

INTERNET INQUIRY

Fundamental Competencies for Online Comprehension

Tara Kingsley ■ Susan Tancock

This article describes four important competencies needed for Internet inquiry, what they look like in the classroom, and what scaffolds are needed to guide students to use them independently.

For her Famous American inquiry project, Aliya (pseudonym) has chosen to study Madame C.J. Walker, the country's first female African American millionaire. Aliya's teacher, Mr. Baker, briefly reviews some Internet safety rules to keep in mind and instructs the class to write down some questions to help guide its research in the computer lab. Aliya jots down a few things she would like to know about Ms. Walker, including, "How did she get rich?" and "When was she born?"

Once in the computer lab, Aliya opens the browser and types "Madame C.J. Walker" into the Google search bar. Google tells her there are "about 248,000 hits" for this search. Aliya looks at the list of links, and although she is pleased there appears to be lots of information, she is overwhelmed by how much.

Aliya really doesn't know which links will give her the best information. She needs to get her information quickly, so she begins to click on the links one by one, copying and pasting information from the sites into a Word document. By the end of the lab time, Aliya has a collection of random bits of information about Ms. Walker, with no idea of which ones are accurate and which are not.

Internet Inquiry

This scenario with Aliya is typical of the way a student would approach an inquiry project. Aliya lacks

effective strategies for narrowing her focus, locating information, evaluating the information for accuracy, and synthesizing it into a product she can use to effectively share her information with others. With so many new literacy skills needed to find, understand, organize, and communicate research done on the Internet, teachers and students are often left feeling frustrated with Internet inquiry.

Internet inquiry involves curiosity, which leads students to search, scan, and ultimately seek to find an answer to their inquiring minds. At a time when students need more support with developing higher level Internet inquiry skills, teachers lack the knowledge and comfort levels needed to teach these proficiencies (Dreher & Zelinke, 2010; Stolle, 2008). Schools have not fully transitioned to embracing digital texts and are still primarily print-based, with teachers viewing technology as merely a supplement to instruction (Hutchison & Reinking, 2011). Direct instruction from the teacher is needed for students to acquire these complex, higher level skills; yet, elementary teachers often feel inadequately supported when it comes

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to curricular technology integration (Hutchison & Reinking, 2011).

New Standards and Assessment

National education reforms, such as the Common Core State Standards (CCSS; National Governors Association Center for Best Practices [NGA Center] & Council of Chief State School Officers [CCSSO], 2010), place technology at the forefront, making unrivaled demands on students' proficiencies. Two noteworthy fundamental advancements within the CCSS include an increased emphasis on higher-level thinking and acquisition of digital literacy skills (Leu, Forzani, et al., 2013).

New assessment systems aligned to the CCSS, including the Partnership for Assessment of Readiness for College and Careers (PARCC), will require students to engage with *digital* texts, evaluate sources, and develop a culminating product (PARCC, 2013). Pedagogical shifts needed to effectively implement the CCSS for English language arts center around an increase in text complexity, evidence-based response, and expository text. "At the heart of the

"Paralleling pedagogical practices, including Internet inquiry, with PARCC's innovative task types is needed to place students on track for college and career readiness."

PARCC assessment design are the CCSS shifts, which ground PARCC's advances in assessment" (2013, "ELA/Literacy Sample Illustrative Items," para. 1).

Performance tasks expected within the PARCC assessment simulate the fundamental competencies needed for comprehension of Internet text. Knowledge integration from multiple sources is reflected in the third-grade assessment, with corresponding formative assessments available for grades kindergarten through second grade. Computer-based assessment items will include performance-based items with short texts, such as articles or poems, and extended text, such as book-length text or multiple pages within a website (PARCC, 2011). Paralleling pedagogical practices, including Internet inquiry, with PARCC's innovative task types is needed to place students on track for college and career readiness.

The purpose of this article is to explore four fundamental competencies for Internet-based inquiry. First, we provide an overview of the new literacies of online research and comprehension. Next, we present a summary of an effective instructional framework for implementing online research and comprehension. Third, we showcase four competencies needed for Internet inquiry, discussing within each competency the importance, what it looks like in the classroom, and what scaffolds are needed to support and guide students to independence.

New Literacies of Online Research and Comprehension

The term *new literacies* has evolved to include the many facets of reading and writing required when interacting with digital texts (Coiro, Knobel, Lankshear, & Leu, 2008; Leu, Kinzer, Coiro, Castek, & Henry, 2013). Online reading is primarily task based, as readers typically use the Internet to ask a question or solve a problem (Coiro & Castek, 2011); therefore, when students read to comprehend on the Internet, they are engaging in online research.

