

Teaching Assistants' Research Assignments and Information Literacy

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abstract: This exploratory case study discusses how information literacy elements are presented in first-year composition assignments developed by teaching assistants. The study used content analysis of the instructions accompanying research assignments to understand research projects and their information literacy elements. The analysis found the library largely missing from discussion about research in the directions. Language about how to do research was vague or inconsistent, and guidelines offered flexibility where novice researchers might benefit from more structure. However, the assignments excelled at scaffolding learning. This study will help librarians collaborate with instructors and writing program administrators to ensure appropriate incorporation of information literacy into assignments while also offering ideas for tailoring library instruction.

Introduction

Information literacy instruction and writing instruction for undergraduates have long been tied together, and previous research has highlighted collaborations between librarians and English faculty that integrate information literacy (IL) into course assignments.¹ However, little or no library literature has focused on teaching assistants (TAs), who often teach first-year composition and have control over coursework. This study explores the range of assignments TAs use and how they incorporate information literacy. The study's authors collected composition assignment instructions from TAs and coded them for IL elements. Four themes emerged with implications for practice for both librarians and writing instructors. Chief among them were recommendations for centering libraries as sources of research help and contextualizing guidance for finding and evaluating sources. Findings from this study may aid librarians in developing a train-the-trainer model to incorporate information literacy into the first-year composition curriculum.

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Background

First-Year Composition at the University of New Mexico

The University of New Mexico (UNM) in Albuquerque is the state's flagship university. It is a Hispanic-serving, R1 institution—that is, one with the highest level of research activity. In 2019, about 22,800 students enrolled at the main campus, 15,700 as full-time students.² As part of UNM's general education requirements, most undergraduate students take English 1120 Composition II, which is taught each semester primarily by teaching assistants (TAs) from the English Department. Many TAs teach up to two classes per semester in addition to carrying a full course load as students themselves. As of spring 2020, the English Department website listed over 60 TAs. The course ENGL 530: Teaching Composition is the required practicum for all new TAs. It focuses on first-year composition (FYC) theory and pedagogy, and is designed to create a community of practice among the new TAs as well as draw upon veteran TAs as mentors. This training provides support and some level of pedagogical continuity to graduate students, many of whom are new instructors. TAs are not taught how to teach research or information literacy directly. Rather, most rely on guidance from librarians, their own varied experiences of performing research, and a chapter on research from the standard ENGL 1120 textbook.

ENGL 1120 student learning outcomes emphasize research skills, and typically this class has integrated library instruction to support student research. By the end of the course, students should effectively use secondary sources to create and support an argument and understand how research practices vary according to discipline.³ At the time of this study, all ENGL 1120 courses had three units, each consisting of two small writing assignments that led up to a major writing assignment, for a total of six small assignments and three major ones. The class culminates with one final portfolio. Within this structure, TAs can focus their class in whatever direction they wish, creating their own assignments and tailoring their syllabi. As a result, TAs meet the student learning outcomes in a variety of ways.

Research Clinics at UNM

The Learning Services department (a team of four librarians) is responsible for the majority of FYC library instruction at UNM. To address the challenges of a large ENGL 1120 teaching load, Learning Services piloted a program in fall 2017 that combined online tutorials, hands-on work, and librarian assistance by means of research clinics.⁴ This program focused on the mechanics of using the library's Web resources and introduced a core concept of information literacy: understanding how and why information is organized into formats, for example, scholarly articles, news articles, or receipts. Research clinics are 75-minute sessions where students actively work on whatever research project they bring with them, and each student meets one-on-one with a librarian to talk about the work. All students get targeted help at their point of need.

Research clinics began in the 2017–2018 school year, and as the Learning Services team assessed the results of the program, questions arose about how to most effectively design instruction to meet students' needs. Learning Services had established expecta-



tions about ENGL 1120 research projects from years of working with these classes in one-shot library instruction sessions. Once research clinics were implemented, however, Learning Services saw a greater variety of assignments, and more importantly, sticking points in some. Questions emerged about assisting a group that often was an afterthought for Learning Services—the TAs teaching ENGL 1120—and analyzing the holistic picture of information literacy in their class assignments.

Objectives and Research Questions

To better support both TAs and ENGL 1120 students, the Learning Services team sought to understand the details of the research projects assigned. In this paper, *research assignment* refers only to the assignments TAs create—not to any student work. To understand the variety of ENGL 1120 research projects TAs assign and to describe the IL elements in ENGL 1120 research guidelines, this study seeks to answer two research questions:

1. What information literacy elements are included in ENGL 1120 TAs' instructions for research assignments?
2. How are information formats presented in ENGL 1120 TAs' research assignments?

