently developed the Australian Curriculum (Australian Curriculum, Assessment and Reporting Authority [ACARA], n.d.). This initiative tightly integrates literacy and the Internet within the English curriculum and suggests that online research and communication are essential elements in this area:

> ICT (Information and Communication Technology) capability is an important component of the English curriculum. Students use ICT when . . . they conduct research online, and collaborate and communicate with others electronically. (ACARA, n.d., General Capabilities, Information and Communication Technology Competence section, para. 2)

Canada: Manitoba

The province of Manitoba has developed an educational framework called Literacy with ICT Across the Curriculum (Minister of Manitoba Education, Citizenship, and Youth, 2006). This initiative recognizes the reading has changed and that online reading is a problem-solving task, requiring new skills to locate, evaluate, synthesize, and communicate in online contexts. It describes these new online literacies as

> identifying appropriate inquiry questions; navigating multiple information networks to locate relevant information; applying critical thinking skills to evaluate information sources and content; synthesizing information and ideas from multiple sources and networks; representing information and ideas creatively in visual, aural, and textual formats; crediting and referencing sources of information and intellectual property; and communicating new understandings to others, both face to face and over distance. . . .(Minister of Manitoba Education, Citizenship, and Youth, 2006, p. 18)

The United States

In the United States, the Common Core State Standards (CCSS) Initiative (2012) establishes more uniform standards across states to prepare students for college and careers in the 21st century. One of the key design principles in the CCSS, research and media skills, focuses on the integration of online research and comprehension skills within the classroom such as locating, evaluating, synthesizing, and communicating:

> To be ready for college, workforce training, and life in a technological society, students need the ability to gather, comprehend, evaluate, synthesize, and report on information and ideas, to conduct original research in order to answer questions or solve problems, and to analyze and create a high volume and extensive range of print and nonprint texts in media forms old and new. The need to conduct research and to produce and consume media is embedded into every aspect of today's curriculum. (CCSS, n.d., p. 4)

Three changes are especially noticeable in the English language arts standards of CCSS:

1. There is a greater focus on reading informational texts.
2. Higher-level thinking is emphasized.
3. Digital literacies are integrated throughout the English language arts standards.

Each of these reflects the shift in reading from page to screen that we have described as important to the new literacies of online research and comprehension. While there is more that can be done (Drew, 2012), a number of anchor standards appear to include these new literacies of online research and comprehension if one reads them carefully, with an understanding of how reading changes online.

Reading Our Standards with Dual Lenses: A Lens to the Future and a Lens to the Past

Interestingly, the word *Internet* is never used in the CCSS reading standards (Leu et al., 2011), despite the fact that the writing standards specify the use of "digital sources," "technology," and the "Internet" repeatedly (CCSS, 2010, p. 41). Because of this, many will ignore instruction in online reading, thinking that the CCSS only references traditional, offline reading comprehension. Many may also fail to integrate reading and writing instruction, an important part of any literacy program.

Why? The answer is related to prior knowledge. One of the most consistent patterns in reading research is the finding that the prior knowledge we bring to a text profoundly shapes our interpretation. Given that most of our prior knowledge about reading is derived from an understanding of reading in offline contexts, the U.S. standards are likely to be interpreted in relation to offline reading comprehension, not online reading comprehension. Another way of looking at this issue is to suggest that many educators will read the CCSS only with a lens to our past, and not a lens to our future, failing to include instruction in important online reading skills. Figure 15.1 illustrates the problem in relation to Anchor Reading Standard 1, often referred to as *close reading*: "Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text."

With our extensive prior knowledge derived from offline reading, we naturally interpret this standard, using a lens to our past, and teach inferential reasoning with narrative text offline. On the other hand, when we

Reading with a lens to the past

- We would use narrative text.
- We would teach inferential reasoning about setting, events, problems, solutions, characters, etc.
- Typical discussion questions might include:
  - Tell us what you think will happen next?
  - What evidence in your text suggests this answer?

Reading with a lens to the future

- We would use informational text such as search engine results.
- We would teach how to infer information from search result listings.
- Typical discussion questions might include:
  - Which of these sites is a commercial site?
  - What evidence in the text suggests this?
  - Which of these sites comes from England? Which comes from Minnesota?
  - What evidence in the text suggests this?

