

SUCCESSFUL STUDENTS, ENLIGHTENED CITIZENS: A CALL FOR DEVELOPING INFORMATION AND DIGITAL LITERACY IN FIRST-YEAR COURSES

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Abstract

Strategies for teaching college students to evaluate sources for research have evolved dramatically as information literacy has expanded alongside the ever-changing role of digital information. First-year college instructors are tasked with the responsibility of introducing best practices in college-level research but face mounting challenges as digital natives enter college. This article calls for all higher education instructors and others to recognize their individual and collective roles in equipping students with the tools they need to ensure that digital information literacy is established in the first year of college, scaffolded throughout all years of college, and embedded throughout students' lives. Additionally, this article presents first-year instructors with strategies for introducing critical thinking regarding source evaluation.

Keywords: Information literacy, Digital literacy, Lateral reading, Research writing, Source evaluation, First-year courses

Introduction

College instructors who have taught a first-year course requiring research in the last decade have seen the challenges our students face. The tasks of evaluating sources and developing a healthy perspective on digital information literacy have become problematic for students even though they are immersed in a world of instant information. Educators,

who know that this open access to information is both wonderful and daunting, must help students navigate the digital realm of information, equip them with the tools necessary to become enlightened citizens and students, and aid in their ability to dismiss misleading or false information often referred to as “fake news.” In this article, we will define information and digital literacy, discuss research on college student information literacy skills, and provide several steps to introducing lateral reading and equipping first-year students with information and digital literacy skills for the twenty-first century.

The Role of Information and Digital Literacy in Higher Education

The American Library Association (ALA) (“Information Literacy Competency,” 2018) defined information literacy (IL) in 1989 as an individual’s ability to “recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information” (Information Literacy Defined, para. 1). This simple definition rings true today, and students would likely echo that they need this ability to navigate and survive their academic coursework. Likewise, Lokse, Lag, Solberg, Andreassen, and Stenersen (2017) claim that IL is having the skill to find, evaluate, and use relevant, available, quality information for one’s own purposes, whether generating new knowledge or developing further understanding of existing knowledge. Although the details within the definitions of IL vary, a common theme emerges: Students should be able to productively navigate the world of information.

The simplicity of that statement, however, exposes a critical limitation. Absent is the concept of students’ awareness of their own role in conversations of scholarship, and in 2016, the Association of College & Research Libraries (ACRL) constructed the “Framework

for Information Literacy for Higher Education” (2016), which has helped reformulate the basic concepts associated with information literacy. The Framework includes a multifaceted perspective on literacy and introduces six threshold concepts: Authority Is Constructed and Contextual, Information Creation as a Process, Information Has Value, Research as Inquiry, Scholarship as Conversation, and Searching as Strategic Exploration. As noted by Fulkerson, Ariew, and Jacobson (2017), the ACRL filled a significant gap in the conversation about literacy by recognizing metaliteracy and metacognition, noting that students must understand their roles as “information creators” as well as “participants in research and scholarship” (p. 22). Thus, the concept of IL has evolved into more than just finding and using information; it asks students to become active, mindful participants in the creation and dissemination of information. Therefore, the concept of source usage has now expanded into a more nuanced conversation about what research actually is and the students’ roles and responsibilities in this process.

More problems surface for students as digital literacy becomes an obstacle in their research processes. As noted by Clark and Visser (2011), the FCC believes that digital literacy includes the information and communication technologies (ICT) skills utilized to acquire, appraise, and make use of information (p.38). This incorporates both technological skills and cognitive abilities as well as communicative measures—being capable of sharing ideas through digital media. Considering the definitions above, the twenty-first century learner’s role in becoming digitally information literate is not easy, even for those designated as digital natives. In fact, according to Sorgo, Bartol, Dolniar, and Podgornik (2017), digital natives with ICT experiences do not develop better information literacy

skills. Furthermore, ownership of smart devices and computers had no effect on IL, except that tablet ownership was a negative predictor of IL, and owning these devices had no effect other than confidence in web usage (p. 764). In other words, digital natives had a false perception of their ability to navigate digital information. All of these elements illustrate how the skills involved in IL are much more complex than just finding and using information; students must navigate an elusive and evolving situation that requires continual awareness.

