2022-05-11

"How do assignments dispose students toward research? Answer-getting …

How Do Assignments Dispose Students Toward Research? Answer-Getting and Problem-Exploring in First-Year Writing

🔶 SHARE   ◼◼◼◼ … [http://www.addthis.com/bookmark.php?v=250&username=compforum]

Sarah Madsen Hardy, Gwen Kordonowy, and Ken Liss

Abstract: This study explores the relationship between the dispositions toward research that writing teachers convey through their assignments and those that their students express in their reflective writing. We applied the term *problem-exploring* to a set of dispositions described by the ACRL Framework and coded each clause of instructor assignment text and student reflective writing from six FYW sections, half of which were working with a librarian to incorporate core concepts from the Framework. We found a strong correlation between the proportion of instructors' problem-exploring assignment language and students' expressions of problem-exploring at end of term. The rates of problem-exploring were significantly higher for instructors and students in sections working with the Framework. Our results offer a new lens through which to view research-assignment design, provide evidence of how assignments can foster problem-exploring, and support the value of pedagogical collaboration with librarians.

> "It is partly [the] construction of introductory students as non-knowledge makers that characterizes their ambiguous position within the liminal space of introductory writing classes."
>
> —James Purdy and Joyce Walker, "Liminal Spaces and Research Identity: The Construction of Introductory Composition Students as Researchers"

A growing literature inspired by the Association of College & Research Libraries' *Framework for Information Literacy for Higher Education* (2015) and the Council of Writing Program Administrators' *Framework for Success in Postsecondary Writing* (2011) examines how librarians and writing instructors can teach research and information literacy in ways that go beyond covering the tools and techniques of accessing and judging information. The synergy created by the frameworks' shared focus on conceptual understanding and disposition toward learning has sparked exciting conversations between the fields of writing studies and library science (Baer; D'Angelo et al.; Mackey & Jacobson; McClure; McClure & Purdy; O'Neill et al.; Veach 2018; Veach 2019) and has inspired new kinds of collaborations, including our own. We are two first-year writing (FYW) instructors and a librarian who began to work together around our respective fields' frameworks and our shared interest in student dispositions—which the Association of College & Research Libraries (ACRL) defines as the set of feelings, attitudes, and values that create "a tendency to act or think in a particular way." The frameworks made us curious about how dispositions might change as students move through what Purdy and Walker describe as the "liminal space" of FYW, courses that "mark a boundary between the inside and the outside of the academy" (11) and therefore aim to change not just what students know but who they are.

Researchers in writing studies and library science have only just begun to study the role of disposition in their shared disciplinary contexts. So far, data-driven studies have explored disposition mainly in relation to its role in transfer. Notably, Driscoll and colleagues highlight the complex interaction between individual dispositions, learning experiences, and transfer (Driscoll; Driscoll et al.; Driscoll & Wells; Driscoll & Powell). In a multi-institutional study that followed students over five years, Driscoll and Wells identified

four qualities—value, self-efficacy, attribution, and self-regulation—that are critical to writing transfer. They describe the study of dispositions as a necessary corrective to transfer research in writing studies, which tends to focus on teaching without accounting for the characteristics and inclinations that individual students bring to the classroom.

Dispositions that the ACRL and the Council of Writing Program Administrators (WPA) frameworks associate with information literacy—such as curiosity, flexibility, creativity, persistence, self-reflection—are often understood as individual as well. Elizabeth Wardle sums up a similar set of qualities as *problem-exploring*, which dispose one to dive into "the messiness of deep learning and problem solving." She worries that students' K-12 experiences have instead instilled *answer-getting*, the inclination to "seek right answers quickly," which she attributes to the dominance of standardized testing. Drawing on Bourdieu, Wardle emphasizes that "the habitus of the educational systems. . . encourage[s] particular dispositions in individuals." In other words, educational systems have dispositions too, encompassing shared "practices, perceptions, and attitudes which are 'regular' without being consciously coordinated" (Thompson qtd. in Wardle). In *Metaliteracy*, a work that informed the development of the ACRL Framework (ACRL), Mackey and Jacobson evoke Bourdieu in a parallel way as they advocate for expanding the notion of information literacy to encompass "how learners critically evaluate and understand their knowledge" not only individually but also collectively, as "participants in a social learning environment" (14). Eamon Tewell makes a similar point from the perspective of critical information literacy, critiquing pedagogies that focus on dispositions in information literacy instruction as too focused on individuals, without "consideration to larger social factors that shape attitudes toward learning and research" (146). Such approaches emphasize how participating in an educational system over time shapes the disposition of an individual even as it helps to reproduce that of the system.