FIGURE 15.1. Reading the U.S. CCSS with a lens to the past and a lens to the future.

read this standard using a lens to the future, we would think of the inferential reasoning required to read in different contexts online, perhaps the reading of search engine results. When we read search engine results to select the best site for our needs, we are required to make many inferences about what we would find at each link. Many students do not read search engine results; they simply click and look their way down each list of search results, reviewing each web page, often skipping right past a useful resource (Leu, Forzani, & Kennedy, 2013). Instruction in how to make inferences and use textual evidence to support those inferences would be very useful to students. Educators who read with both a lens to the past and a lens to the future would interpret Reading Anchor Standard 1 by teaching both types of close reading.

These two lenses operate within most of the other Common Core standards in reading, too. Consider, for example, Reading Anchor Standard 6: "Assess how point of view or purpose shapes the content and style of a text." Someone reading this standard with a lens to the past would interpret it by teaching point of view within narratives, engaging students in discussions about the point of view held by different characters. Someone reading this standard with a lens to the future would interpret it by teaching point of view in relation to the evaluation of a website's reliability, where point of view is one of several important elements to consider when evaluating the reliability of information that is found online. Since the words *Internet* or *online* never appear in the reading standards of the United States and since we are only beginning to develop our knowledge of online reading, we run the risk of interpreting nearly all of the standards in reading with a lens to our past, implementing them only within traditional print contexts. Such an outcome will limit instruction, denying important learning opportunities to our students.

Principles That Inform Instruction in New Literacies and the New Literacies of Online Research and Comprehension

How can we begin to think about instruction in the New Literacies, consistent with newly appearing standards? We provide 10 principles and two instructional ideas that you can use to implement each principle.

Begin Teaching and Learning New Literacies as Early as Possible

Schools should begin to integrate online experiences and new literacies instruction as soon as children begin their literacy education program

(Forzani & Leu, 2012). A useful first step is to use *online* resources to teach CCSS foundational *offline* reading skills in PreK, kindergarten, and first grade. A number of locations can be used to teach the foundational skills of CCSS in both reading and writing. These sites teach early offline reading skills while they also provide important early experiences with navigating an online interface. In short, they allow you to combine both an instructional lens to our past and a lens to our future.

Starfall

Starfall (*www.starfall.com*) is an exceptional resource for children that supports the development of early offline reading skills within an online context. Starfall is free, a gift from the CEO of Blue Mountain Greeting Cards, who is dyslexic, to honor all the teachers of reading who helped him on his journey. It includes delightful activities that teach CCSS foundational skills in reading: letter-name knowledge, phonemic awareness, phonics, and sight word recognition. It also develops both early comprehension and advanced comprehension skills.

ReadWriteThink

ReadWriteThink (*www.readwritethink.org*) is another wonderful resource for teachers of young children, but also every K–12 teacher. It provides an extensive set of lessons in the English language arts developed by teachers. It is also free. There are over 142 lessons developed by teachers for grade K–2 that use children's literature to develop foundational CCSS, often using online resources.

Use New Literacies to Help the Last Student Become the First

Make it a policy to always teach a new technology, with new literacies, to your weakest reader(s) first. This enables struggling readers and writers to become literate in this new technology before other, higher-performing students in reading. Those who struggle with reading and writing become literate in a new literacy before others and can teach this new literacy to others who are not literate with this new form. This is a powerful principle that positions weaker readers as experts. It should always be used. Unfortunately, the opposite often happens. Struggling readers frequently are denied access to online experiences because their offline literacy skills are thought to be insufficient to permit success (Castek, Zawilinski, McVerry, O'Byrne, & Leu, 2011). Avoid this problem by helping your weakest students become literate in a new technology first.

Teach E-Mail to Struggling Readers First

In the next few years, all classrooms will be using child-safe e-mail systems that are available, and often free, such as ePals. Capitalize on this opportunity by teaching struggling readers the New Literacies required by your student e-mail system and then have them teach their newly acquired e-mail skills to other students. Have them also be available to support those who require assistance.