Literature Review

Collaboration

There is an abundance of literature on the library's role in first-year composition, largely because information literacy and writing skills learned in FYC courses are seen as similar processes, inextricable from each other. Typically, English instructors and librarians collaborate to redesign research projects or implement librarian interventions.⁶ Additionally, they have worked together to embed IL skills and concepts into assignments—such as determining authority,⁷ choosing sources based on information need,⁸ and carrying out the research and writing process.⁹ Scholars have also identified common challenges to the successful integration of information literacy into courses. One such challenge is students' motivation toward assignment completion rather than toward meaningful engagement with the research process.¹⁰ Librarians also feared being perceived as abandoning students and instructors by playing a less visible role.¹¹ Other identified challenges were cross-disciplinary misconceptions,¹² coordination,¹³ and workload.¹⁴

Teaching Assistants

The library literature shows little or no attempt to understand TAs' relationship to information literacy and research as instructors in the first-year composition classroom. A notable exception is Maggie Murphy's 2019 exploratory case study that sought to understand new TAs' experiences assigning research projects. Murphy found that, while new TAs wanted their students to learn "evaluation, comprehension, and synthesis" of sources, their assignments instead "emphasized the ability to identify a source's format and integrate particular specific types of publications."¹⁵ Moreover, these source requirements tended to mirror the practices of expert researchers, rather than those



more appropriate for novices.¹⁶ In response to her findings, Murphy positioned herself to have a greater collaborative role with TAs. In particular, she helped them to adjust their source requirements so sources would fit the information need rather than mimic expert research.¹⁷

Sue Samson and Michelle Millet briefly acknowledged the crucial role of TAs as novice instructors; they “become members of the most important group for advancing the learning environment in academic libraries.”¹⁸ According to Samson and Millet, library collaboration supported the undergraduates and TAs simultaneously, but there was no mention of seeking out TAs’ input for their training program nor any examination of what IL skills the TAs actually taught. Similarly, Heidi Jacobs and Dale Jacobs’s discussion of their FYC library collaboration demonstrated full awareness of TAs’ dual roles of student and teacher and of the benefits to TAs of their pedagogic collaboration. The authors admitted, however, that “tapping into graduate instructors’ insights into their students’ research processes is complicated because of the constantly shifting cohort of graduate students and the short duration of the master’s program in English.”¹⁹

While most TA programs include some sort of pedagogical training, TAs also rely on their own varied experiences of performing research when drafting assignments. On her experience teaching composition as a TA, Stacia Dunn Neeley reported, “I think we would all agree that how we teach our courses depends, in some part, on the courses we have taken in the past.”²⁰ For this reason, librarians who work with FYC need to understand what information literacy elements TAs embed in their research assignments so they can collaborate with TAs to draft instructions that support student learning.

Most teaching assistants are simultaneously learning their discipline and learning how to teach, so the more support librarians can give them, the better. The book *In Our Own Voice: Graduate Students Teach Writing* showcases TAs’ lives as students and instructors, unmediated by more experienced faculty or librarian viewpoints. While

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primarily concerned with theory, pedagogy, and practice, and with the challenges of stepping into an instructor role as a novice, these essays offer glimpses of TAs’ experiences with research and information literacy in their dual role as teacher and student. For example, Brian Bly reported this anonymous comment from a survey of fellow TAs responsible for FYC instruction: “For my classroom, I am a teacher to my students; as a teacher, I am a student of the art of teaching

itself because my only expertise in teaching must necessarily come from practice; as a teaching assistant I am by definition a student who performs teaching duties.”²¹ This instructor/student nicely summed up the various roles TAs negotiate as they begin to teach. Undoubtedly, the research assignments TAs create reflect their fluctuating roles.

Assignment Instructions

Research instructions and guidance are given in many different ways in the classroom other than in research assignments. The directions for assignments have a contract-like



authority, however, so it is important that they are complete and detailed. Discussing previous research, Alison Head and Michael Eisenberg wrote, “Over three-fourths of the students (76%) surveyed considered written guidelines about course-related assignments, especially which sources to use, as one of the most helpful materials an instructor can provide—second only to email exchanges with instructors about research assignments.”²² Once the instructor hands out an assignment, students can consult it whenever they need it. The directions should provide the official version of the assignment that details the student’s task.

Head and Eisenberg reinforced the idea that students often look at research assignments as checklists to complete rather than as guides to strengthen their research skills. Their study analyzed 191 faculty-created undergraduate research projects from 28 higher education institutions across the United States representing a variety of disciplines. Head and Eisenberg found most assignments addressed the mechanics of research papers without providing rationales.²³ In other words, the assignments themselves resembled a checklist. This

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checklist approach to research papers most likely evolved as a response to different levels of student preparedness.²⁴ The study results also reflected a traditional take on research; the vast majority of assignments required writing a research paper.²⁵ Another traditional (and perhaps outdated) element of the instructions was guidance on finding sources. Just over half the assignments Head and Eisenberg looked at encouraged students to go to the library to find books, whereas just under half recommended library databases.²⁶

In contrast to a checklist approach, Amy Hofer, Silvia Lin Hanick, and Lori Townsend offer a model based on the information literacy threshold concept of *information formats*. Similar to genres, formats “share a common intellectual and physical structure and are intentionally produced to support or effect action in the world.”²⁷ For example, a menu is an information format; menus have common features, such as dish and price, and are created to help people order food. The threshold concept of information formats encourages students to engage in the research process by situating information in context. Replacing the mechanical checklist approach, a recognition of formats asks students to make conceptual distinctions and organize sources of information based on their purpose, the processes the information goes through in its creation, and the final packaged product.²⁸ An understanding of formats helps students effectively select information for their need, especially when evaluating digital information from the flattened perspective of a Web browser. This skill does not translate easily into a checklist, however, which may make it harder to include in assignments.