Both Wardle and Tewell focus on dispositions cultivated through students' K-12 experiences, but studies of student research behavior suggest that answer-getting persists in college. For example, a Citation Project study of student source use found that most FYW students are able to retrieve and cite the number of acceptably credible sources that their assignments require but that most engage these sources superficially, quoting or paraphrasing individual sentences and failing to put sources into conversation (Jamieson 133). One Project Information Literacy (PIL) study indicates that students continue to take a mechanical and superficial approach to research throughout college, finding that students across institutions and fields "use strategies driven by efficiency and predictability in order to manage and control a staggering amount of information that is available to them in college settings" (Head 474). Another PIL study finds that employers "were dissatisfied with the research skills of their recent college graduate hires, who were tech savvy but 'rarely went beyond a Google search and the first page of results looking for "the" answer to a workplace problem'" (Head 476).

What social factors reinforce these answer-getting habits at the college level? Studies over the past decade suggest that common practices of teaching college research—ones that are "'regular' without being consciously coordinated" (Thompson qtd. in Wardle)—reflect and reproduce dispositions inconsistent with those the ACRL and WPA Frameworks promote. In a PIL study of research handouts across the disciplines, Head and Eisenberg observe that most emphasize "how-to procedures and conventions" over evaluating and using sources. Through a content analysis of 191 research assignments from 28 US institutions, they found that research handouts "had evolved into their own genre—a step-by-step process with standards and conventions that ended up defining research as more of a linear checklist than an iterative process that requires critical thought, curiosity, ongoing discovery, and tenacity" (26-27). In a study published the same year, Purdy and Walker found that commonly assigned composition handbooks and resources present research as linear and "do not provide students with the information they need to understand why academics use resources in the ways they do" (29). They speculate that the use of such instructional materials in writing courses "has a significant influence on representations of the 'self-as-researcher' that students are allowed (or

encouraged) to develop" (11). And in a 2017 study of references to research in FYW course documents, Elizabeth Kleinfeld found that instructors contradict their own values and practices around academic research in the instructions they give their students—observing, for example, that "many documents devoted more space to formatting information, such as font and margin sizes, than to substantive issues of source use" (239). In other words, these instructional texts don't focus on problem-exploring or address students as potential knowledge makers.

Assignments are powerful texts—and stubbornly inert ones, too. Considering assignments as expressions of how institutions encourage dispositions may help us see them anew and write them differently. This article builds on the studies cited above by analyzing the relationship between instructors' assignment sheets and their students' dispositions toward research, testing the hypothesis that the dispositions expressed through assignment sheets shape how FYW students come to value research and to see themselves as researchers—or not. We collected reflective writing from student portfolios, as well as instructor assignment sheets, so we could investigate the following questions:

1. What dispositions toward research do student reflections express at the start of the term and at its end?

2. What dispositions toward research do instructor assignment sheets convey?

3. What is the relationship between dispositions expressed in instructor and student texts and what does it reveal about how FYW assignment sheets can cultivate problem-exploring dispositions?

4. Do faculty who work with librarians to incorporate core concepts from ACRL frames into their instruction cultivate more problem-exploring dispositions than those who do not?

In order to answer these questions, we mapped the many ways of thinking and acting that the ACRL describes onto Wardle's term *problem-exploring*, then coded and counted the proportion of research-related language that expressed problem-exploring dispositions in instructor assignment text and student reflection text from six sections of a first-year writing and research course, half of which were working with a librarian to teach with the ACRL Framework.

We found that student dispositions fluctuate and change in response to context, supporting the view of dispositions as shaped by the social force of educational systems and their institutionalized practices. Our results reveal a strong relationship between the proportion of problem-exploring language in instructors' assignment sheets and the proportion of problem-exploring language in students' reflections at the end of the term. In sections where assignments more frequently ask students to explore options, make decisions, and reflect as they engage information, students more often describe qualities like flexibility, creativity, and persistence when they reflect on what they learned. We also found that rates of problem-exploring were significantly higher for instructors and students supported by librarians using the ACRL Framework. These findings offer a new lens through which to view commonplaces of research assignment design and provide evidence of how assignments can foster problem-exploring in FYW students' engagements with information.

From Outcomes and Standards to Frameworks

The WPA Framework (2011) built on the earlier *WPA Outcomes Statement for First Year Composition*, first adopted by the Council of Writing Program Administrators in 2000 and amended in 2008. The ACRL Framework (2015) replaced the earlier *ACRL Information Literacy Competency Standards for Higher Education*, adopted in 2000. The WPA and ACRL revised their earlier approaches independently, but both offer what Andrea Bear describes as "lenses through which to consider the teaching of writing and information literacy relationally" (64). Randall McClure and James Purdy, in their introduction to *The Future Scholar*, say that "to prepare students to successfully navigate and contribute to an information-rich digital

landscape, we believe these Frameworks should be considered together" (xix). Together, the pair of frameworks support Rolf Norgaard's notion of *writing information literacy*: a "theoretically informed conversation between writing and information literacy as disciplines and fields of endeavor" (124-25). Indeed, the WPA Framework makes regular references to sources, information, inquiry, and research as integral to college writing. And the qualities that the WPA describes as essential to college success all appear in the ACRL Framework, if in somewhat different forms and contexts.

