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JOINING THE CONVERSATION

Using a Scaffolded Three-Step Information Literacy Model to Teach Academic Research at a Community College

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Many college students lack the skills needed for academic research, and professors, more than ever, are increasingly concerned about their undergraduates’ “inability to conduct research adequately” (Kueppers, 2016). However, if students lack the skills professors expect them to have, when and where will they learn to “conduct research adequately” if not in their college classrooms? In other words, who is responsible for teaching information literacy and academic research, and how much instruction are students really receiving in these areas? Can information literacy be taught in substantive ways that equip students with the skills they need, while still allowing instructors to cover all of their course content? These are some of the questions that concerned us when we first began collaborating several years ago to develop a cross-disciplinary model for teaching information literacy (IL) and academic research. As faculty at a City University of New York (CUNY) community college—one of us a librarian and the other an English professor—we were both responsible for teaching information literacy and academic research to largely underprepared students, and were experiencing similar problems and frustrations. Our efforts to collaborate with each other had been minimal, however, mirroring a broader lack of cross-disciplinary conversation between faculty in these two disciplines. At a certain point, we acknowledged a need for greater collaboration, and began developing a model for co-teaching academic research, one that sought to make instruction in information literacy a more sustained and successful part of students’ learning.

This chapter discusses the scaffolded information literacy model we developed to teach general IL skills while also helping students learn to conduct discipline-specific research and enter scholarly conversations. Drawing upon five years of collaboration in which we have implemented this model in numerous sections of Professor Dennihy’s English 102 course (a dual first-year writing and Introduction to Literature course), we will explain how we use this model to teach research skills specific to the discipline and more generally applicable to courses across the disciplines. Particular attention will be given to how we use *flipping, reinforcements, and incentives* to enhance our model’s success. These concepts allow us to teach research in more substantive ways that help students move beyond approaches such as “Googling” or using a citation generator to become more discerning and discriminating in how they find and use sources. While faculty, especially those teaching subjects other than English or first-year writing, often explain that they don’t cover research skills because they can’t afford to take time away from course content, our experiences suggest not only that students can learn important research skills without “cutting” substantial time from content, but also that, when taught in substantive and effective ways, research and information literacy enhance, rather than detract or take time away from, students’ abilities to learn and respond to course material. We see this as a particularly valuable learning experience for community college students, who are often underprepared and may have anxieties about academic research: by researching and joining a scholarly conversation, students think more critically and substantively about what they are studying, and become equipped to contribute in more informed ways to academic discussions.
The ability to do college-level research is dependent upon the more basic abilities to read and write about varied texts. A student needs to understand what she or he is reading in order to effectively conduct research: Is this source scholarly? Is it appropriate for my research? What is the author’s thesis? Students also need to understand how to locate authoritative sources and then synthesize and write about these findings coherently. At Queensborough Community College (QCC), however, many students are underprepared not only with regard to research skills, but also more basic reading and writing skills: in the 2014–2015 academic year, 27.4% of incoming QCC students needed remedial writing instruction, while 23.1% required remedial reading instruction (QCC FactBook, 2014–2015). Additionally, a recent study of research habits among QCC students found that while a majority—68%—had written a college research paper, 60% had never taken an information literacy class (Kim & Dolan, 2015). This suggests that students are being asked to do college-level research without acquiring the requisite information literacy skills needed to successfully conduct research. Understandably, this can cause students to view the physical library and the prospect of research assignments with fear and anxiety (Mellon, 1986). Project Information Literacy’s 2013 study of college freshmen, which included 10 community colleges, found that, indeed, a majority of students find college libraries daunting (Head, 2013). They also recognize that their often inadequate high school research skills need updating to accommodate college-level rigor. But without further instruction in research skills, students tend to default to what they already know, which often does not go beyond using search engines like Google or sites like Wikipedia to conduct research.

Thus, while professors expect students to utilize credible, authoritative information, many students approach research assignments with both a lack of skills and anxieties about library research. It should be unsurprising, then, that anecdotal conversations with our QCC colleagues indicate that many are unhappy with the quality of their students’ research papers. Yet, even as professors are aware of and frustrated by students’ lacking IL skills, many explain that because they have so much course content to cover, they cannot afford to cover research skills in much depth. A popular approach to addressing this dilemma is the “stand-alone” or “one-shot” information literacy session, in which instructors bring their students to the library to spend one class with a librarian, attempting to absorb as much information about research as it is possible to introduce in less than two hours. Students who attend a one-shot session do learn some research skills, and it is better for instructors assigning research assignments to schedule a one-shot class than to provide students with no instruction in information literacy at all. However, since much of the information and skills covered in a one-shot class is new to students—and often not reinforced by their instructors beyond this single session—students tend to forget much of what they learn. Many students find their way to the library reference desk at some point after the one-shot class, needing assistance with an IL component covered during the session such as
evaluating sources or locating a specific database. The single-session library class, therefore, is ideal for introducing IL concepts, but is not structured to reinforce student learning.