The ALA (“Information Literacy Competency,” 2018) also recognizes the complication of information literacy in the digital age, noting the “rapid technological change” and “proliferating information resources” that affect students during the research process. Lokse et al. (2017) agree that fewer things change faster than digital environments. They note that a narrowed focus on technological skills will be unsuccessful in providing our students with digital IL skills for their futures; instead, educators must teach students about how to connect prior knowledge to new information, discover new solutions through information, and produce newly created information based on diverse sources. The true task of helping students become information literate demands a move beyond simplistic exercises. Lokse et al. (2017) provide the example of teaching students how to cite an article or book. This rote skill may seem acceptable to help students become information literate; however, teaching students how to have a researcher’s mindset is more challenging and important. In considering this, instructors must not only ask students to climb Bloom’s Taxonomy but also show them how to do so.

Beyond academics, digital information literacy is crucial in students' daily lives and future careers. The ALA ("Information Literacy Competency," 2018) concurs that information overload tests what students come to know in their careers and personal lives, expressing that without the effective IL skills, citizens will not be able to effectively sift through the abundance of unfiltered information. Clark and Visser (2011) also remark that IL is "a keystone for civic engagement...and economic growth and innovation" (p.39). Malita and Grosseck (2018) further this idea in their study on "fake news," in which they caution that most students are confused about how to connect digital media literacy in their daily lives to academics and beyond. They find students have trouble meshing digital "know-how" with academic procedures, which has a direct impact on their success in any occupation (pp. 344-345). This concept is also echoed in research conducted by Tony Wagner (2008) in *The Global Achievement Gap*. Through his study on what leaders look for in employees, Wagner reveals seven "Survival Skills" needed for success beyond the classroom, one of which is accessing and analyzing information. The leaders Wagner (2008) interviewed remarked that employees must be capable of processing large quantities of information, finding details that matter, and then applying those details to their work (p. 36). Much like the ALA ("Information Literacy Competency," 2018), Wagner (2008) stresses the challenge of information rapidly evolving and how the lack of IL skill can affect a student's ability to become an engaged citizen and lifelong learner. He notes, "[A]ccess to information is of little use—and may even be dangerous—if we don't know how to evaluate it. Thus the immediate availability of information places an even greater

premium on critical thinking skills” (p. 37). Educators, therefore, must scaffold student learning in IL skills and help them see their impact on lifelong goals.

Asking students to perform on a higher level of learning, though, can be difficult, especially in first-year courses where students are just beginning to navigate the world of academe. How can instructors lead students to develop digital information savvy when the sheer quantity of easily accessible information is overwhelming? How can we help students avoid the temptation of using the first piece of information offered by a search? Furthermore, how can we help students see themselves as a part of the academic conversation amongst scholars and researchers? Higher education has a responsibility to help students discover how digital information can be manipulative, how search engines process and present information, how digital media produce and share information, and how students’ role amongst it all is a crucial one. Most importantly, educators must convince students why all of these information literacy skills matter to their lives in and beyond the classroom.

It is essential to emphasize that the responsibility of IL belongs to all stakeholders in higher education. As noted by the ALA (“Information Literacy Competency,” 2018), information literacy is connected to every discipline and should be incorporated across the campus community from curricula to administration and beyond, which requires dedicated collaboration. An example of this cross-discipline collaboration is the Learning Information Literacy Across the Curriculum project, which was formed by a group of higher educational stakeholders across several institutions. The project aims to study students’ current IL skills, such as how they perform research in digital spaces, and proposes interventions to

help students improve and enhance these skills (Bohannon, Arnett, & Greer, 2017). This project is a positive initial step. If the mission of higher education genuinely is to develop lifelong learners and engaged citizens, educators in all disciplines must ensure that students can think critically, and information literacy is clearly an extension of this mindset.

