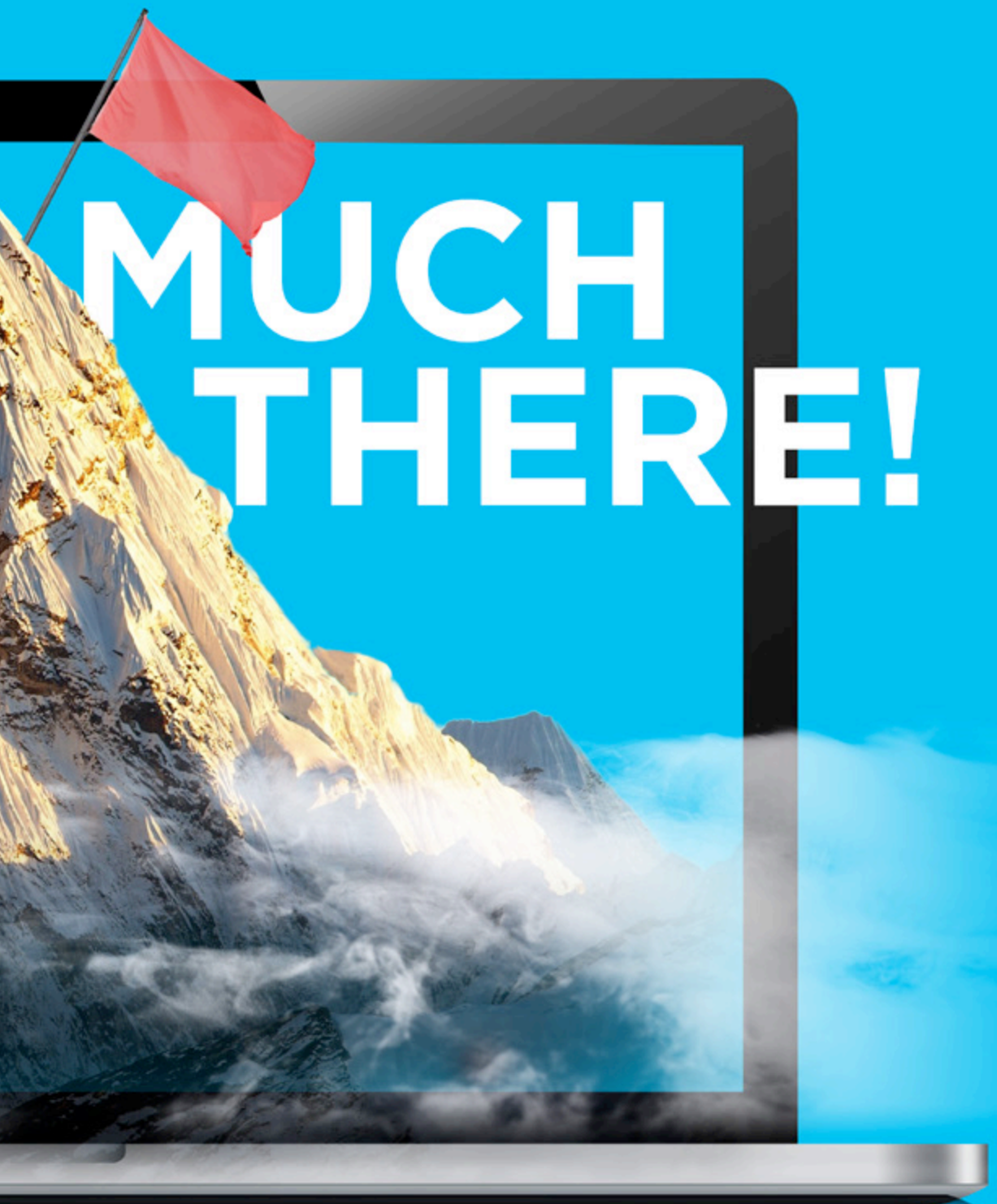
FEATURE

THERE'S SO

Helping Kids Conquer the



Internet & Save Democracy

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Luis was using his computer in the library to search for a current event. He needed to lead a Socratic Seminar in his English class, and wanted to make sure his topic was interesting and engaging. Landing on a U.S.-political-hoopla-piece-of-the-day, he read through it and muttered, "Yes, I think this looks interesting." I glanced over his shoulder. "I think that would be a great topic!" I said to him. He looked up at me and with cynicism almost visibly dripping from his mouth said, "Now I just have to find an unbiased site. Because the BBC is crap. Fake news."