The Common Core Anchor Standards illustrate the importance of higher-level thinking and digital literacies (NGA Center & CCSO, 2010). Phrases including "Evaluate the argument and specific claims in text" (p. 10), "Use technology to produce," or "Gather relevant information for multiple print and digital resources to assess the credibility and accuracy of each source" (p. 18) permeate the CCSS. Navigating complex texts has always required high levels of comprehension strategies. However, negotiating multiliteracies on the Internet begs for even more sophisticated uses of the traditional reading strategies used with print texts (Coiro, 2009; Eagleton & Guinee, 2002; Kuiper, Volman, & Terwel, 2008)—offering both a great challenge and opportunity to teach children within authentic contexts.

Information organization and delivery within the construct of online research

Pause and Ponder

- Where are places in your existing curriculum in which you could logically and effectively integrate Internet inquiry?
- Examine the College and Career Readiness Anchor Standards for your grade-level interest(s). Which of these standards complement new literacies instruction?
- How might the skills of online research and comprehension equip students with the skills needed to become critical thinkers, communicators, collaborators, and problem solvers?

and comprehension make the distinct practices of identifying questions, locating information, critically evaluating the usefulness of that information, synthesizing information to answer questions, and then communicating the answers to others some of the most important and necessary skills needed for today's young readers as they engage in research to construct meaning from digital texts (Leu, Kinzer, et al., 2013).

Online Research and Comprehension Instruction

A body of reading research shows a significant relationship between online research and comprehension instruction and student outcomes. Two general findings exist. First, specific strategy instruction led to student gains in online research and comprehension, and second, teacher modeling followed by collaborative inquiry tasks proved to be a successful instructional framework for Internet instruction (Castek, 2008; Kingsley, 2011; Leu & Reinking, 2010).

One research-based approach to Internet inquiry, the Internet Reciprocal Teaching (IRT) Model, provided an effective three-phase framework for teaching Internet inquiry following a gradual release of responsibility (Leu et al., 2008).

Phase 1 Teacher-led instruction—the teacher explicitly models his or her thinking by demonstrating the select skill with online text using a teacher think-aloud until the majority of students are able to successfully demonstrate the skill.

Phase 2 Guided collaborative practice—Student work collaboratively to solve common tasks with their peers to practice the given skills. Both the teacher and

students work to teach one another new skills and strategies for online research.

Phase 3 Inquiry—students work to apply new knowledge of skill(s) within authentic learning situations related to the curriculum.

To examine the effect of online research and comprehension instruction, we completed a study (Kingsley, 2011) with fifth-grade students designed to determine whether classroom-based instruction in new literacies skills would show impact on online reading comprehension tasks with children in a suburban elementary school (reaching more than 400 students). The teachers in this study provided 13 direct instruction sessions for students targeting reading comprehension, synthesis, and evaluation of online reading materials. Each session included one or more phases of the IRT Model (Leu et al., 2008).

Ten classrooms participated in online comprehension and research sessions, and nine classes did not receive this instruction. The impact of online reading comprehension instruction on student performance was examined.

Conclusions drawn from the results of this study were that students in the experimental group showed significantly higher gains from pretest to posttest on a measure of online research and comprehension skills (see Figure 1).

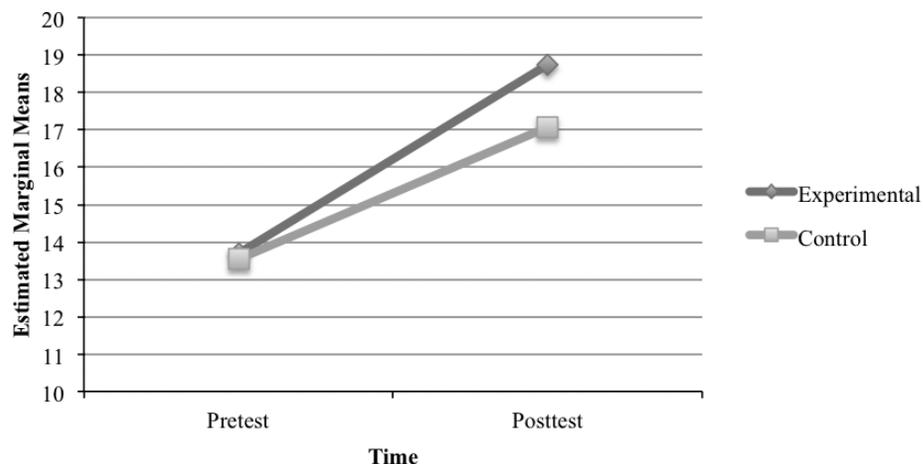
Fundamental Competencies

Past research, including statistically significant outcomes from our research study, has revealed the following four fundamental competencies students must possess and attain to successfully complete Internet-based tasks: (1) generate high-quality inquiry topics, (2) effectively and efficiently search for information, (3) critically evaluate Internet resources, and (4) connect ideas across Internet texts. In the following paragraphs, we describe each of the four competencies and provide potential activities, guidelines, and scaffolds needed to guide students to independent acquisition.