What Our Students Are (and Are Not) Doing During the Research Process

In order to teach information literacy skills, we must consider what “digital native” students believe about source evaluation versus what the research shows about their IL ability. Much like the work of Sorgo et al. (2017), Lanning and Malleck (2017) reveal that students of all achievement levels graduate high school lacking sufficient IL skills, and that the need for formal IL intervention in college is critical. Furthermore, Gross and Latham (2011) studied the academic and personal information seeking habits of first-year college students and found that, regardless of IL skill proficiency, students perceived finding and using source information to be intuitive, not a skill that needs refining. These students believe the internet generation holds a greater advantage when gathering information, and their self-perception of being good with technology equated to an inflated sense of IL ability. In fact, below proficient students, who had higher perceptions of their IL abilities, noted that computers and Google do the work for them and that educators have nothing to teach them in this area; those with higher abilities also felt there was not much to learn beyond basic skills. Students were skeptical of their instructors’ warnings about the internet; in fact, students found it easy to comply with the simplistic mantra that sites like Wikipedia are “bad,” yet also expressed that they have not had poor experiences with

finding information from such sites in general. They prioritized finding information over the information quality, whether in their personal or academic lives. They believed that recognizing bad information was not only intuitive but also a personal choice. Gross and Latham (2011) warn that calling these students the “digitally literate” generation is a clear misnomer.

While Gross and Latham’s (2011) research reveals an over-confidence in the ability to find appropriate sources, Insua, Lantz, and Armstrong’s (2018) research reveals that almost half of students who wrote in research journals had feelings of being unprepared for college-level research and feared citing sources and plagiarism (p. 147). While many of the students worried about the ability to find sources, more pressing problems emerged for them after the search: incorporating the research, understanding scholarly works, having difficulty working with longer texts (e.g., books), and expressing anxiety about needing the “perfect” source for their topic (pp. 149-150). These students also repeated simple high school rules for working with sources such as avoiding Wikipedia, and Insua and colleagues (2018) note these mantras stick with students because they are easily remembered and digested (p. 152). Critical thinking is not needed when a teacher forbids using a source.

Of importance in changing student perceptions is early intervention and time to develop more complex IL skills. Bonnet, Herkova, and McAlexander’s (2018) research offers a hopeful perspective: in their study, students in all academic levels had statistically significant gains in IL scores (p. 505). Their findings specify that IL gains can be achieved through many means of instruction; while active learning is valuable, it is more important that IL instruction be thoughtfully aligned with learning outcomes and that it be integrated

through meaningful ways (p. 507). Insua and associates (2018) suggest approaching source value through more nuanced discussion such as having students contemplate popular and scholarly source differences and consider how each type contributes to the topic's conversation. They note that these activities can build upon preconceived high school ideas of do's and don'ts and ask students to ponder differing viewpoints and sources, some of which may be intimidating (p.152). Sorgo et al. (2017) emphasize that educators should develop courses that address IL with "hands-on and minds-on activities" (p. 764). Mackey and Jacobson (2004) take this a step further in expressing that educators must be aware of differentiating IL instruction to adapt to the needs of students at different times in their academic lives. According to their research, students grow frustrated when they are forced to repeatedly perform similar assignments that foster IL skills. Mackey and Jacobson (2004) note that as students progress in class and major, they need more focused IL skill work. This is especially important since Insua et al. (2018) note that students may believe that research is the same regardless of discipline (p.149). By scaffolding IL throughout each year of college and across disciplines, students will be able to gradually develop and eventually master their research skills and become more independent in their research processes.