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Almost nothing has been written about the research assignments TAs create since much of the literature on FYC coursework lumps TAs with full-time faculty, lecturers, or

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adjuncts. Head and Eisenberg did not include TAs in their study on research projects, but they found faculty who had taught less than five years provided the least guidance for research resources.²⁹ It is important to understand if TAs also exhibit similar tendencies. Teaching assistants have a vital role in FYC instruction, and how they think about and teach research has enormous influence on their students. Depending on the institution, TAs may be responsible for the bulk of first-year composition courses, and they are often the next generation of faculty. In Kerry Dirk's critique of research assignments, she briefly mentions that her institution relies on TAs and lecturers to teach most FYC courses.³⁰ Many of the assignments she examined must have been created by TAs or other novice instructors, but she does not differentiate roles. As librarians work with this population, they need to understand the exercises TAs create as well as the IL elements upon which they rely. Dirk identified several problematic areas in the instructions that potentially hinder learning about research and writing. For example, vague descriptions such as "the research paper" did not take into account the variety of research projects, and requiring a set number of sources is "unnatural" to the way research is conducted outside school.

Methodology, Analytic Techniques, and Data Analysis

In this exploratory study,³¹ the authors applied deductive and inductive content analysis to ENGL 1120 research assignments from the fall 2018 and spring 2019 semesters. With help from the core writing coordinators, they solicited participation from all TAs who taught ENGL 1120 during those semesters. There were 18 eligible instructors for fall and 45 for spring. Ten instructors taught both fall and spring. The authors asked for all three writing sequences from the instructors (six small writing assignments and three major writing assignments for a total of nine per class); however, instructors could submit only what they wanted to. Instructors who used the same instructions across multiple sections or multiple semesters were asked to not submit duplicates. If the instructor had different guidelines for different sections, however, the authors encouraged the TA to submit those. To ensure the anonymity of the instructors, the authors asked them to remove any identifying information, such as e-mail addresses or office hours. Participating TAs sent their assignments to the assistant director of core writing, who sent them to the authors to preserve anonymity. The authors received nine sets of assignments that ranged from two to nine projects. They discarded any instructions that did not contain research or elements of information literacy. Fifty-five assignments remained, consisting of 21 major writing assignments and 34 small writing assignments.

The combination of deductive and inductive coding allowed flexibility to look for predetermined elements while remaining open for unexpected content. Deductive content analysis means the authors developed predetermined themes that were coded and analyzed.³² This process required the development of a codebook (see the Appendix), where themes based on the research questions were identified prior to analysis and refined in the early stages of the coding.³³ During coding, the authors developed inductive themes through an iterative process as they analyzed assignment guidelines to account for unexpected content.³⁴ They added these themes to the codebook and reanalyzed previous assignments to ensure consistency. To improve reliability, the two authors coded independently and resolved any discrepancies afterward.



Limitations

The sample size was small. Despite this, the assignments provided emerging themes that can usefully inform the Learning Services instruction program.

This study could only analyze what was written in the assignments. While the assignments are important class artifacts, instruction and guidance take many forms in a class, including lectures and one-on-one help.

Results

Research Questions Answered

Research question 1: “What information literacy elements are included in ENGL 1120 TAs’ research assignments?” The directions for assignments from ENGL 1120 had a variety of IL elements but generally stayed surface-level (with the exception of project purpose and project scaffolding). Elements included the research process; topic choice; project purpose; and finding, evaluating, and using information.

Research question 2: “How are information formats presented in ENGL 1120 TAs’ research assignments?” Information formats appeared woven among other categories of information that students were guided to use or avoid. Instructions prioritized the use of scholarly formats in traditional research papers. Overall, the guidelines emphasized the variety of sources used as opposed to specifying why certain formats were better for the genre at hand.

Project Types

The top three project types were classic research projects: annotated bibliography, analysis, and argumentative (persuasive). Proposals and informative papers ranked fourth and fifth. See Figure 1.

Themes

Four prominent themes, which are described in this section, emerged from the data analysis. The themes represent trends that directly or indirectly have implications for the treatment of IL elements in assignments.

Theme: The Missing Library

A major theme in these research assignments was the missing library. Despite the important role of research, the guidelines for assignments rarely mentioned the library. Within this theme, the authors identified two subthemes: (1) the implied library and (2) writing/research overlap.