Competency 1: Generate High-Quality Inquiry Topics

Does online reading promote inquiry? Absolutely! Indeed, the Internet naturally lends itself to inquiry as readers approach Internet text with a question

Figure 1 Experimental and Control Group Performance



to ask or a problem to solve. As adults, we turn to the Internet for this exact purpose, Googling everything from technology support to looking for evidence to back up disputable facts.

Reading initiated by a question has the ability to positively influence reading comprehension, and students who self-generate research questions in online environments have increased motivation and increased success in the searching process (Dwyer, 2010; Kuiper et al., 2008; Taboada & Guthrie, 2006). "No other tool will help the Internet reader as much as the right question, asked at the right time, and in the right way" (Burke, 2002, p. 38).

"Notable Americans" is just the tip of the iceberg of Aliya's topic for her project. She needs to learn to generate good questions about Madame C.J. Walker that will help her determine keywords she can use to effectively search for information.

Modeling the Question-Generating Process. Before placing students in front of a computer screen, Aliya's teacher can begin scaffolding the competency by choosing a famous American and demonstrating his thinking as he composes questions about the person. He can list his questions on sticky notes and place them on the board as he asks himself, "What do I want to know about this

person?" and "How can I write a good question that will give me the information I need?" This think-aloud process can help Aliya see that she needs to ask questions in the categories of "When, where, and how did this person live?" and "Why is this person important?"

Further questions seeking information about the person's life might include, "What were her/his experiences growing up?" and "What was her/his adulthood like?" Questions seeking more information about the importance of the person might include the following: "What was this person's major accomplishments?" "What were the significant events that led to his/her fame?" "How might the world be different without her/him?"

After Aliya's teacher composes a few questions, he can model how to revise them to make them tighter or how to delete poor questions and write new ones. He can then demonstrate how to sort his questions on sticky notes into categories or sort them virtually using an online program such as listthings (see listthings.com) or an app such as iCardSort (see icardsort.com). Groups of questions can become representative of focus areas for student research. Aliya's teacher must use his knowledge of how search engines work, as well as his objectives for the project to do the modeling phase of scaffolding for Aliya and her classmates.

Generating Researchable Inquiry Questions. When students are completing projects within the same general topic, such as "Famous Americans," it can be very efficient to allow students to work collaboratively in the question-generating portion of topic selection. While working with a partner, Aliya can model her teacher's brainstorming and sorting strategy to generate researchable inquiry questions that are not too broad

(e.g., "Who is a famous American?") or too narrow (e.g., "What did Madame C. J. Walker sell?"). Because she and her partner are working toward the same culminating project, they can develop focus areas to generate questions that will be helpful for both of them. The give-and-take discussions that occur in these sessions can help children home in on what they really want to know and narrow their focus to develop well-grounded, manageable research questions within the inquiry topic.

Competency 2: Effectively and Efficiently Searching for Information

Searching skills are of fundamental importance to online reading (International I.C.T. Literacy Panel, 2001) as nearly half of all Internet users use a search engine on a typical day. Twenty-first century students are no longer thumbing through printed encyclopedia sets to locate information, but rather are relying on Internet-based text. Classroom-based research has shown students struggle to generate search strings, do not look beyond the first few hits on a search query, and become easily distracted, frustrated, or anxious when searching for information, just like the student described in the opening scenario of this article (Bilal, 2000; Kuiper, Volman, & Terwel, 2007).

Aliya and other students like her, when faced with so many results to their first attempts at searching, can quickly become overwhelmed. This feeling may discourage them from using a variety of sources in their inquiry (Purcell et al., 2012). They may simply shut down and pursue whatever information is easiest to retrieve.

Aliya may become stuck in the "bottleneck" (Henry, 2006) as she attempts to search and navigate and thus may not

"Twenty-first century students are no longer thumbing through printed encyclopedia sets to locate information."

“Teaching searching must include an emphasis on the recursive nature of the search process.”

be able to flow into the larger reservoir of information to even begin comprehending what she has found. The search process and comprehension go hand in hand, complementing each other with every step of the online reading process. To behave like a skilled reader Aliya will constantly need to make inferences before selecting hyperlinks, but she needs to understand the thinking behind this complex process (Coiro & Dobler, 2007).

Laying the Foundation for Effective Searching.

Before beginning the search process, Aliya’s teacher can spend some time teaching the basic proficiencies needed to effectively use and understand the tools available to support the online research and comprehension process. These “Nuts & Bolts” (Kingsley, 2011) lessons can focus on precursory skills, including how to open and navigate within websites, discover shortcuts, use online tools such as edit-find or copy and paste, troubleshoot issues, and understand the basic layout of a website, all of which provide students a running start when researching online. A full collection of “Nuts & Bolts” lessons used within our online research and comprehension study (2011), including researcher-developed scripted lesson plans, tutorials, and PowerPoints, can be accessed at the following link: iu.box.com/nutsandbolts.