Two groundbreaking, ongoing studies that are investigating how students conduct research are Project Information Literacy (PIL) and The Citation Project. Project Information Literacy (2018) began in 2006 as a way to study college students' research habits. Now an extended, continuing study as a public non-profit, PIL collects data from a variety of college campuses to examine student views of research. They seek answers to

questions such as how adults practice IL in the digital era regardless of skill, how they seek and use information from online resources, and how educators teach and transfer IL skills for lifelong learning (*Project Information Literacy, 2018*). Clearly, these questions are significant to higher education stakeholders who are tasked with helping students navigate the world of research. Since information is created and delivered so quickly, educators must preemptively build strong research habits. However, reminiscent of the example provided by Lokse et al. (2017), teaching critical thinking should be at the forefront of this battle. Any “do’s and don’ts” of today in the research process world may not exist tomorrow, and any “do’s and don’ts” that will endure, such as the basics of citing an article, are separate from the concepts of becoming truly digital information literate. Furthermore, educators must acknowledge that this ever-changing world of digital information literacy is new to them, too. In considering PIL’s main objectives, one can see that researchers are in the discovery phase of understanding how to teach digital information literacy.

PIL has also spawned more research on student views of information literacy. For example, in one such study, Head (2013) examined the research habits of students as they transitioned from high school into first-year college courses. The students in Head’s (2013) project note that college-level research is “exciting,” “overwhelming,” and intimidating considering the quantity of information, even when using academic library searches (p. 2). Students struggled with mapping out keywords for searches and, after finding sources, struggled with understanding and weaving together sources. While some students still relied on Google by the end of their first year, many also tried to adopt better research practices. First-year students expressed that librarians and English composition instructors

were the most helpful research guides (p. 3). However, one must note that a semester or two of English composition is not enough to ensure life-long information literacy skills. English composition instructors often lament they cannot do enough to challenge and change preconceived notions about research. Again, as the ALA (“Information Literacy Competency,” 2018) insists, all stakeholders must be a part of digital information literacy education.

Another current, prominent study of higher education students’ use of sources originates from Jamieson and Howard’s (2013) *The Citation Project*. During the initial study, Jamieson and Howard (2013) examined first-year student research papers from 16 higher education institutions to gain a better picture of students’ experiences with and perspectives of source usage. The findings revealed that students do not show mastery of skills associated with first-year courses that include writing and that they need specific instruction in navigating the research process. For example, they found that the overwhelming majority of citations (70%) stemmed from the first page or two of sources. Over half (52%) of the research papers included patchwriting, a form of plagiarism in which attempted paraphrasing only includes moving, deleting, or replacing a few words and phrases.

Furthermore, Jamieson (2017) explores what *The Citation Project* means for information literacy in her longitudinal research. Important findings of Jamieson’s study include how we teach students to view sources. For example, Jamieson finds that discussing and presenting research as “formulaic, demanding particular types of sources and ‘killer quotes,’ which can mostly be extracted from the first page of the source” will

lead to, as noted by Kleinfield (2011), research papers that are “information dumps” rather than academic conversations (Jamieson, 2017, p. 133). Jamieson found that students also overuse source type to decide authority (p.129). Even when students utilize the “right” types of sources, ones that fit desired rhetorical goals and needs, students are often unable to show how the sources speak to one another (p.133). When students do find appropriate sources, they often either cannot do it alone or are doing so mostly for compliance (p. 128). While the focus of her research is on English composition studies, one can argue that Jamieson’s (2017) findings reveal to all college and university educators what must be done to better students’ digital information literacy habits. She asks, amongst many other pertinent questions, “[I]f institutions recognize that IL cannot be ‘delivered’ in one library visit, assignment, or even semester, how can it be advanced programmatically or throughout a student’s education (and beyond to lifelong learning)?” (Jamieson, 2017, p.134). If higher education instructors recognize their individual roles in IL, there is hope in helping students grow information literate.