Teach Blogging and Wiki Skills to Struggling Readers First

When you begin to use wikis and blogs in your classroom, make certain that you use these opportunities, too, to help the last become first with New Literacies. Imagine a first or fifth grader who has been struggling with literacy learning suddenly becoming the class expert on how to create a new blog comment or post. A few minutes of coaching on the necessary steps puts this student in the expert seat. The rest of the class then relies on this student for instruction and coaching. This student's role in the classroom shifts as he or she shares responsibility for teaching important reading and writing skills.

Teach Online Search Skills Since These Are Important to Success in the New Literacies of Online Research and Comprehension

The ability to read and locate online information is a gate-keeping skill. If one cannot locate information online, it becomes very hard to solve a problem with online information and to learn in online spaces.

Additional reading skills and strategies are required to generate effective keyword search strategies (Kuiper & Volman, 2008); to read and infer which link may be most useful among a set of search engine results (Henry, 2006); and to efficiently scan for relevant information within websites (Rouet, Ros, Goumi, Macedo-Rouet, & Dinet, 2011). Each is important to integrate into classroom reading programs.

Use Google's "Inside Search"

Search engines regularly add new search capabilities that are not always known to users. To keep up to date with those that are added to Google, visit Google's "Inside Search" at *www.google.com/insidesearch/searcheducation/index.html*. Here you will find lesson plans, activities to improve your own search skills, daily search challenges for your students, and training webinars for both you and your students. There is a similar page for the

Bing search engine at *http://onlinehelp.microsoft.com/en-us/bing*. Bing integrates closely with Facebook, which provides additional search capabilities.

Play "One Click"

To develop better close reading skills during the reading of search results, play "One Click." Conduct a search for any topic that you are studying in class. If you lack an interactive whiteboard or a projector, print out enough copies of the first page of search results for each student. Distribute these. Then see if students can locate the best link on the search results page for each question that you ask such as, "Which link will take you to a site developed by an Egyptologist?" or "Which site on this page is a commercial site and will probably try to sell you something?" Each question should require students to make an inference from the limited information appearing in the search results list. If you have an interactive whiteboard or a projector, do the same but ask students to come to the projected screen and point to the answer they think is correct, explaining their reasoning and teaching others, showing them the evidence that they used.

Use Online Reading Experiences to Develop Critical Thinking Skills and a Generation of "Healthy Skeptics"

A central objective of any instructional program in the New Literacies is to develop students who read as "healthy skeptics." We seek to raise a generation of students who always question the information they read for reliability and accuracy, always read to infer bias or point of view, and always check the sources they encounter while reading. The Internet demands this.

Critically evaluating online information includes the ability to read and evaluate the level of accuracy, reliability, and bias of information (Center for Media Literacy, 2005). Although these skills have always been necessary with offline texts (Bråten, Strømsø, & Britt, 2009; Bråten, Strømsø, & Salmerón, 2011), the proliferation of unedited information and the merging of commercial marketing with educational content (Fabos, 2008) presents additional challenges that are quite different from traditional print and media sources, requiring new strategies during online reading.

Without explicit training in these new literacy skills, many students become confused and overwhelmed when asked to judge the accuracy, reliability, and bias of information they encounter in online reading environments (Graham & Metaxas, 2003; Sanchez, Wiley, & Goldman, 2006; Sundar, 2008). Your leadership in this area will ensure that students in

your district graduate with the critical evaluation skills required in an online age.

Reverse Wikipedia

Typically, Wikipedia is simply used for information. Reverse this and use Wikipedia to make critical evaluation skills the primary focus. Select an entry for any topic being studied in the classroom. For homework, have students find one claim made at the site that is contested by others online and bring the disputed information as well as the sources to class. Have students share their disputed facts and sources and discuss critical evaluation strategies that could be used to help resolve the conflict. This conversation will teach many new online research and comprehension strategies to your students.

Source Plus

Schools increasingly require students to list the sources of any online information that is used in a report. Take this one step further and require students to also indicate how they determined that each source was reputable and reliable.

Integrate Online Communication into Lessons

It is easy to integrate the Internet into classrooms through the use of online communication tools such as e-mail, wikis, and blogs, as well as the child-safe social networks for schools that are now beginning to appear. Each creates a wonderfully natural way in which to develop a culture of effective online information use in classrooms (Zawilinski, 2012). Importantly, they may also be used to keep parents informed about what is taking place in classrooms.