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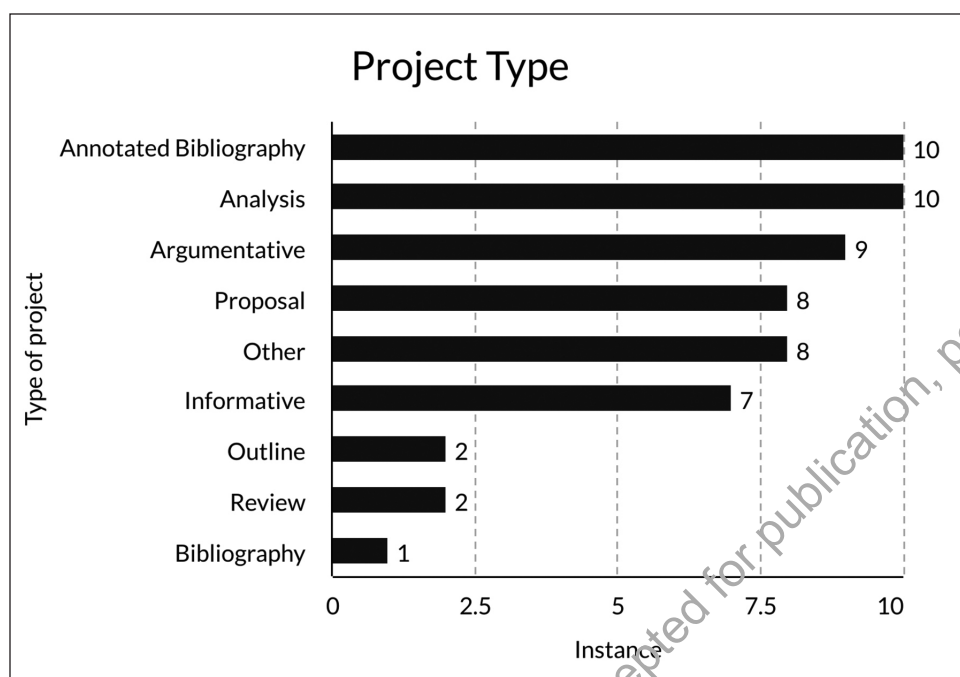


Figure 1. The leading types of research projects assigned in first-year composition courses at the University of New Mexico in Albuquerque.

The Implied Library

The library seldom had a strong presence within these assignments; rather, it was present at the edges, implied via collection use or (once) tied to research instruction. Eight projects implicitly referred to the library by encouraging students to use “journal articles,” “academic journals,” “academic sources,” “scholarly articles,” or similar terms. These assignments did not directly make the connection between the library and scholarly sources, but the vast majority of these sources will be available via the library. Four projects explicitly linked the library to its collections using such language as “library’s resources” or “library databases.” Only one provided the library’s Web address as a resource.

Similarly, the library was not mentioned as a source of research help. Only one set of instructions included explicit research help in the form of a mandatory library tutorial and library workshop, although the language did not clearly reflect the library’s role: “You cannot (and should not try) to complete this assignment until AFTER you have completed the English 120 Tutorial and the Research Clinic (links to both of these are on Learn).”

Writing/Research Overlap

The directions often offered general help for the project, making no distinction between research assistance and writing help and leaving out the library entirely. Most (37) in-



cluded project help in at least one assignment, usually asking students to bring a draft of their work to class, often for peer review. Instructor help (8) was the second most common topic, with a mix of required instructor help (“Include your Annotated Bibliography at the end with all revisions made that I’ve indicated . . .”) and offers of assistance (“You are always welcome and encouraged to send in drafts for me to look at”). Guidance from texts, tutorials, or both (7) was a close third and was a mix of required and optional.

Theme: Inconsistent Classification of Information Types

Assignments lacked consistency and clarity of meaning when referring to information types. By and large, the term *sources* appeared as an overarching way of talking about research requirements and information types. Of the 1,090 text snippets coded in this project, *sources* was the most frequently used word with 200 occurrences. For comparison, the word *article* appeared only 24 times. Some described source requirements by quantity (“you must find and cite AT LEAST six sources”), by quality (“include at least 2 valid and reliable sources”), or both. More specific source requirements described information formats students should use or avoid in their research, which was coded. This code was loosely applied to a spectrum of format-related instances, including the medium that delivers the information. For example, “You must have . . . at least 3 different types: book, article, website, etc.” Source requirements were also classified through information binaries, including popular and scholarly sources (“at least 6 scholarly sources and a few popular sources”) and primary and secondary sources (“Explore both primary sources, the actual writings—probably mostly in journal articles—of the researchers involved, and secondary sources, reports by outsiders describing the debate”).

Assignments additionally approached source requirements in terms of authority. Some described authors or publishers responsible for the creation of the information, for example, “One source must come from a governmental or nonprofit agency, such as a study or data compiled by the Center[s] for Disease Control or a university or another not-for-profit type of organization.” Others described source requirements by specifying where students needed to access them. The library was highlighted as an authority in this approach. For example, one explained, “At least one source must come from . . . one of the library’s databases.”

In addition to these discrete approaches to classifying types of information, assignments frequently mixed and matched various levels of organizational hierarchies of information, including long lists of formats, platforms, authors, vendors, and collections. For example, one project advised, “You may use newspapers, magazine, books, videos, blogs, social media, interviews, photos, etc. You MUST use at least 4 academic sources.” In another example, the directions required “secondary sources [to] support your argument with both scholarly publications and online sources,” combining a format (“scholarly publications”) with a medium (“online”). Variations of these examples were common and demonstrated the difficulty of classifying information types.