Scaffolding the Searching

Competency With Students. The art of teaching searching must include an emphasis on the recursive nature of the search process. Because there is so much back-and-forth movement between searching and thinking, Aliya will need to build her stamina for this process. Her teacher needs to help her realize that her searching will take some time, but if done properly, good searching strategies will give her the best results and the most targeted information.

To begin the process, Aliya’s teacher needs to show her how to carefully consider the culminating project that will be completed to demonstrate her knowledge. For example, if the final project were to use Glogster (see www.glogster.com) to design a poster representing found information in the form of text, video clips, audio, and graphics, Aliya would search with that goal in mind—looking for the various multimedia needed to demonstrate knowledge of the topic.

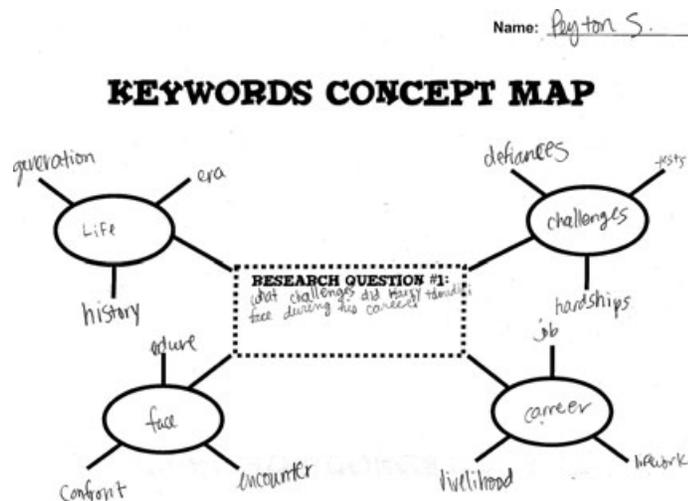
Aliya’s teacher could offer exemplars of finished projects, talking through required components before he has Aliya’s class start searching. An

infographic, for example, would warrant much different information than a wax museum exhibit, a brochure, an interactive Web page, a blog entry, a YouTube video tutorial, or a research report.

After exemplars of the culminating project are described and displayed, Aliya’s teacher can begin to model how to determine effective keywords—words that specifically describe the information she is seeking. A simple graphic organizer can serve as a tool to organize and brainstorm search terms (see Figure 2). Starting with one big question and four associated key words will demonstrate for students how to use a graphic to organize a search.

If Aliya’s teacher can scaffold her learning by thinking aloud and making explicit what is going on in his head as he maps out possible keywords for searching, Aliya can see what a proficient searcher does and how her teacher’s mind works during this part of the Internet inquiry process. After Aliya’s teacher has activated his existing background knowledge about a topic, he can use an online thesaurus such as visuwords.com or thesaurus.com to

Figure 2 Sample Keyword Map



seek meaningful substitutes for initial keywords (see Figure 3). An online tool such as visuwords is effective because it depicts the relationships among the words—something a thesaurus does not do. This will model for Aliya how to strengthen and refine her vocabulary in hopes of improving her search outcomes on a given inquiry topic.

When examining search engine hits, the teacher can read aloud the short descriptions or annotations under the website links and think aloud how these summaries may generate new keywords to try out in a revised search (see Figure 4). As Aliya's teacher defines keywords, searches, scans to check results, and continually repeats this process until the goal is attained, Aliya will be able to see the outcomes. Using a flowchart such as the Search Box Strategy (21cif.com/tutorials/micro/mm/searchbox) provides a visual of this recursive process (see Figure 5).

For additional practice, search challenges such as "A Google a Day" (see agoogleaday.com), a part of Google Search Education, provide engaging, daily trivia questions designed for students on how to practice search skills. Many search challenges are included within search literacy lessons, aligned to the CCSS, and differentiated into beginner, intermediate, and advanced levels.

Aliya will need much guided practice and authentic opportunities to apply recursive searching strategies to build the stamina she will need to complete fruitful searches on her own. Teacher-modeled repetitions through the search process will demonstrate for Aliya that proficient Internet users must have perseverance.