One approach in tackling IL that has emerged is the concept of lateral reading. In 2017, Wineburg and McGrew conducted a study comparing the digital source evaluation processes of three groups: fact checkers, historians, and college students. They found vastly different processes among these groups. When faced with discerning the reliability of digital information, college students showed the following habits. Students tended to read vertically, staying on a page and only reading up and down as one would a book. They might also “flutter,” hovering the mouse across the screen without actually clicking and without a clear plan. They often did not investigate the persons or organizations behind the

sources being evaluated (p. 28). Additionally, students tended to accept what was on the screen as fact if something could be located and verified without checking for political slant or trustworthiness (p. 32). Students often based evaluations on surface-level distinctions, such as the names of organizations, the layout and design, and the absence of advertisements. This led many of the students to believe that a fringe source was, in fact, more reliable (p. 18). Alternatively, fact checking experts read laterally. To do so, they might leave one website, opening other tabs in order to learn more about what drives a source. As Wineburg and McGrew (2017) note, with lateral reading one does not actually read; instead, the researchers ignored an abundance of irrelevant material to judge the reliability of the information. They showed clear knowledge of how sources are constructed, how internet searches work and are structured, and how one must have strategies when searching and navigating sources (p. 38). They had a deeper interaction with the texts at hand. These findings reveal it is vital to discuss with students the importance of moving beyond the current page to assess information.

Changing Students' Digital Research Practices and Habits in First-Year Courses: Examples and Strategies

For this report, the researchers examined student work from three semesters of first-year composition courses, which focus on developing research skills. In these classes, IL skills were purposefully scaffolded and fully integrated in learning progressions, as research suggests (Bonnet, Herkova, & McAlexander, 2018; Lowe, Stone, Booth, & Tagge, 2016). At the beginning of each semester, IL instruction began with classroom conversations about the difficulty of assessing online information. In the awareness phase,

students read Domonoske's (2016) NPR piece "Students Have Dismaying Inability to Tell Fake News from Real, Study Finds" as an introduction to the investigation of students' IL abilities. The article briefly discusses the results of a 2016 Stanford study, "Evaluating Information: The Cornerstone of Civic Online Reasoning," by Wineburg, McGrew, Breakstone, and Ortega. Domonoske's article reveals that in the Stanford experiment, students at all levels were easily fooled about such things as native ads as real news, fake pictures, verified versus fake accounts, activist group bias, and mainstream versus fringe sources (Domonoske, 2016). After reading, students discuss their own experiences with being duped by or sharing fake information and the impact that has had on their lives. Reflecting the findings of Gross and Latham (2011), students first expressed that bad information is just the nature of the online world, that fake news is normal without having much impact, and that consuming bad information is simply a personal choice. Because of these responses, students were led into conversations that challenged these preconceived notions.

In the next phase, in order to attempt to reject oversimplified high school rules, such as those discussed in Gross and Latham (2011) and Insua and associates (2018), students were asked to discuss former methods of source assessment. For example, many students believed they could assess a website simply based on its top-level domain (i.e., .edu, .org, .com, .gov). Once shown that many reliable news sources, for example, often have a .com attribution, the students were forced to confront the idea that a simplistic assessment is not accurate. The students continued creating lists of the do's and don'ts, and from the list they produced, it became more apparent to students that critical thinking was missing.

Thus, the next part of this process is discussing why such “rules” exist and how the list might limit the research process or hinder thinking, especially in certain contexts or disciplines. These first phases emphasize that educators cannot expect first-year college students to tear down their old framework for conducting research and build a new one instantly and alone. Students must be aware of the endurance needed to develop IL skills. Moreover, reading about and discussing digital information literacy is just the first step towards this foundational work. Students need to make distinctions between their daily interaction with information and researching for academic purposes. As students move into the research process, they must be coached into working with sources that best fit rhetorical situations. Instead of discussing sources as simply “good” or “bad,” students can begin to discuss which sources fit best with which rhetorical situation and why.

Even after discussing the ways people process digital information, deliberating former source assessment do’s and don’ts, and abandoning the idea that sources must either be “good” or “bad,” a gap still remains in students’ critical thinking during the research process. How exactly can lateral reading be taught? In doing so, it would be easy to leave the impression that students should throw away all former information evaluation processes that they have developed. Instead, one must walk *with* students through their critical thinking process in conducting research. As noted by Bonnet and colleagues (2018), various instructional methods can lead to gains including those that build upon prior knowledge and are adapted to learning and course outcomes to climb Bloom’s Taxonomy. One such first-year instructional strategy attempted in these classes was the Source Vetting

System (SVS) project. This project embodies Sorgo et al.'s (2017) notion of a "hands-on and minds-on" approach to source evaluation (p. 764).