Theme: Specificity and Flexibility

A second major theme was that the instructions were often simultaneously specific and flexible, depending on the element.



Specificity

The directions offered concrete guidance when it came to required quantities for the assignment. Nearly all included a bulleted section dedicated to the specifications of the project deliverable, including page length and formatting (“2 pages, 12 pt. font, double-spaced, Times New Roman/Cambria”) as well as the number of sources (“2 or more sources included”) before getting to the particulars of citations.

Citations were also a point of specificity, both in terms of style and incorporation. Twenty-six assignments asked students to use a specific citation style, whereas three required attribution but no specific style (“Less than a formal bibliography but more than a URL”). Instructions often differentiated between works cited and in-text citations and stressed the incorporation of accurate in-text citations and works cited lists. Some instructions went so far as to emphasize incorporation and accuracy by bolding, highlighting, or repeating this requirement. Despite the emphasis on citations and citation styles, only five assignments pointed students to help with citations, each mentioning Purdue OWL (Online Writing Lab), a free resource offered by Purdue University, as the main source of guidance. Only five assignments used language that referred to the frame “Scholarship as a Conversation” from the Association of College and Research Libraries (ACRL) Framework for Information Literacy for Higher Education. One said, for example, “How does [*sic*] your sources converse with each other (disagree, agree, look at a different point or angle)?”

Flexibility: Variety

Instructions tended to give students leeway in a few key areas, namely topic selection and sources. The vast majority gave students some choice about their subject, usually within an area (“Identify a current issue facing your community”). A few had totally open topic choices. Only one dictated what students should write about (“You will develop your own working understanding of what rhetoric is, how and why we use it, and give a definition of it”). Another dictated off-limits topics (“abortion, marijuana, and same-sex marriage”).

Advice on topic choice or topic development was generally brief: “Pick an issue you personally find problematic but are not already an expert on.” The guidelines reminded students to choose a subject with an appropriate scope but did not explain how to know a topic would be successful: “Your community issue can be broad, or it can be narrow, but remember it must be broad enough to fill 5–6 pages, and narrow enough to feel thoroughly analyzed in the page constraints.”

Like topic choice, the instructions rarely designated specific sources students must use, although some small writing assignments early in the sequence minimized research

and suggested sources furnished in class (“You can use the readings, ad critiques, and class discussions we’ve had so far”). Generally, the instructions offered a variety of examples of sources students might consult. A frequent threesome of source types was books, articles, and websites,

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recommending, for example, “You should have a variety of sources, in multiple mediums (journal articles, books, web pages, etc.).” Two assignments specified three mandatory categories of sources: popular, scholarly, and governmental/not-for-profit organizations. In addition to these categories, the instructions for one annotated bibliography added, “Other than those three types of sources, you may seek out other credible sources for experts’ opinions, facts and data on the Internet or ebrary or elsewhere. You may also conduct an interview with a credible expert in the field.”

Flexibility: Vagueness

Many of the key IL elements in these assignments were vague or sparse on details, in particular about the research process, how to find information, and how to incorporate it. Guidelines referred to the research process generally but typically provided few or no specifics about the individual parts of that process: “For your reflection, think back about your writing, thinking, and research processes that you went through while working on this paper and tell me about it.” The only assignments that went into particulars about research methods were two that gave guidance on conducting interviews: “You need to make the [interview] notes that will be most useful to you in constructing your profile.” A few assignments mentioned using research questions, and one situated the question within the research process: “Answer a real question that has been on your mind. Answer a question you have always wanted to explore and do not currently know how to answer. You are also expected to significantly revise this question and thesis/purpose statement for your explainer essay.”

Similarly, when assignments talked about the need to find information via secondary sources, they seldom gave explicit search strategies. For example, they commonly instructed students to “Do some research” or “Research your topic.” The closest help to providing search strategies was recommending resources. Four assignments talked about general resources, asking, “Which databases will you use?” or specifying “any local or national publication.” Only two assignments listed specific resources: “If you want to use the internet to conduct research—Google Scholar is a good place to start. I also encourage you to use the resources available to you at library.unm.edu” or “Popular magazine or newspaper, such as TIME, Newsweek, The New York Times, The Atlantic, etc.”

Assignments included ambiguous language that pertained to evaluating and selecting high quality information. They addressed source quality through variations of asking students to find effective, credible, reliable, relevant, or valid sources. In some cases, the instructions gave other quality criteria, such as currency (“At least one source must be an article published within the last three years”). A key feature in annotated bibliographies involved analyzing sources; however, few explained how a student would do this. Assignments asked students to assess why a source was topically relevant but provided scant

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advice about quality. Some went further and offered guiding questions for evaluation, for example, "Did they include evidence? Did they acknowledge multiple alternative perspectives? Did they use a combination of ethos, logos, and pathos?" Typically, guidance leaned on the side of composition rather than information literacy; however, one assignment asked, "How do you plan to proceed in . . . finding strong evidence from reliable sources? Be specific here. Don't just say, 'I'm going to do more research.' Which databases will you use? Will you use opinion pieces or scholarly articles?"