Competency 3: Determining Credibility of Internet Resources

A number of studies have shown that students lack the skills necessary

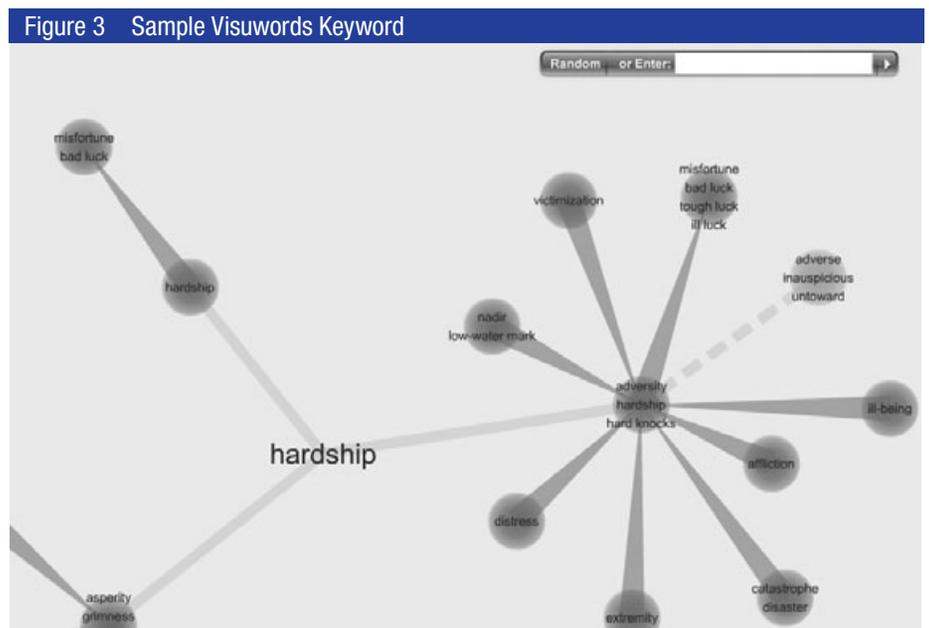


Figure 4 Hyperlink Description Think-Aloud

planets in space ← I begin by searching "Planets in Space"

About 92,700,000 results (0.20 seconds)

Solar System – Facts and Information about the Planets ... - Space.com
www.space.com/56-our-solar-system-facts-formation-and-discovery...
The sun is at the heart of our solar system, and **planets** orbit the sun. Also part of the solar system is the asteroid belt, trans-neptunian region and dwarf...

Planets, Planets Information, Facts, News, Photos -- National Geographic
science.nationalgeographic.com/science/space/planets/
Get information, facts, photos, news, videos, and more about **planets** and their moons from National Geographic.

The Nine Planets Solar System Tour
nineplanets.org/
In addition to the **planets**, there are also pages about the Sun, many moons, and ...
Very little of this site would have been possible without the **space** program.
For Kids - An Overview of the Solar System - Mercury - Mars

Images for planets in space - Report images

Planetary and Space Science - Elsevier
www.journals.elsevier.com/planetary-and-space-science/
Planetary and Space Science publishes original articles, reviews, and...
communications (letters). Ground-based and **space**-borne instrumentation...

Now, I notice the phrase 'Solar System' used in several descriptions. . . This may be a better search term for my inquiry.

I'm thinking 'Planetary Science' may also be an important search term I would like to try when searching my inquiry topic.

to critically evaluate Internet text (Castek, 2008; Kingsley, 2011; Kuiper et al., 2007). Consider the Kids and

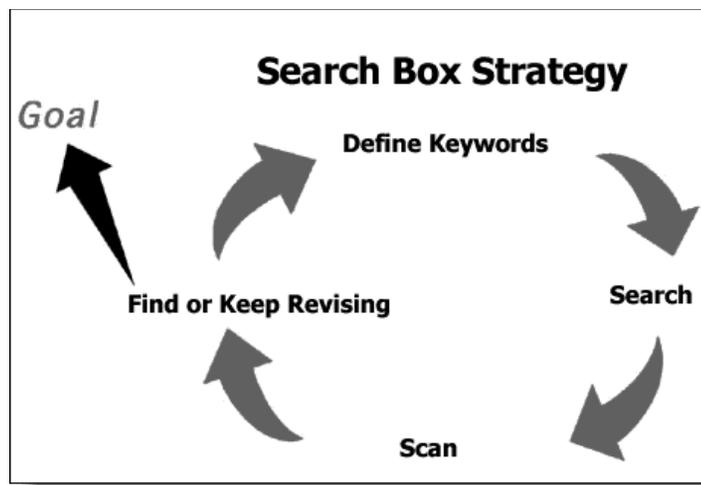
Credibility Report (MacArthur Foundation, 2010), in which children, ages 11–14, believed the Internet to be

the most credible source of information for school work, over and above books. Students typically believe anything published on the Internet must be considered valid and reliable (Fabos, 2008; Kingsley, 2011; Leu et al., 2007). High website believability discounts students' desire to inquire about a website's credentials.

With a close reading of the CCSS, one will note the repetitive use of terms such as *interpret*, *assess*, *delineate*, *argument*, and *analyze* (NGA Center & CCSO, 2010). Critical evaluation across multiple texts, including digital texts, will be reflected in future assessment systems and require students to use sufficient evidence to support and validate stated claims. Aliya must develop an understanding that Internet evaluation involves investigating the reliability of content by triangulating data with three additional sources, investigating the author's credentials, and screening a website's content for bias.