The SVS project asks students to rethink how they read through sources to determine a source's value. Prior to the SVS project, students have already participated in the readings and discussions above. Additionally, students are asked to discuss the limitations of formulaic checklists, such as what one may find on a library's website, and the ideas of what one might do in the process of lateral reading. Students begin brainstorming in groups about how they need to navigate the world of online information. Through this process, students create systems that help them appraise a source without reading it "vertically," or beginning to end. Any method or system is considered viable if it includes concepts of lateral reading, and the groups present for the class how their proposed system works. Students in this study crafted systems such as flow charts, acronyms or mnemonic devices, metaphorical thinking graphics, or point systems. Occasionally, some groups produced components that are too simplistic for reading a source laterally, echoing simplified high school mantras; however, as suggested by Insua and colleagues (2018), activities should "build upon beliefs students bring from high school, while challenging them when necessary" (p.152), and in first-year courses, this means expecting that elements from various lists of do's and don'ts will surface. Educators can use these moments as learning opportunities by asking students revisit their method and to think critically about why they feel a concept should be part of source evaluation.

Additionally, students may discover any misleading or simplistic concepts through another critical step: testing their systems. Before the systems are used for annotated

bibliographies and research papers, students test their systems with potential sources; however, this must occur in a safe, low-stakes environment. In order to do this, students are asked to use their SVS project lateral reading guides to prescreen potential sources for a hypothetical research project. The instructor presents students with a research question; in this case, students were asked to research Finland's and the United States' education systems. Student groups were provided with five sources found via the web and library databases to evaluate. Sources found via the library search engine must be included, as research indicates that students often think sources found this way come "pre-vetted" (Gross & Latham, 2011). The following source types were provided: a news article, a peer-reviewed journal article, an educational historian's professional blog post, a YouTube video of a Harvard lecture, and a WordPress blog. By examining one source at a time together, the students are free to discuss in groups whether or not the sources would be not only reliable but also useful considering the project's rhetorical situation. This is where critical thinking blossoms. Classmates work together to scroll, click, talk, ask questions, argue, and discuss the sources at hand. Additionally, students have time to test and reevaluate their source vetting systems as problems arise. In the end, the whole class convenes to discuss the sources and defend how they would or would not be good choices for the rhetorical situation. Additionally, the class discusses why students might choose the less appropriate sources for a project and solutions for avoiding this decision. The visibility and transparency of this source evaluation project helps students to understand the time intensive demands of successfully evaluating sources; it is not an easy process but is a skill that can be developed with practice and effort.

Another positive aspect of the SVS project testing period is helping students determine how sources work together. As noted by Jamieson (2017), students need help seeing how sources “speak” to each other and recognizing that they, the students, are a part of the process of sharing and creating information. As students examine the sources provided for the testing, they begin to see the web of relationships between and across sources. For example, students recognized that several sources in the testing process of this study mentioned the same scholar in the field, Pasi Sahlberg. Additionally, the YouTube video presented was a Harvard lecture featuring Sahlberg. Once students looked up Sahlberg through evaluating the first source, they were able to see how his recent lecture might be relevant to the project without needing to view the whole video. Sahlberg’s work also led students to other texts, authors, and ideas. This allowed for a conversation about how sources are not individual pieces of information but rather are part of a much larger conversation.

As observed by Bonnet and associates (2018), IL learning should be implemented in meaningful ways; this means applying appropriate scaffolding that is not too heavy-handed nor a “one-shot approach,” as noted by Lowe and colleagues (2016, p. 132). For this project’s scaffolding, students continue to use the vetting systems to move from discussing sources in general to completing research roadmaps (annotated bibliographies) of their own. Students are also encouraged to fuse their own thoughts with voices in the field of research. They build T-charts that list “What I believe” about one aspect of their topic on one side of the chart, and on the other side, they list “What Others Believe” in order to see

how the sources “speak” to each other as well as how to insert their own voices into the conversation.