The instructions gave little specific guidance on how to incorporate the information students found. Twenty assignments talked about "integrating information" in a general sense ("several body paragraphs that incorporate your research"). They also directed students to use information to support claims ("Strong, logical argument upheld by research"). Three assignments wanted students to synthesize information ("If you can make connections to material from other writers, thinkers, or influential or historical figures—even better"), and one mentioned the ethical requirements for incorporating information ("Correctly and ethically incorporated sources and quotes").

Theme: Scaffolding

The instructions did a good job of scaffolding tasks and skills, building on students' experiences and knowledge, moving them progressively toward stronger understanding and greater independence in learning, and making scaffolding's purpose clear. The vast majority (42 out of 55) provided some explanation of how the assignment would fit within the larger class structure or series of assignments. The guidelines looked forward to how the current project would prepare students for a future assignment ("Therefore, each SWA [small writing assignment] will lead up to the MWA [major writing assignment] so that you are as prepared as possible"). Instructions also looked back at previous assignments by explaining how the current project furthered skills or used previous work ("Now it is time to put all of these concepts to practice for your final assignment"). The instructions overwhelmingly explained the purpose of the project, although the explanations typically involved rhetoric and writing: "The ad critique is a microgenre of the larger genre of Rhetorical Analysis."

Adopting the disposition that research is iterative and nonlinear is key to students truly engaging in the research process. Explicit language about changing sources or reevaluating previously found information was another element of scaffolding that emerged from the data. Of the nine sets of assignments, five included at least one project that addressed the iterative nature of finding and selecting sources. Directions for annotated bibliographies and other assignments early in the sequence reminded students they need not commit to initial sources, encouraging them to think of "sources that help you build a foundation, or introduce you to new ideas and concepts that you may not necessarily use in your final project." As these sequences approached the final research paper, the instructions reminded students to address feedback to their annotated bibliographies or update their works cited if they changed their sources. However, source development was not present in assignment rubrics.



Discussion and Implications for Practice

Research Help

"If you want to use the internet to conduct research—Google Scholar is a good place to start. I also encourage you to use the resources available to you at library.unm.edu." This snippet stood out not only because it was the only one to provide the library Web address but also because of the order of importance for resource guidance. It prioritized Google Scholar over library resources. Many students are new to college-level research, so any guidance about where to find college-level sources is valuable. Students who use Google Scholar from campus can access many of UNM's subscription resources, although it is unclear how many of these students would understand the library's role in providing access. This order of importance is out of sync with library instruction. Librarians urge students to start with the library website to find sources of higher, more even quality than those found on the open Web. Using library resources is also a skill they will need more and more as they continue their education.

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Apart from library collections, the library is also a center for research help. Several research help codes included in the codebook did not appear in any assignment. Specifically, none gave any general library information (library names, locations, hours, or phone numbers) nor the liaison librarian's name, e-mail, or phone number. Furthermore, none mentioned UNM's tutoring service, which has offices in the library and would be an appropriate source of research paper support.

Ideally, librarians want instructors to list the library as a preferred way to find resources and as a place where students can get help. Librarians would also like to see more instructors tying specific assignments to the library's tutorials and the research clinics, as did the TA who wrote, "You cannot (and should not try) to complete this assignment until AFTER you have completed the English 120 Tutorial and the Research Clinic." Not only are library resources tied to a specific assignment and mentioned by name but also the order of completion is explicit, which helps break down the complex process that is research and inquiry.

Information Evaluation

Evaluating information was a key point, which reflected one of the student learning outcomes for ENGL 1120: "Compose a research-based academic argument in one of various mediums and technologies by identifying, analyzing, evaluating, and synthesizing sources, which must include secondary sources." The directions asked students to evaluate the information but offered little or no guidance on how to know something was credible, relevant, or reliable. Yet even librarians struggle to teach students how to assess sources. Checklists proliferate but have problems of their own.³⁴ Even the definitions of

analysis or *evaluation* might differ depending on the instructor. One instructor may define these actions to “include evidence” and to “acknowledge multiple perspectives,” while another may describe a successful analysis as one that is “using the rhetorical situation (topic, purpose, angle, context, audience, and exigence) and the rhetorical proofs (ethos, logos, and pathos).”

Moreover, depending on the source format, evaluation can be incredibly difficult. For example, the primary audience of a scholarly article is not first-year students. The content and conventions of scholarly articles are dense and require practice in reading academic writing as well as some degree of subject knowledge to engage with the content. Students need this practice, but it is potentially a frustrating exercise to ask them

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to evaluate these articles or find “the article’s weakness in information or evidence.” Novice students will need significant guidance to successfully analyze the credibility of a scholarly article’s argument.