The BBC is crap? Fake news?

Oh boy.

Friends, we have a problem here. We keep reminding our students to be skeptical of what they read so that they aren't accepting falsehoods as truth (Marchi 2008). But what happens when our students have become so skeptical that they don't trust real news sources? What happens when our students have become convinced that anything they read that disagrees with their own ideology should be distrusted? What happens when our students are so doubtful they can't actually collect any information?

Our Ever-Changing Role

Librarianship is a continuously metamorphic journey that follows the evolution of media literacy, and we've been wrestling with the Internet for a few decades.

But now our students are living in an Internet world where politicians scream, "Fake news!" at reports they don't like; foreign governments create actual fake news that bounces off the walls and gains momentum in our echo chambers; and journalism seamlessly blends the genres of reporting and commenting. If our students do not learn how to assess the information they access via the Internet for credibility, question an author's motive, or synthesize new knowledge from what they read, we are at risk of breeding ignorance in an uninformed populace. Today's political climate is an indictment of our nation's online research skills. We have several generations who simply did not grow up with the Internet and have never received training or guidance, and another generation whose education systems have all too often assumed that they are "digital natives" and already know how to do all of this evaluation and critical thinking.

We are experiencing the new librarian shift. We are no longer providers and curators of information; we are guides for the mountains of information our students must trek through. We are the oxygen masks for every news excursion.

Start with Search Terms

Seventy-four percent of first-year college students report that they struggle with keywords and searches, and once they complete searches, nearly half of these students are overwhelmed by the amount of irrelevant information (Head 2013, 3). In fact, "I can't find anything," is a frequent comment I hear when students embark on their research, whether they are using the open Web, a subscription database, or an online book. I always ask, "What are you using for a search term?" and have discovered that our students type in the words that come first to their minds with no follow up, and use only the first few articles presented to them. When no helpful information is found on the initial try, students get frustrated and stop in their tracks.

Searching requires a certain savviness in language, and students who lack high-level vocabulary words struggle the most. But even those with limited vocabularies can be successful in research if we give them the right tools.

- In conversation, provide students with search terms using your own prior knowledge. "When you're researching genocides, you should look up the Rohingya or the Armenians." or "If you are studying disasters in the NASA program, start with the terms, 'Space Shuttle Challenger' and 'Apollo 13.' " The goal is not to tell students what to do but to use our knowledge to guide them into building their own.
- Encourage the use of an online thesaurus.
- Model, using your own search terms, how different results come up when you change the search.
- Show students how reading Wikipedia can help them come up with search terms.
- Talk about selection of search terms regularly, so that students consider it as a normal part of the process that all learners have to grapple with. Ask them to reflect on what worked and what didn't work. Make searching a metacognitive process.

Dig Wide—And Then Deep

It's 2014. Michael Brown, an eighteen-year-old teenager from Ferguson, Missouri, has been shot and killed by a police officer, and racial tensions are high. On Facebook and Twitter, an image of a young black man, holding a gun to the camera and with a wad of cash in his mouth starts circulating. News