We began our collaboration after several years of one-shot sessions in which Professor Dennihy brought English 102 students to the library once a semester for a class with Professor Mohess. Though students expressed that these one-shot sessions were helpful, many students’ assignments were still inadequately researched, and their citation skills were subpar. We wanted to develop a model that would make it possible to extend and deepen IL instruction in a way that did not detract from course content or prove onerous to students. Since English 102 is both an Introduction to Literature course and a first-year writing course with a research component, there is a lot of content to cover, much of which is unfamiliar and intimidating to students. Instead of treating literary study and academic research as two separate hurdles to conquer throughout the course, we designed a scaffolded research model that allows students to learn about both in a complementary fashion.

The assignment we use is fairly straightforward: students write a literary research paper using two secondary sources, at least one of which must be a scholarly work of literary criticism, to support their analysis of a novel. Throughout the steps of the assignment, students learn a variety of research-related skills that also further their abilities to engage in literary study. These skills are comparable to the content covered in a typical one-shot session (differentiating various types of sources; learning about search mechanics and library databases; discussing citing and plagiarism; etc.). What is different is the manner in which IL instruction is deployed. Rather than trying to cram everything into a one-shot class, we “flip” and space the learning process by scaffolding instruction and having students complete some tasks on their own outside of the classroom. We then reinforce and add on to this learning during the library session, and give graded incentives to complete the work. Our flipped, scaffolded approach draws on educational research on student learning, namely the benefits of spacing, accumulated practice, and testing. Spacing refers to how “the same thing recurring on different days, in different contexts, read, recited, referred to again and again, related to other things and reviewed, gets well-wrought into mental structure” (Carey, 2014, p. 79). Accumulated practice addresses students’ need for a sufficient quantity of practice in order for learning benefits to accrue (Ambrose, Bridges, DePietro, & Lovett, 2010, p. 133). Testing, in certain forms and contexts, can be equivalent to additional study and can reinforce and improve learning (Carey, 2014, p. 101). Embedding these research-based practices into a scaffolded model enables students to encounter the same IL concepts multiple times in different contexts; offers ample opportunities for practice at home and in class; and provides structured reinforcement of student learning beyond a single library session.

**SCAFFOLDING INSTRUCTION IN ACADEMIC RESEARCH: A THREE-STEP MODEL**

When working with students who are less familiar with academic research, scaffolding and flipping are particularly useful ways to allow for spacing and accumulated practice. If students are not given adequate time to learn
and practice research skills, they are more likely to look for quick fixes when writing research papers, including Googling or even plagiarizing. Research assignments can cause underprepared students to experience “trepidation, anxiety, and confusion,” accompanied by an “intense need to ‘fix’ this problematic assignment as quickly and easily as possible . . . [m]any students are doomed to failure under this scenario” (Leckie, 1996, p. 201). Instead, a scaffolded model, one that “flips” some responsibilities onto students prior to and after their library session, more effectively sets students up for success.

Our scaffolded model includes a series of cumulative tasks, some of which are flipped, requiring students to access IL content (video tutorials, research worksheets, and an MLA citation guide) from the course’s online library subject guide or Blackboard site in order to complete at-home assignments and review material covered in class. While students have approximately five weeks in total to complete their research essays, most of the scaffolded instruction takes place within the first week after students receive the assignment. The steps of our model, which we will elaborate on in more depth below, are as follows:

**Step 1: Pre–Library Class**
- During the class prior to the library session, Professor Dennihy gives an introduction to the research process and QCC library databases.
- Students are assigned video tutorials to view for homework, with accompanying deliverables to be brought to the library session.

**Step 2: The Library Class**
- Students attend an IL session with Professor Mohess in the physical library, which includes (1) reinforcing of previously covered material; (2) introduction of more advanced research skills and strategies; (3) time for hands-on practice in IL skills and conducting research.

**Step 3: Post–Library Class**
*Students:*
- are assigned several short video tutorials to watch at home, which reinforce some of the more complex material introduced during the library session
- take an open-book quiz on research skills and concepts
- continue with independent research outside of class, directly applying the skills they have learned and practiced to a course assignment
- can request one-on-one meetings with Professor Mohess to receive further individualized instruction in conducting research and citing sources

It is important to emphasize that all of these steps in total require less than two full sessions of the course instructor’s class time, and allow students much more intensive instruction in academic research than a typical one-shot session.