Evaluation cannot be easily conveyed by the directions for an assignment, nor should the instructions be used as the sole guidance for such a requirement. Teaching students how to evaluate sources is hard to do in a one-off workshop, but it can be bet-

ter achieved in a research class where students will work with sources from different formats. Assignments could pointedly remind students of previously covered content. Alternatively, instead of asking students “What credentials do the authors have?” the guidelines could ask, “Why do you believe (or not) the authors?” Asking students to relate the source to their own understanding of their topic is a more accessible form of evaluation.

The Trouble with Classifying Information Types

Vague source requirements allowed students the freedom to make their own decisions about which sources to use; however, this approach lacked a helpful structure for novice researchers. Assignments with more specific source requirements attempted to categorize information into groups of more or less authority through binary classifications, named sources, or named access points. Binaries, such as popular or scholarly, offer shortcuts for evaluating authority, but they have drawbacks and create artificial tiers of source quality. Further, this approach highlights the assumption that information binaries are common knowledge when they are actually fuzzy categories that are challenging to define.³⁵ Similarly, picking and choosing exemplar sources, such as naming the Centers for Disease Control and Prevention (CDC) as an acceptable source, is also tricky. This approach assumes students understand what makes the CDC an authority and then further supposes they will transfer that understanding onto other sources.

Medium is another sticking point in descriptions of source requirements. Where format deals with the purpose, process, and product of information, medium deals with the way information is delivered (for example, digital or print). People might prefer a



print book or an e-book, but the content is the same. The study's authors included the code *Format expression* in anticipation of observing some of the complexity surrounding medium. In the entire data set, however, only one assignment mentioned *Format expression*, in this case an advertisement, stating, "It can be an ad you found online, on social media, on television or in print." Medium and format may be so intertwined that the authors could not find more distinct occurrences. Interestingly, TAs use the term *medium* to describe the evolution of assignment deliverables in a sequence (for example,

transforming a research paper into a video presentation). Librarians will need to work closely with English Department TAs and writing program administrators to develop a shared lexicon in supporting information literacy within composition studies.

Librarians developed the concept of information formats, so it is unsurprising that inconsistent elements of format appeared in TAs' source requirements. Yet without any organizing framework, source specifications can get messy. The directions often mix and match types of information, including format, primary, secondary, popular, and scholarly. This could be compared to taxonomies. In a hierarchical relationship, sources are related to articles, but *sources* is a broader term. Asking students to find reliable sources is much like asking someone to pick up tasty food when grocery shopping. It is subjective. Format may offer a flexible framework for organizing information types. Yet, format is surprisingly difficult to fully understand because threshold concepts feature troublesome knowledge, or tacit knowledge that can only be gained through practical experience in a relevant context.³⁶ Future collaboration with TAs in the form of a train-the-trainer program offers a helpful next step in sharing this core concept of information literacy.

Contextualizing Format

One of the hurdles students face in selecting appropriate information for a research project involves the awareness, or lack thereof, of their own cognitive biases. As an example, Abraham Maslow coined the maxim about humans' tendency to overreliance on a familiar tool. "I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail."³⁷ Students may rely too much on familiar formats and sources. To offset this tendency, many assignments require multiple sources and variation in the types of sources. This approach is somewhat lost in translation in the final form of an assignment. Students will likely miss the point that multiple and varied information formats present a well-rounded investigation

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Students will likely miss the point that multiple and varied information formats present a well-rounded investigation of their research question and instead see the presentation source requirements as a checklist.



of their research question and instead see the presentation source requirements as a checklist. At this level, students may also have difficulty knowing which format to use for their information need. For example, what format is best for background knowledge? What type of information can I expect to find in scholarly articles?

Assignments narrow in scope were better suited to encouraging the right format for the job. For example, a film review project required “reviews of the chosen documentary, background information, news articles, etc.” This assignment offered students three relevant information formats to use that clearly fit the project’s research goals. In comparison, traditional research papers tended to be more open-ended in scope, topic, and source requirements (“Compose an expository research paper using the sources you’ve compiled in your investigation on the topic of your choosing”). Instructors relied on broad format lists that could not match individual information needs. This one-size-fits-all approach attempts to loosely address the many sources a student could consult to execute the project but makes it challenging to apply specific and relevant format requirements. It is important to emphasize the right tool for the job, or more specifically, the right format for the project. Early assignments should have a narrow scope with explanations about what information formats best support the project and why. As research projects become more open-ended, students will acquire experience selecting sources based on need.

Fortunately, many assignments already contained an equivalent model that can be applied to contextualizing format. They excelled at explaining the rhetorical situation and genre. As a foundational composition course, the emphasis focused on students as creators of research-based arguments, proposals, annotated bibliographies, and the like. Many assignments explicitly included labeled sections, such as genre, rhetorical situation, purpose, and audience. The following example illustrates a typical approach that introduced the genre; it specifically named the genre, highlighted typical characteristics, stated the purpose of the communication, and indicated the author and intended audience: “An annotated bibliography is an organizing tool that is helpful when working on a research project. An effective annotated bibliography is used to compile research sources in one location and provide the researcher with quick access to the information contained in each source.”