As we begin to integrate these online communication tools into our classrooms, we should not ignore concerns about child safety. We want to restrict communication only to our students and to a community of people whom we can trust, such as parents and other teachers and students. There are many versions of wikis, blogs, and e-mail that can provide these protections. Typically, they do this in three ways. First, most permit you to restrict access. You can often list the addresses of people you wish to be able to view, add, or edit information. Second, many tools, especially child-safe e-mail tools, permit you to approve any message before it is sent. Finally, most prohibit e-mail from outside coming in as well as e-mails going to addresses outside the e-mail system that you use.

Investigate Other Teachers' Use of Blogs, Wikis, and E-Mail in Their Classrooms

To gather ideas about how online communication tools can be used effectively in classrooms simply search online to see how other teachers do this (Zawilinski, 2009). Using Twitter hash tags such as #educhat #engchat or #edtechchat is one way of connecting with teachers and sharing blog and wiki resources. Another is to search online with keywords such as 1st-grade classroom blog, 4th-grade classroom blog, classroom wiki, or classroom e-mail. Send links of good classroom models to other teachers in your school to review and consider.

Child-Safe E-Mail at ePals and Gaggle

Both ePals (*www.epals.com*) and Gaggle (*www.gaggle.net*) provide child-safe e-mail. Many teachers begin classroom e-mail use by choosing settings that limit students to exchanging e-mails with other students in the classroom. Later teachers adjust settings to permit e-mail to students in other classrooms in your school. Finally, they open settings to other students around the world who have been admitted into the system. At each step you can monitor all correspondence if you wish.

When Online Tools Are Blocked, Use the Word "Pilot" to Create New Instructional Opportunities in Your Classroom

Technology coordinators often place severe restrictions on classroom access to Internet tools for one reason or another. As a literacy educator you should determinedly work to make child-safe access to online tools and resources easier for students in your classroom.

A useful strategy is to meet with your principal and suggest that a "pilot" be implemented in your classroom for an online technology that is blocked by your district. Prepare for this meeting carefully. Describe what the technology does, how it will increase opportunities for students, and how you will ensure child safety. Also suggest that a note be sent to parents to inform them about what will be taking place, why it is important, and to request their permission. Thus, anxieties are reduced and, after a successful pilot, your school may be more receptive to additional innovations.

Conduct a Pilot with Edmodo

Edmodo is an educational tool for online collaboration that uses an interface similar to that of social networks. Should it be blocked by your

district, ask to conduct a pilot of this tool in one classroom to evaluate its potential for other classrooms. Edmodo has elements that can be used to support child safety. Access can be limited only to students in a single classroom. Also, teachers can approve student posts before they appear. Help students prepare for face-to-face discussion by asking them to post their initial thinking to Edmodo and then read other classmates' comments before the discussion. They can post their response as an image or text and invite others to respond.

Conduct a Pilot with Google Drive

Google Drive (*https://drive.google.com*) is an online suite of tools. While more and more schools are seeing the usefulness of Google Drive for their students, many still block this tool. Google Drive offers free online tools, including Google Docs for word processing, spreadsheets, forms, presentations, and drawing pages. Word-processing and other files may be used by anyone with permission from the creator. Thus, multiple students and teachers can collaboratively work on a single document at once. Using this tool as part of a pilot is a low-risk way to begin implementing technology into the classroom.

Use Performance-Based Assessments for Evaluating Students' Ability with New Literacies

Good instruction is informed by good assessment. While no assessment is perfect (Darling-Hammond, 2010), some have argued that performance-based assessments do this better than many other forms of assessments (Wiggins, 1998). Performance-based assessments provide more diagnostic information than do many other types of assessments, for they are administered while students perform an authentic task.

Some initial models for assessing the new literacies of online research and comprehension have appeared. For example, the PISA Digital Reading Assessment (Organization for Economic Cooperation and Development [OECD], 2011) evaluated 15-year-olds from a number of different countries. Another approach is the Online Research and Comprehension Assessment, or ORCA (Leu, Kulikowich, Sedransk, & Coiro, 2009). Each online research task in science is directed through chat messages from an avatar student within a social network. Along the way, students are asked to locate four different websites and summarize the central information from each using their notepad. They also evaluate the source reliability of a website and write a short report of their research in either a wiki or an e-mail message. The assessments have demonstrated high levels of both reliability and validity (Leu, Coiro, Kulikowich, & Cui, 2012). This

format and the performance-based nature of the assessment may provide a model for others. To gain greater understanding of what performance-based assessments of online research and comprehension will look like in the future, you may view a video of one student completing one of the assessments: *http://neag.uconn.edu/orca-video-ira*.