Triangulating Data to Determine Credibility. Using hoax sites, such as Dog Island (see www.thedogisland.com), where dogs can "live free from the stress and hardship associated with daily life among humans," can provide an opportunity for teachers to model the triangulation of data. At first glance, this website has a high level of "credibility aesthetic" (Fabos, 2008, p. 862). Common sense should indicate this website is a spoof; however, only 6% of all students in our study (Kingsley, 2011) gave *any* indication that this website may be false at the outset of this study, with written response answers including "I think they are trustworthy because they get it of the Internet and the Internet does not lie," and "Why would they put a site that lies on Google?" The overwhelming majority of students considered Dog Island as genuine.

Figure 5 Searchbox Strategy Flowchart



Aliya's teacher can point out the features on the website that make it appear highly credible, such as frequently asked questions, directions, rates, statistics, and a copyright date. Next, he needs to model how to cross-check the validity of the site by looking for three other sources about Dog Island. He might even show students how to use Snopes.com (www.snopes.com), a site that dispels urban myths and rumors to determine whether Dog Island is legitimate.

For nearly every topic there will also be a Wikipedia page that students can use to verify basic information. A visit to the Dog Island Wikipedia page will quickly show that it is not a refuge for dogs. Teachers prefer that students not use Wikipedia for research, yet it is verifiably a credible source of current, foundational information. Aliya's teacher could show her how to use Wikipedia as one of her three additional resources, perhaps teaching the edit-find tool within this website to quickly locate key search terms. Finally, Aliya's teacher could model how to Google an expert on her topic and look for academic credentials to validate the background of the expert.

Determining the Author's Credentials. Next, Aliya's teacher will model and think aloud how to investigate the author's credentials. He can demonstrate where to look for the author's information under a "Contact" button, a statement at the bottom of the home page, or an "About Us" link. Once finding the author's information, he can model for students how to place the author's name into a search engine to verify the author's legitimacy and qualifications for writing the site's content. Aliya's teacher can again use the Dog Island site to show the "disclaimer" link at the bottom of the home page where the author information would normally be located. Once he clicks on the link, he can show students the full disclosure of the site as a hoax, indicating this site was developed for entertainment purposes only.

Screening for Content Bias. Screening a website for content bias is the final component of this competency Aliya must learn. Aliya's teacher can model how to use the web address as a screening tool for bias. If the address has a .com suffix a reader must look for potential

commercial gain by the point of view offered on the site. If the site has a .gov suffix, the perspective may reflect that of the political party maintaining the site.

Aliya's teacher can read aloud the mission, objective, or purpose of several sites to demonstrate that some authors will reveal the goal of their site freely. Aliya will learn to determine whether the site content consists primarily of personal opinions (e.g., those on a blog) or whether the information appears to have references that are linked to academic or legitimate organizations.

On the Dog Island site, for example, there are no references made to any scientific information, and the writing is written in a chatty, tongue-in-cheek style that can be used to demonstrate to students that they should be wary of the credibility of this information. Teaching students to be investigators of their inquiry topics places the responsibility on the students to authenticate the information they encounter online.

Competency 4: Connecting Ideas Across Internet Texts

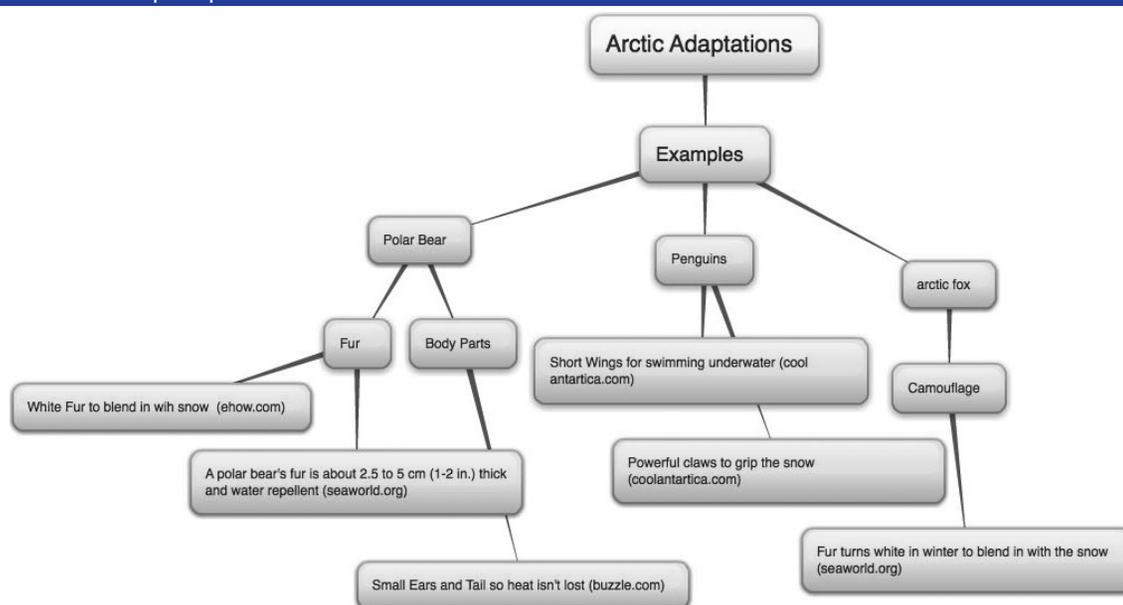
It is not sufficient for readers to solely find the information posted online—they need to connect and synthesize ideas across multiple Internet texts. The integration of knowledge and ideas illustrated within the CCSS calls for an analysis of two or more texts to build and present knowledge around similar topics (Partnership for Assessment of Readiness for College and Careers (PARCC), 2011). Classroom research has shown readers who received online strategy instruction, including synthesis instruction, performed better on comprehension tasks measuring synthesis between two sources of online text (Castek, 2008; Kingsley, 2011).