Such descriptions offered support and boundaries to novice writers without being overly prescriptive. In comparison, the assignment directions often did not contextualize information formats that would be best suited for the research. A better approach is to offer the title of the format and include a short summary of its purpose, process, and product (for example, “A news article communicates information about current events, it goes through a rigorous editorial quality control process, and people can get the news through social media, news websites, radio, or print”). Especially when early undergraduates approach unfamiliar formats such as scholarly articles, this approach would help them match their information need to the best source for the job.

Incorporating Information

The authors were pleased to see that none of these assignments talked about citations in a punitive manner. The directions never mentioned the word *plagiarism*, nor did they



warn of the consequences of failing to properly cite sources. Instead, they emphasized in-text citations, accuracy, and bibliographies—perhaps overly so. Without context about why citation is important, citations and citation style may seem arbitrary. Since citation styles rely on knowing the information format, and students have trouble identifying formats,³⁸ requiring accurate citations may be overly burdensome for students at this level.

Letting go of the rigidity of citation styles for early undergraduates may be a controversial stance. Citations are one of the few instances of writing that appear to have clear-cut rules. But citing new formats using rule books that may not have been updated in years is a challenge. Instead, instructors might get better results by focusing on foundational information literacy skills, such as identifying format or understanding why scholars cite sources. Both format and scholarly conversation are represented as foundational IL skills in the ACRL Framework. Ideally, instructors should de-emphasize

Ideally, instructors should de-emphasize citation accuracy and style requirements and instead focus on identifying format and understanding the citation's role in scholarly conversation.

citation accuracy and style requirements and instead focus on identifying format and understanding the citation's role in scholarly conversation. For example, an assignment might ask, "Why do different formats require different citation information?" or "What information about a source is needed so readers can find that source on their own?"

Conclusion

Library instruction programs and first-year composition programs need to have a shared understanding of research best practices, especially about information formats and the research process. ENGL 1120 already has well-defined learning outcomes that incorporate research, and the assignments already provide solid scaffolding. Librarians can use these strengths to bolster information literacy in these courses and bring balance to these assignments. Information science is a discipline separate from—but related to—composition and rhetoric. Librarians ought to partner with TAs not only to reconcile key foundational theories such as format and genre but also to create a mutually beneficial relationship as they work together to teach research.

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Appendix A

Codebook³⁹

* An asterisk denotes codes that emerged during the project.

† A dagger denotes codes that were never used.

I. About information formats

- A. Format type
- B. Format expression
- C. Format requirements
- D. Required
 - 1. Encouraged
 - 2. Discouraged†
 - 3. Prohibited†

II. General info types

- A. Scholarly
- B. Popular
- C. Primary
- D. Secondary
- E. Other

III. Source total requirements

- A. 0 sources (explicitly stated)†
- B. 1–3 sources
- C. 4–6 sources
- D. 7–9 sources
- E. 10+ sources
- F. Citations required but no number
- G. Add “min” if minimum number required, no max

IV. Source quality

- A. Source quality
- B. Source perspectives*

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V. About project

A. Project type

1. Annotated bibliography
2. Argumentative paper
3. Bibliography
4. Analysis
5. Historical papert†
6. Informative paper
7. Literature review†
8. Presentation†
9. Summary†
10. Proposal*
11. Creative work/Work of fiction
12. Other

B. Project audience

C. Project length

1. 1–4 pages; 0–1,000 words
2. 5–10 pages; 1,001–2,500 words
3. 11–15 pages; 2,501–3,750 wordst†
4. 16 + pages; 3,751+ wordst†
5. Add “min” if minimum number required, no max†
6. No length specified
7. Other

D. Project purpose

1. Project purpose
2. Student learning outcome*

E. Project scaffold

1. Scaffold for future work
2. Project drafts
3. Scaffold using previous work*

F. Project evaluation

1. Rubric with 1 column
2. Rubric with 2 columnst†
3. Rubric with 3 columns
4. Rubric with 4 columns
5. Rubric exists but not in the instructions
6. Explanation of evaluation

VI. Research process

A. Research process *

1. Research process*
2. Research methods*

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VII. Topic development

1. Topic development
2. Research question*
3. Topic
 - a. Topic assigned
 - b. Some topic choice
 - c. Open topic
 - d. Topic off-limits

VIII. Finding information

- A. Finding information, general*
 1. General sources named
 2. Specific sources named
 3. Search strategies
 4. Finding primary information
 5. Source development*

IX. Evaluating information

- A. Relevance
- B. Credibility
- C. Student evaluation of information

X. Incorporating information

- A. Incorporating information, general*
- B. Synthesizing information
- C. Supporting claims
- D. Incorporating information ethically
 1. Incorporating information—citations
 - a. Specific citation style required
 - b. No specific citation style required
 2. Plagiarism†
 3. Tools to help with citation style
 4. Scholarly conversation
 5. Accuracy
 6. Requires works cited
 7. In-text citations

XI. Research help

- A. Library information givent
- B. Librarian information givent
- C. Research tutorials, guides, texts, etc.
- D. Research clinic
- E. Instructor help
- F. Lumped with writing help†
- G. Research help required†
- H. Peer review*

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