**Step 1: Pre–Library Class**
The in-class introduction to research begins with a video tutorial entitled “Picking Your Topic Is Research” (Burke, 2013), which is only three minutes long, offering a quick introduction to the research process. The tutorial emphasizes the iterative nature of research, helping students to understand that the research process typically involves several cycles of selecting and refining a topic. As Leckie (1996) notes, college students often
see the “ambiguity and non-linearity” of the research process as “quite threatening”: “they do not think in terms of an information-seeking strategy, but rather in terms of a coping strategy” (p. 202). It’s important to introduce students to the nonlinear nature of research and to assure them that ambiguity and nonlinearity are both natural and desirable. This can be done easily through a digestible video students can easily watch again later should they wish to. Students are also introduced at this time to library databases appropriate for literary criticism, though they are not instructed in how to develop search terms or find appropriate sources using these databases. Watching the video and introducing library databases requires, in total, only about 20 minutes of class time.

Flipping some of what would be covered in the classroom during a one-shot session, the next task requires students to complete at-home work prior to their library session. Students are assigned to select an appropriate library database and find one source related to their paper topic, bearing in mind that the research process may require adjusting or refining one’s topic, and browsing through multiple sources to find a suitable one. Students are given some concrete strategies for searching databases by being assigned to watch a tutorial on “Library Database Search Tips” (QCC Library, 2013) before beginning their search. Assigning students to watch this tutorial and practice conducting a database search for homework frees time in both the previous class session and the upcoming library session. While watching the tutorial is important for students to learn database search strategies, the tasks of conducting a search and finding an appropriate source take this lesson several steps further, asking students to put the strategies they’ve learned immediately into practice. Having a deliverable—requiring that students not only locate but also bring a printed copy of a source to class—is also important: if asked only to watch a video and then do a search, students may not follow through with the tasks; but assigning students to bring printed sources to class in order to receive participation credit for that session provides a concrete incentive to complete these tasks. These low-stakes tasks also scaffold the learning process, ensuring students start their research early and conduct it in manageable steps, rather than becoming overwhelmed by last-minute efforts to research and write a paper days or hours before a deadline. Student writers, especially underprepared writers, benefit when instructors provide starting points and offer approachable steps for breaking down challenging assignments, and the scaffolding and flipping models effectively allow for this.

Step 2: The Library Class

Since students have already been introduced to the iterative nature of the research process, subject-specific databases, and how databases work, the library session both reinforces this material and further advances students’ research skills. Students know they will be quizzed on the content covered during the library class, and, as a result, are also more attentive and engaged than students in a traditional “one-shot” class. Many students take notes and actively participate throughout the session. When certain IL concepts need only be reviewed, rather than introduced, this also leaves more time during the session for deeper, more substantive discussions about research. Students move on to more advanced skills, such as learning what makes a source scholarly or nonscholarly, a distinction our
students initially have a hard time understanding. Students are often surprised to learn, for example, that a college textbook or *New York Times* article are not scholarly sources. Upon learning this, students will often ask if these sources are therefore not authoritative or appropriate for college research, which launches a discussion about what might make a source—scholarly or nonscholarly—reliable and relevant. During these conversations, some students even learn for the first time that their professors conduct research—in other words, they learn the qualifications that make someone an expert on a topic, which helps students understand how and why some sources can be more authoritative than others. When professors are concerned about the time it takes to teach research, they may not want to bother delving into distinctions between scholarly and nonscholarly sources; but a flipped model that covers some material outside of class allows for more advanced discussions of this nature.

Another topic that can be more substantively covered during our library session—one that confuses even those students more adept in library research—is how to determine if a source, whether scholarly or not, is relevant to one’s paper topic and suitable for the assignment. Addressing these questions helps students become more discerning in how they assess sources and incorporate them into their writing: not only do they learn they can’t rely on Google for academic research, but they also learn that just because a source is scholarly or available through a library database does not mean it is appropriate for the discipline, assignment, or argument. For example, when students in Professor Denni-hy’s course write literary research papers on the Vietnam War novel *The Things They Carried*, many students will initially struggle to understand why certain sources—such as a study of PTSD symptoms among Iraq War veterans—may not be directly relevant to an analysis of postwar trauma as experienced by fictional characters in the novel. These students are assuming that any scholarly source is a good one, and they need more substantive instruction to understand the different types of scholarship produced within different disciplines. Distinctions that are obvious to academics, such as the difference between a psychological study and a work of literary criticism, can be quite confusing to students who are new to academic research. When students are taught this information, they quickly understand it and are able to make better choices when selecting sources—but instructors cannot expect students to learn this on their own.