The extent to which CCSS assessments will focus on offline and online literacies is not yet clear. What does appear to be clear is that to the extent performance-based assessments in new literacies are included in CCSS assessments, teachers are likely to be better informed about instruction.

Use Informal Observation Strategies

While we wait for better formal assessments, you can use informal observations of students conducting online research to gain important diagnostic information about an individual student's ability. Give students a short online research project and carefully observe how they locate, evaluate, synthesize, and communicate information online during their research. Careful observation is a teacher's best instructional friend.

Use Think-Alouds

Another way to gather informal, performance-based assessment data is through think-alouds. As students learn about online research, invite one student to think aloudf using the projected screen so the entire class can see online research and comprehension strategies in action. This will provide students with new strategies and provide you with important insights about needed skill development.

Use Internet Reciprocal Teaching in One-to-One Computing Classrooms

As we move to one-to-one computing classrooms (cf. Argueta, Huff, Tingen, & Corn, 2011), we will be challenged to teach new literacies. Teachers may have only a few seconds of their students' attention to teach a new online skill if laptops are open. If laptops are closed, attention may not be substantially greater. A central issue is this: How do you teach a new online research and comprehension skill in the 15 seconds or so that you have students' attention? One way is to embed the skill you seek to teach in a research problem for groups of students to solve. When you see a student use the target skill that you have embedded into the research problem, have that student explain what he or she did on the projected screen so that others can also solve the problem. This approach, a part

of Internet Reciprocal Teaching (Leu et al., 2008), has demonstrated efficacy in the classroom for developing online research and comprehension skills (Leu & Reinking, 2010).

Teach Source Evaluation Skills

If you want to teach source evaluation skills, have small groups conduct research to answer a three-part problem such as this:

1. How high is Mt. Fuji in feet?
2. Find a different answer to this same question.
3. Which answer do you trust and why do you trust it?

As you observe students begin work on the third part of the problem, you likely will see a student begin to use the strategy that you have targeted: locating and evaluating the source of the information. When you see someone use this strategy, perhaps by clicking on a link to "About Us," interrupt the other groups and have this student teach the strategy to the class, explaining how he or she evaluates a source for expertise and reliability. There are many inconsistent facts online that can also be used, just like this, to teach source evaluation including: "How long is the Mississippi River?" or "What is the population of San Francisco?"

Monitor Laptop Use

Consider the use of monitoring software on your computer in one-to-one classrooms. Monitoring software places a thumbnail image of each student's computer screen on the teacher's computer. This may be used to observe students to evaluate their strengths and skill needs. It may also be used to display a student's screen when the student is teaching an important new skill that he or she has discovered to the class. There are many different monitoring software programs including Apple Remote Desktop, LanSchool, Netop School, and others.

Prepare Students for Their Future by Using Collaborative Online Learning Experiences with Classroom Partners in Other Parts of the World

Some teachers are beginning to explore the future of classroom instruction. They connect with other classrooms around the world to engage in collaborative classroom learning projects. These classrooms use ePals, Google Drive, blogs, e-mail, wikis, and simple web page development tools to learn, exchange information, and work on collaborative research

projects. With these projects, students increase their new literacies skills, develop a richer understanding of content, and a greater understanding of the differences that define our planet. Most importantly, these experiences provide students with preparation for the world they will soon enter, especially in the workplace.

Use Internet Morning Message of the Week

Use e-mail to connect with several teachers at your grade level, possibly in different countries, and set up a weekly e-mail exchange project. Invite each participating classroom to send the other classrooms a weekly e-mail message, describing what took place in their classroom on one day. Thus, each classroom will receive a number of messages from around the world each week. Print copies out for students or display them on a projected screen to help students develop new friends and a richer understanding of the world around them. In younger grades, ask your class to dictate a response each week, while you transcribe it. In older grades, assign the report-writing project to a different group each week. Have another group serve as editors to read, suggest revisions, and edit the work. Then send it out to the other participating classes.