The act of synthesizing online requires readers to sort through information offered in a variety of media formats, such as text, graphics, audio, tags, bookmarks, and hyperlinks, and then find a relationship between the resources to create meaning and

communicate it. After students like Aliya locate information, they must then filter out what is irrelevant and, finally, combine ideas to form a new representation that accurately portrays the answer to a question or demonstrates understanding of a topic, a feasible *synthesis* of melded information communicated to a larger audience.

Organizing Information From Multiple Websites. Aliya's teacher will need to begin his instruction of this important competency by demonstrating how to select information from two or three texts and then put it into some sort of graphic format that shows how the information is related to the topic. Aliya's teacher can give the analogy of taking individual pieces of a jigsaw puzzle to create a larger, more meaningful picture. Students can be shown how to use a concept map to visually demonstrate relationships of content to main concepts, subtopics, and details in a hierarchical way (see Figure 6; bubbl.us).

Figure 6 Bubbl.us Concept Map



“Technology will allow her to view relationships among and within her information.”

A map created with a tool such as bubbl.us will result in an outline of the student’s text organization.

Aliya can observe as her teacher opens two windows on his computer containing information he has decided to use in his project. Next, he can use the highlighting tool, and as he verbally skims and scans the texts, he can select and copy important information that helps him answer the questions he generated in the earlier searching competency lessons. He will think aloud as he peruses not only the text, but as he considers the information in the graphics, tables, charts, and videos: talking about each bit of information and how it is related to other information, copying and pasting the information and website reference into a concept map as he finds it relevant to his line of inquiry, moving back and forth among the documents and the concept map as he builds an interconnected web of information.

Aliya and her classmates can then be given the chance to build their own concept map using bubbl.us, following her teacher’s model. Aliya’s teacher can scaffold the process of arranging information on the Internet into the concept map—information that can be later paraphrased. The Web address can also be noted with the paraphrased information so the correct citation is connected to the material—a good way to make sure citations are correct.

Using a mind-mapping tool can allow Aliya to transform her graphic view in bubble.us to an outline format, which may be especially helpful if her culminating project includes the writing of connected text (see Figure 7). Technology will allow her to view relationships among and within her information, and she can easily move back and forth between text-based and graphic representations of her information, deleting any information that does not appear to support her topic and subtopics.

Constructing a Synthesis Response.

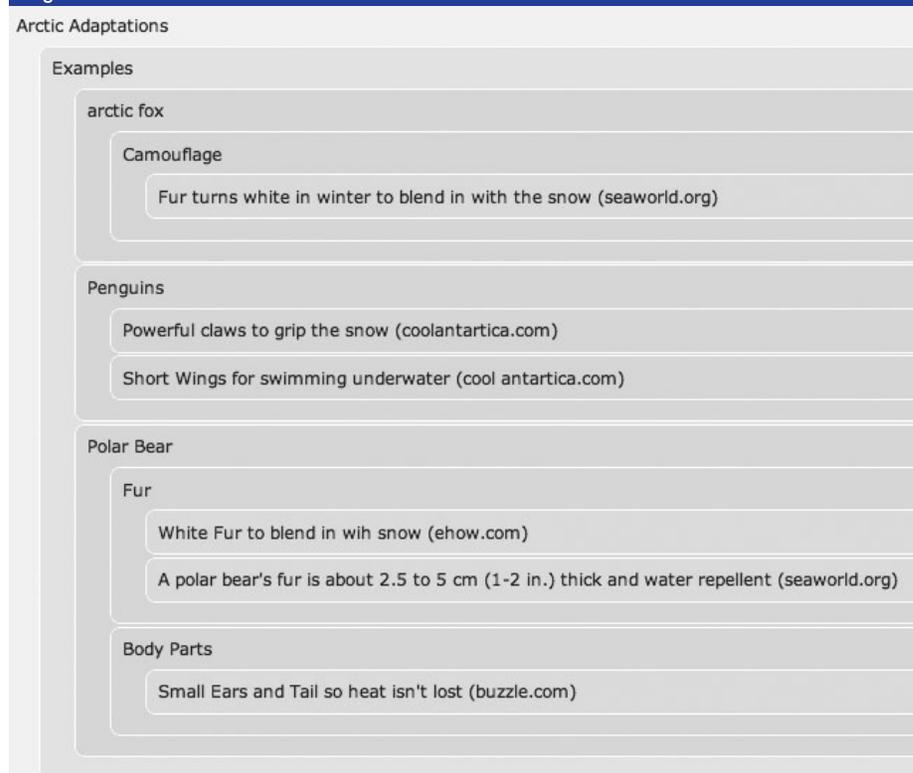
Once Aliya’s teacher has constructed a concept map of important notions and deleted superfluous material, he can then model how to take several pieces of related information from the map and construct meaningful thoughts around