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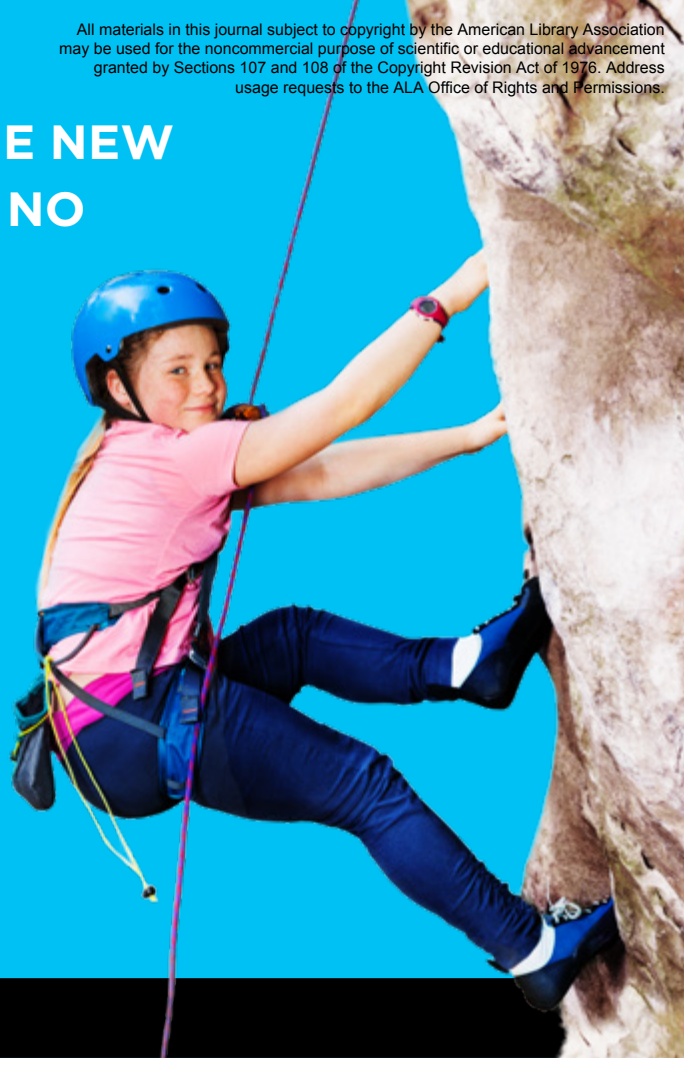

sources run the picture with titles like, "Ferguson's Michael Brown Pictured with a Gun—Flashing Gang Signs." Friends of mine repost the picture on social media with comments having heavily racist overtones, while accusing mainstream media of suppressing photo coverage. Somehow some believe the young man's death is justified because of this picture. These believers don't know or ignore this fact: the picture isn't of Michael Brown. It's of another young man, Joda Cain, from Oregon, who was arrested for murder.

It is important to understand that research requires vertical and lateral thinking. While vertical thinking is often emphasized in school because it helps create deeper learning that establishes patterns, lateral thinking helps students restructure these patterns and broadens their learning (Hernandez and Varkey 2008, 27). In research, relying solely on vertical thinking can be dangerous as it reinforces information, regardless of whether or not it is true. If we teach students how to research laterally—meaning we don't just dig deeper, we begin to move wider—we start using skills needed to validate information and challenge ideas. A vertical study could just help reinforce the falsehood of the Michael Brown claim, whereas a lateral study would turn up the discrepancies in information.

When students widen their searches and readings, they have a broader sense of the topic before they delve in deep to understand it thoroughly.

1) Have students read/view information and then ask How? Why? When?

2) Ask them to read/view another piece of information and then ask them if they get the same answers. Or if those answers are even there!

3) If a fact is claimed on the website, have students look to see if a source for the "fact" is cited and then go to that source. Has the fact been used in the correct original context?

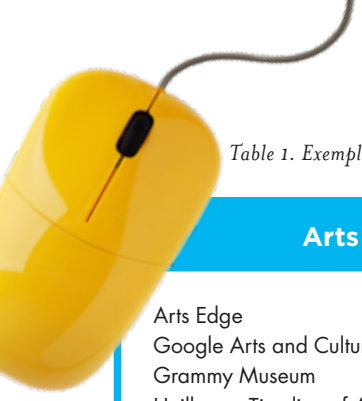

Table 1. Exemplars of high-quality research sites.

Arts	Health
Arts Edge Google Arts and Culture Grammy Museum Heilbrunn Timeline of Art History Louvre Metropolitan Museum of Art MOMA National Gallery of Art ProFotos *Rolling Stone* Magazine	Centers for Disease Control and Prevention Mayo Clinic National Alliance on Mental Illness National Institute of Mental Health National Institute on Drug Abuse National Institutes of Health National organizations like the Juvenile Diabetes Research Foundation *Psychology Today* World Health Organization
History	**Math**
American Panorama CIA World Factbook History Channel Library of Congress National Archives Smithsonian Museums Teachinghistory.org U.S. Holocaust Memorial Museum Zinn Education Project	Get the Math Math Apprentice Mathematical Association of America New York Stock Exchange Numberphile Pew Research Center TED-Ed Vi Hart WolframAlpha
Science	**Tech & Computers**
American Chemical Society CK–12 Foundation Discovery Channel NASA National Geographic NOVA Science Friday Scitable	Academic Earth HowStuffWorks MIT World *PC Magazine* *Popular Science* Magazine *Wired* WolframAlpha Wonderopolis
World Languages/Cultures	**News & Current Events**
BBC's Country Profiles CIA World Factbook International Monetary Fund Library of Congress's Global Gateway NationMaster *Time for Kids* Constitute Project U.S. Department of State	BBC *Guardian* Intercept *New York Times* PBS Quartz *Time* Magazine *Wall Street Journal* *Washington Post* *Christian Science Monitor*

4) If the information evokes a strong emotional reaction of anger or disbelief, have learners examine who the author is, what the website's mission is, and if the same information in its entirety can be found on multiple sites.