Similarly, students can benefit greatly from some instruction in formulating keywords, recognizing related search terms, and narrowing search results, another set of topics our model can cover in more depth than a one-shot session. For example, a student researching the theme of sexuality in Nella Larsen’s novella *Passing* might, without the requisite IL skills, conduct a database search using only the word “passing” as a search term. This will yield an overwhelmingly large number of results, many of which will not be relevant to the student’s paper. Students need to be taught, through a more substantive discussion of academic research, how to develop and recognize keywords that more specifically address their own paper topic. As Leckie (1996) notes, students often do not know how to find and narrow down sources related to their topic, and may even reject sources well suited to their research because “the words in the title did not [exactly] match the words they were using to describe
their topic” (p. 204). While professors may think students know enough about searching the Web to effectively formulate search terms and narrow down results, these are actually challenging intellectual tasks that require students to understand the different ways their topic might be described and discussed. Students “have to be able to articulate the[ir] topic, preferably with some alternative words[,] an act which even graduate students have difficulty performing” (p. 205). To help students understand the importance of effective search terms, we often begin with a “real world” example, such as noting the differences in search results when Googling “how do I get money for school” versus “CUNY scholarships.” Starting with a more relatable example helps students transition into thinking about how to develop effective search terms for their research. At the same time, students are also learning how IL skills can be applied not only to the research paper genre, but to everyday challenges they face outside academic contexts.

After substantive discussions about locating, assessing, and using sources, both scholarly and nonscholarly, the library session ends with approximately 30 minutes of hands-on time. This more individualized portion of the class, which we did not have as much time for during one-shot sessions, provides a much-needed opportunity for students to practice and receive further instruction in the skills most challenging for them: some students use this time to brainstorm or refine search terms; others read and evaluate potential sources; and still others practice writing citations or Works Cited pages. This gives students a chance to apply what they have learned and get help from both Professors Mohess and Dennihy with challenges specific to their own paper topics. Students are also invited to contact the librarian for further one-on-one help with research and citations.

All of these students are accumulating practice in aspects of research that may be new or challenging for them. In How Learning Works (2014), Carey discusses “time-on-task”: “even if students have engaged in high-quality practice, they still need a sufficient quantity of practice for the benefits to accumulate.” Practice should ideally be “focused on a specific goal or set of goals,” which students tackle at “an appropriate level of challenge” (p. 136). Quantity of practice and appropriate levels of challenge are inherent within our model: students get an easy “warm-up” by watching video tutorials and locating an article in a literary database before the library session. This enables them to arrive at the session with some prior knowledge. During the library session, they further refine and build upon what they have learned about database mechanics, keyword searching, and refining a topic; then, they practice these skills during the hands-on time in a more sophisticated and independent way that allows each student to spend time on a task and work at a level appropriate to his or her needs.

**Step 3: Post–Library Class**

After the library session, students are assigned several more short tutorials to watch at home, which reinforce topics covered during the session and further prepare students for the short-answer quiz they will take in the following class. Students can use their notes to complete this “open-book” quiz, which gives them incentives to actively take notes during the library session and while completing the “flipped” work. Completing the quiz itself, which includes questions on citing as well as more complex questions on how to find,
evaluate, and incorporate sources, serves as yet another way to reinforce the concepts students have been learning and practicing throughout this process. As Carey (2014) argues, certain forms of testing can be viewed more accurately as “equivalent to additional study. Answering does not only measure what you remember, it increases overall retention.” Carey also notes that “some kinds of tests [can] improve later learning—even if we do poorly on them” (p. 101). To ensure that even students who may do poorly on this quiz have an opportunity to learn from it, we review the answers in class immediately after students take the quiz, and students are expected to fill in or correct answers to questions they had trouble answering before handing their quizzes in (taking the quiz and reviewing answers requires, in total, about 40 minutes of class time). The opportunity to assess and revise their answers before handing their quizzes in to be graded reinforces the material yet another time, and also makes students more cognizant of which IL skills they may need continued practice in. Writing out answers to the questions also gives students an additional set of notes they can later reference as they continue their research on their own. All of this makes students better equipped to move forward with the assignment: sustained, continually reinforced coverage of IL concepts more readily allows students to retain and employ what they have learned than would be likely in a one-shot session.