Find an International Classroom and Work on a Common Project

Use tools like "Find a Classroom Match" (*www.epals.com/find-classroom*) to connect with classrooms around the world. Visit "Join a Project" (*www.epals.com/find-project*) to select a classroom learning project. Both sites require you to register in order to access the free, child-safe e-mail. You may need to request that your district provide your classroom with access to these resources. If so, request that you be permitted to conduct a pilot for your school.

Recognize That a New Literacies Journey Is One of Continuous Learning

As new technologies appear on the Internet, new literacies and new opportunities for instruction appear (International Reading Association, 2009). Consider, for example, one student who was reading online about the height of Mount Rainier. She had located the height in feet, 14,410, but wished to know what it was in meters so she could share it with a friend in France. A second student noticed the problem and showed her a strategy that had become possible with an update to this search engine. This second student went to the Google search box in the browser and typed in "14410 ft. to meters." She knew this would produce the conversion

immediately and the answer was quickly listed at the top of the search results page. Not only had the first student determined the answer without an additional lengthy search, she also acquired a new literacy skill.

Examples like this take place regularly as we encounter new affordances within older technologies or as new technologies, themselves, appear. They remind us that our New Literacies' future is really a journey, not a destination. The regular appearance of New Literacies requires additional roles for teachers and students.

For teachers, it means bringing both a lens to the future and a lens to the past to each Common Core standard, integrating online literacy experiences into the classroom in a regular and thoughtful fashion. This will require knowing which online reading and writing skills are important to support. It will also mean developing learning experiences for these skills. In addition, it means learning from other colleagues, an important source of information in a world where it is hard for any one person to keep up with all of the changes that are taking place. It also means being on the lookout for new skills and strategies that students in your class manifest so you can then distribute these skills to your other students and to fellow teachers.

For students, it means having regular, consistent, and safe access to online technologies in the classroom and at home. When this is not possible at home, it becomes even more important for it to be available at school.

Build an Online Support System

Keep a running list of the best new online tools and resources that you encounter. Regularly distribute these through your school's social network, e-mail, wiki, or blog, and encourage others to do the same. Consider sharing resources with teachers outside of your school community by using online professional learning networks linked through wikis or Twitter hash tags. This will quickly build a community around the effective integration of online new literacies into classrooms.

Build an Online Expert Board

Keep an Online Expert Board in your classroom or on your class blog or wiki. As you observe students who demonstrate new and useful online reading and writing strategies, add the name of the student and the skill they displayed in an Online Expert Board, where everyone can see it. Students can use this information when they need help, finding another student who might be able to help them.

Reflections and Future Directions

In a world in which change takes place to literacy every single day, it is impossible to accurately predict precisely what literacy instruction will look like in the future. We believe, however, that the new literacies of online research and comprehension will always be central for learning, though these new literacies will continuously evolve. We also believe that the future will include online technologies for literacy that do not exist now, requiring even newer skills and strategies to be developed by our students. These changes will require each of us to always have one lens turned to the future so that we might continuously learn about even newer online tools that we can use in our classrooms, preparing our students for their future.

ENGAGEMENT ACTIVITIES

1. *Develop a lens to the future for the CCSS in reading.* Review the Common Core standards for your grade level. How can you implement each one in a way that uses a lens to the future to develop online reading research and comprehension skills? What activities mentioned in this chapter can you begin to implement now?
2. *Implement lessons in reading and online searching for information.* Visit "Inside Search" at *www.google.com/insidesearch/searcheducation/index.html* and implement one of the many lessons in your classroom. Observe the results. Which online search skills do your students have? Which do they lack? Develop additional lessons to support them in this area of reading to locate information.
3. *During a shared reading activity, model your thinking for students as you read across different websites.* Notice and predict what information lies behind certain links. Look for similarities and differences across information on sites. Demonstrate how readers try to corroborate information between different sources, and show students how you think through aspects of source evaluation.
4. *Use ePals to connect with other classrooms.* Subscribe to ePals. It is free. Then communicate with teachers around the world at your level who are looking to collaborate. Plan a collaborative activity with your students and their students.

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