5) Even if information can be found on multiple sites, ask students to uncover a differing perspective and draw conclusions after reading both viewpoints. Where did the differences lie? And can those differences become another search?

Imagine that research as digging for treasure. If we keep digging deeper, we might find treasure, but we also might dig to the center of the earth and find nothing. We may need to dig lots of smaller holes before we discover the one that's worth digging deeper.

Be Transparent

Telling students to "research" or "assess resources" without modeling strategies is akin to telling students to speak French without ever hearing it or to play basketball without ever having watched a game. Such an instruction is called a "vague strategy statement" (Heath and Heath 2006); it is a strategy that banks on what we know how to do, not what our students actually know how to do. Too often, we think that students understand directions because in our minds these directions do make sense. But in fact, without explicit instruction, learners have to come to their own definitions of the terminology. When we offer abstract strategies to our students without modeling and teaching the tangible steps to meet those goals, learners adopt harmful practices.

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What this means is we need to routinely dump our thinking process out in front of students. Instead of telling students how to successfully dig around on the Web, we must show them what that process looks like. No orchestrated, preplanned routes are necessary. We can simply do live research in front of students, validating the confusing and messy process they will encounter.

1) Pull up a Google search on the overhead projector.

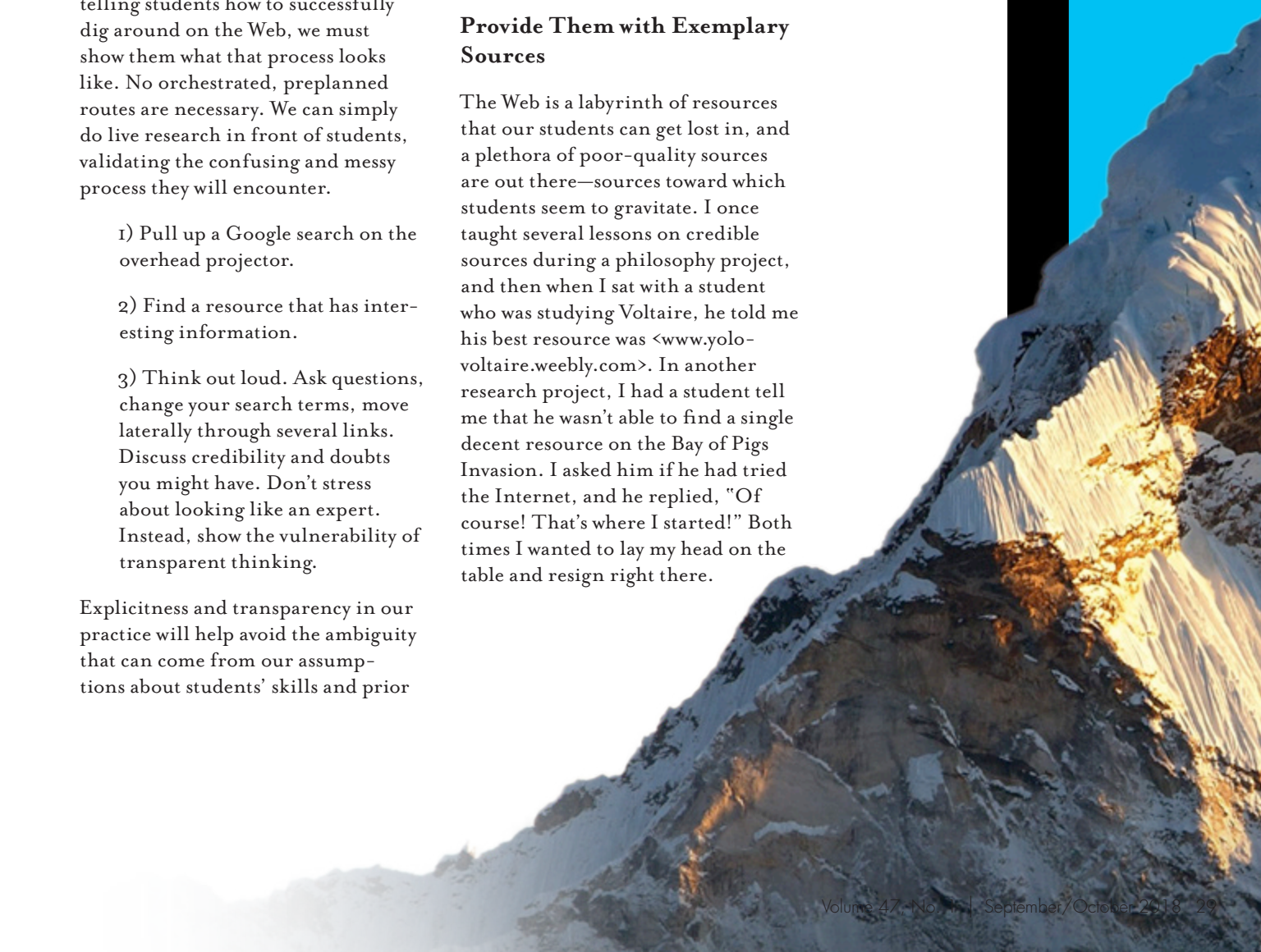
2) Find a resource that has interesting information.