At this point, students are equipped not only with a stronger set of research skills, but in many cases, an increased sense of confidence, as they are better prepared to conduct research and write their papers. We have also noticed that, although the quiz marks the end of in-class instruction in information literacy, many students make an active effort to continue developing their IL skills on their own time. Some students make appointments to work on their research papers one-on-one with Professor Mohess, indicating how this model can facilitate greater student interaction with library faculty. That students know when and why they may want feedback or guidance from someone other than their professor suggests that this model also encourages students to more actively use campus resources—which can extend not only to the library, but other resources like the Writing Center. Leckie (1996) notes that even when mention of librarians and library resources are embedded into an assignment, students may not share their professors’ sentiments that “librarians are there if you need them”: they may be hesitant, skeptical, or nervous about asking librarians for help (p. 205). By co-teaching research with a librarian, however, professors help students to become familiar with library faculty and to better understand when and how librarians may be able to help them with aspects of their coursework. As Leckie argues, models for teaching information literacy should strive for “meaningful participation of librarians in the educational experience of students,” and this seems to be one notable outcome of our model (p. 201). Another outcome is that many students seem to have a changed relationship to the library itself. After working in the library and with a librarian, the library is no longer perceived as an intimidating space where students feel uncertain of what to do, where to work, or whom to ask for help. Instead, the library becomes akin to a second classroom or study space: students know where it is; what resources it has; where to find books, computers, and quiet study spaces; and how to ask librarians for help with various aspects of research assignments.
IS IT WORTH IT?: THE ADVANTAGES OF ADOPTING A SCAFFOLDED IL MODEL

Our experiences using this model in multiple courses over several years suggest that, when given more sustained, substantive opportunities to learn and practice information literacy skills, even underprepared students can and do successfully tackle research assignments. Incorporating flipped components, incentives, and reinforcements into a scaffolded model helps students reach significantly higher levels of sophistication in how they conduct and produce research. Using our model, students are not just learning how to write citations or format a bibliography in ways that are disconnected from the topics they are studying and writing about. Instead, they use IL skills and resources to enhance their knowledge of specific topics and improve the quality of their written work. As such, teaching IL adds to or enhances, rather than detracting time from, students’ engagement with and understanding of course content. Students learn new, more substantive and sophisticated approaches to both academic research and literary study, and both their research and literary analysis skills improve. For example, students learn how incorporating literary criticism into an analysis of a novel can strengthen the writer’s argument, allowing him or her to consider multiple perspectives and acknowledge other textual interpretations. Developing the ability to effectively use scholarly sources also gives students increased confidence and capability to continue with scholarly research in future courses across the disciplines: they now know not just how, but why, to move beyond Googling in order to use library resources and more advanced research strategies. Indeed, we have observed fewer cases of both plagiarism and research anxiety once students have had a chance to learn substantive—not just superficial—research skills. Rather than feeling intimidated by the library and its resources, or resorting to Googling or plagiarism out of a desperate need for a quick fix, students know how to find, evaluate, and effectively use scholarly sources in their writing. Underprepared students also gain confidence in their ability to enter scholarly conversations: once they know how to find and use authoritative sources, students feel increasingly “authorized” to make scholarly arguments themselves and join academic discussions.

The model we use is easily adaptable across the disciplines. Professors can play a valuable role in enhancing students’ research skills (and reducing research anxieties) by introducing them to library materials and personnel through an IL session; and by scaffolding and deepening the learning of IL concepts through flipping and reinforcing elements of IL instruction. Flipping some of this instruction effectively scaffolds new learning concepts without detracting significant time from course content or adding a burdensome workload for students (Roselle, 2009). Even a little can go a long way—our experiences echo Leckie’s (1996) assertion that “even with minimal effort, faculty intervention can make an incredible amount of difference to the outcome of the research paper process” (p. 206). Since implementing our model, the quality of research papers submitted by Professor Dennihy’s students—including reliability of sources; suitability of sources for the discipline and assignment; and how effectively sources are used to support an argument—has improved notably. When students approach research in scaffolded, manageable
steps; are guided throughout the process by
two faculty members from different disci-
plines; and have multiple opportunities to
practice research skills in the classroom, in
the library, and on their own, they are much
better equipped for continuing this work
independently and successfully in both cur-
rent and future courses. The opportunity to
learn and conduct research also helps students
enter academic conversations, as they gain the
confidence to research, read, and respond to
scholarly debates.

NOTE

1. Our model uses a number of video tutorials,
a format we find beneficial because students
can watch—and rewatch—tutorials on their
own time. Some of our tutorials were created
by Professor Mohess, and some were devel-
oped by other university libraries, many of
which conveniently post tutorials directly to
YouTube.

REFERENCES