that information. He can make explicit the thinking processes he uses to synthesize the associated text. After he has composed paraphrased text representing the entirety of the information he wants to include in his culminating project, Aliya’s teacher has several final steps to model for the class. He needs to revise his drafted sentences for meaning and adherence to standard writing conventions and connect them with transitions. This improved text comprises the culminating project—be it a blog post, slideshow, brochure, speech, digital story, or Web page—a quality artifact that shows the results of the Internet inquiry and communicates that information to an authentic audience.

Closing Thoughts

As the Internet is redefining literacy, incorporating online research and

Figure 7 Bubbl.us Outline



TAKE ACTION!

- Determine how you can reorganize and repurpose your technology resources to facilitate your teaching of the new literacy skills. Consider hardware, software, and human resources.
- Select a unit during which you will teach the competencies. Nonfiction themes within which students will be able to find engaging topics work best. Consider doing a topical theme, such as “Extreme Weather.” And, although all students can find a famous American they admire, consider themes that allow students to explore a topic that has cultural relevance for them.
- Search the Web for existing resources to teach the competencies, such as the 21st Century Fluency Project (fluency21.com).
- Design a culminating project for the unit that will allow students to use the competencies while at the same time demonstrating their performance of the CCSS. Consider culminating projects that require expository/informational and persuasive writing. One of the newer writing formats such as blogs, wikis, slideshows, iMovies, and Web pages will allow students to showcase their multiliteracy-creating abilities by integrating text, graphics, tables, figures, video, and audio into an authentic, informational artifact that can be published on the Internet and commented on by others.
- Plan your curriculum unit and determine where you will teach the skills within the unit, always focusing on the culminating project and aligning instruction with the CCSS.
- Prepare a standards-based rubric for evaluating the culminating project and the new literacy skills taught.

comprehension skills into existing curriculum instruction is necessary for today’s digital age. Traditional and online reading performances are not necessarily isomorphic, but rather require both similar and more sophisticated skills (Coiro & Dobler, 2007). Although new literacy instruction is not often present in classrooms (Stolle, 2008), students’ abilities to use new literacy skills will be included in high-stakes assessments, including performance-based components within PARCC assessment system in the near future. More importantly, teachers believe that digital literacy should be incorporated into every school’s curriculum and that students must be fluent in these skills to participate fully in society (Purcell et al., 2012).

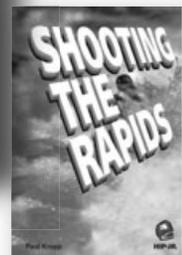
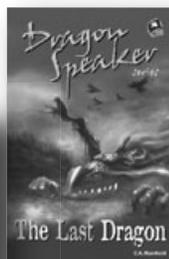
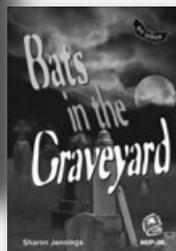
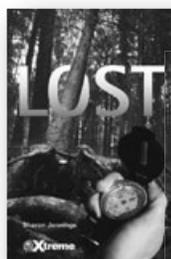
The key to successful instruction lies in embedding competencies within an authentic inquiry-based process. When students are searching for an answer to a question they have formulated about a topic, it allows for a meaningful investigation. They are motivated and have the stamina to seek many Internet resources for answers. When they know the parameters of the culminating project, they have a purpose for sorting through the information they find. When they have an authentic audience for their project, they are motivated to verify that the information they are presenting is accurate. Furthermore, through learning the new literacy skills, students will not only become better producers of information, they will also become more critical consumers of digital information and thus better citizens in today’s global community.

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