3) Think out loud. Ask questions, change your search terms, move laterally through several links. Discuss credibility and doubts you might have. Don't stress about looking like an expert. Instead, show the vulnerability of transparent thinking.

Explicitness and transparency in our practice will help avoid the ambiguity that can come from our assumptions about students' skills and prior knowledge, and give students tangible ways to navigate the tricky course of online research.

Provide Them with Exemplary Sources

The Web is a labyrinth of resources that our students can get lost in, and a plethora of poor-quality sources are out there—sources toward which students seem to gravitate. I once taught several lessons on credible sources during a philosophy project, and then when I sat with a student who was studying Voltaire, he told me his best resource was <www.yolo-voltaire.weebly.com>. In another research project, I had a student tell me that he wasn't able to find a single decent resource on the Bay of Pigs Invasion. I asked him if he had tried the Internet, and he replied, "Of course! That's where I started!" Both times I wanted to lay my head on the table and resign right there.



Of course, both times it would have been easier to simply search for sites myself and deliver them to the students, but I also knew that doing so would not strengthen their skills. The challenge is always finding the balance between letting students seek out their own resources while not letting them get lost in a maze of poor choices.

Instead of worrying about providing them with specific articles to use, we can instead model what high-level academic research sites look like by providing them with exemplars and modeling use of these authoritative resources. With routine encouragement to delve into high-quality information, our students will begin to recognize which kinds of resources set the bar.

A chart like table 1 will help them maneuver their way through their labyrinths.

The Internet can be a curse and a blessing. It can be a rabbit hole of unforgiving falsehoods that systematically cement the worst of our notions, or it can be a gift of information and liberation. If we remove assumptions about digital nativism and guide our students through the literal web of information, we can help them succeed at conquering their worlds of knowledge.

Research will only ever be as good as the resources used. In a culture rife with rhetoric and disagreement, it is critical that we embed the lessons of seeking truthful and credible information into our daily practices. This is the skill that our students need to navigate messy political arenas, mixed media messages, and social media barrages. Every moment invested in teaching our students how to assess and dig into credible information is a moment invested in the future of a free press. Teaching students how to research using the Internet is no longer just a way to improve academics or to provide a life skill. It is an act of citizenship. It is essential to our democracy.

Angie Miller, *author of* It's a Matter of Fact: Teaching Students Research Skills in Today's Information-Packed World *(Routledge 2018), is a high school librarian in Meredith, New Hampshire. She is a frequent contributor to* Knowledge Quest *and* EdWeek *and has had her work published in a variety of education books and websites, including the* Washington Post's *Answer Sheet and Lindblad/National Geographic's Expeditions. The 2011 New Hampshire Teacher of the Year, Angie served on her state librarian board as the Advocacy and Government Relations Chair for three years, and in 2017 the New Hampshire Library Media Association selected her program as School Library Program of the Year. She is an active member of AASL, National Council of Teachers of English, and National Network of State Teachers of the Year. She can be reached via her website <www.angiemillerauthor.com> and on Twitter @angieinlibrary.*

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