As a final, integral part of the IL scaffold, students keep a goal-oriented journal throughout the semester. These are personal and intentional journals, much like those studied in Insua and colleagues (2018), to record thoughts about research and the writing process. At the end of the semester, and indicative of mindfulness and metacognition in the ACRL’s “Framework for Information Literacy for Higher Education” (2016), students compose a reflective learning testimonial where they discuss the evolution of their ability to find and evaluate sources and compose research projects. This provides assessment of student IL progression since the students must demonstrate their learning through commentary as well as excerpts and examples of work produced over the semester. Students often focused on IL skills and concepts of determining source credibility:

Researching sounds easy, but I’ve learned that I’ve been researching important information the wrong way. Like most people, I would just type in what I want to know into the google search bar, and assume all the information I needed to know was on the first page; but that wasn’t the case. I learned that the first page of google isn’t always the sources to choose from...Some keys things I grasped from this semester when looking for a good source is I need to ask myself some key questions: How relevant and [credible] is the source, what’s the purpose, who is the intended audience.

I have never been the person to enjoy doing research type papers and it has always been hard for me being able to do legit research. I thought Google was the way to go or even Wikipedia (even though my teachers always told me not to use Wiki in high school), the reason being is that it was easy access to whatever you needed to research. This has been the case ever since my first ever research paper and it has been until I took English 1020.

Other students focused on the big picture of the research process and how it connects to other contexts and disciplines:

Looking back on this learning experience, the writing techniques that stood out to me in this course and strongly emphasized creating sound research were being an analytical reader and writer. Conducting a big research project compelled me to look further into the different ideas and angles people have about issues and how these ideas could be relevant to my research. The practice of source vetting was an extremely useful tool that I learned to utilize during the course of picking sources. What really highlighted the process of source vetting was the development of our very own source vetting system... It made me think about various questions to ask myself when it comes to finding a credible source. This process required me to become more investigative and patient with the research and really dig for good source material.

I have learned a great deal about how to search for and properly use credible sources thanks to our vetting system projects and course readings. I have even applied what I have learned to a Signature Assignment in my Tennessee History class, which earned me a high grade and praise from my instructor...With me being a sociology major and a women's gender studies minor, research is imperative for me to progress through both fields.

The concept of digital information literacy for this first-year course has been purposely integrated, as Wiggins and McTighe (2005) would advocate, into all angles of the course. However, the conversation cannot end here; students must progress during their years of college. Educators will need to help some students make these broad connections between the research process from one course to another, and furthermore, they will need expanded IL learning in specific majors and disciplines, which can be difficult to achieve in first-year courses (Bonnet et al., 2018, p. 506).

In the end, all stakeholders are responsible for intervening in students' IL skills development. A short library instructional visit is helpful, but IL must become more than a one session focus. IL must be woven *throughout* courses in *each* discipline. Educators in any discipline can discuss with students, for example, the reasoning behind why an assigned text is a seminal work. Any instructor can talk about his or her own research process and how reliable information is found and woven together. Most importantly, any

first-year instructor can and should provide space and time for students to safely discuss how to find and evaluate sources for the rhetorical situation at hand. Educators should let students know that the process is difficult and requires ongoing development of critical thinking skills; they should tell students they are not alone in feeling overwhelmed by the research process or the overload of digital information. When educators dismiss the false dichotomy of a “good source” and a “bad source,” they can ask students to think critically in each rhetorical situation. The task at hand is clearly complex, but giving students the tools they need at a first-year level is merely the start of what should be a properly scaffolded chain. Ultimately, by giving digital information literacy an intentional space in the first-year classroom—and beyond—we ensure that students grow into mindful, engaged citizens.

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