Each of these documents represents an evolution in its respective discipline's approach from *outcomes* and *standards* to more flexible *frameworks*. Both emphasize habits of mind or dispositions, terms that are roughly equivalent (see Johnson and Kolk 7). In "Creating the 'Framework for Success in Postsecondary Writing,'" Peggy O'Neill and colleagues, all members of the task force that created the WPA Framework, make a useful distinction between *learning outcomes*, which express "what students should know and be able to do" and *habits of mind*, which are "ways of approaching learning that are both intellectual and practical" (527). Explaining the shift from an outcomes statement to a framework, O'Neill and colleagues recognize that it is habits of mind more than learning outcomes that help students "approach learning from an active stance" (527). The WPA Framework begins with a list of eight habits of mind described as "critical for college success": curiosity, openness, engagement, creativity, persistence, responsibility, flexibility, and metacognition. While guided by the assumption that "teachers can do much to develop activities and assignments that foster the kind of thinking that lies behind these habits" (O'Neill et al. 527), it recommends teaching key points of knowledge about writing through a series of learning experiences that are not explicitly aligned with particular habits of mind. Its organization implies that the learning experiences will work together to help support the growth of all eight habits of mind generally. The ACRL Framework signals a similar shift in emphasis through incorporating *dispositions*, which "describe ways in which to address the affective, attitudinal, or valuing dimension of learning" (ACRL). The introduction to the ACRL Framework notes that the document draws significantly on the concept of metaliteracy, which "demands behavioral, affective, cognitive, and metacognitive engagement with the information ecosystem," noting a "special focus on metacognition, or critical self-reflection, as crucial to becoming more self-directed in that rapidly changing ecosystem."

While both frameworks represent a shift in focus "from what students learn to who they learn to be" (Purdy 54), we chose the ACRL Framework as the basis for this study for two reasons. First, we saw a local need. Our institution's writing program had a more robust set of theoretically informed pedagogies for teaching writing—based on an understanding of argument informed by Toulmin, for example, and a growing interest in rhetorical genre studies—than it did for teaching information literacy. Second, we found in the ACRL Framework a clearer map for the kind of teaching that would help students to develop the desired dispositions. Even though both frameworks aim to support teaching that is intentional in connecting affective, attitudinal, and valuing qualities—which start long before and continue long past any single course—to course-specific experiences and practices, the ACRL is much more explicit about what those connections look like. The ACRL Framework is organized by threshold concepts, defined by Meyer and Land as fundamental yet "troublesome" concepts that irreversibly transform a learner's relationship to a field of knowledge (Cousin 4). The ACRL Framework builds upon a Delphi study by Lori Townsend and colleagues that defined six threshold concepts for information literacy by describing practices and dispositions associated with each. For example, under the threshold concept "searching as strategic exploration" the ACRL Framework relates the practice of using "both divergent and convergent thinking when searching" to the disposition to "value serendipity" (ACRL; see Appendix 1 [#appendix1]).{1} [#note1] The way dispositions figure in the ACRL Framework is informed by Meyer and Land's notion that threshold concepts transform learners both cognitively and affectively (Cousin 4). While writing studies began to articulate its own threshold concepts in the 2015 volume *Naming What We Know* (Adler-Kassner and Wardle), the WPA Framework does not refer to threshold concepts or articulate these kinds of connections between what students know and who they are.

If, as Purdy and Walker lament, FYW students are too often addressed as "non-knowledge makers," threshold concepts for information literacy invite a different approach to research instruction, one that concentrates on welcoming students into conceptual spaces where they can think and act as knowledge makers, one in which teachers tolerate learner confusion and "'hold' their students through liminal states" (Cousin 5). In our own librarian-writing instructor classroom teaching collaborations, we found the ACRL Framework more inspiring for this reason. We believe that threshold concepts can stimulate new ways of thinking about writing and information literacy instruction as potentially transformative for students' intellectual identities, and that by linking threshold concepts to dispositions, the ACRL Framework maps out how FYW courses might create experiences that dispose students to engage information as knowledge makers.

The ACRL's use of threshold concepts also invites changes to how we assess student learning. While recent studies of teaching with the ACRL Framework rely on learning outcomes-based rubrics (see, for example, Lancaster et al.; Witek & Grettano; Junisbai, et al.; Mills, Wiley, & William), Meyer and Land help us imagine other ways of measuring how students move across thresholds of the sort the ACRL Framework describes. They call for "new modes of mapping, representing and forming estimations of students' conceptual formation," "a more nuanced discourse to clarify variation and experience and achievement through the various stages of the liminal journey" and "the possibility of an ontological (as well as conceptual) dimension of assessment" (qtd in Oakleaf 511). In his 2019 CCCC Chair's Address, Asao Inoue insists that the WPA Framework also requires a fundamental rethinking of assessment. He credits the WPA Framework for its "de-emphasis on hierarchy and ranking performances that would fall within any given habit of mind," then goes on to ask, "But is this how departments and programs use the Framework? Do they use it to dismantle hierarchies within student social formations? Or is it just a pedagogy and not an assessment philosophy…?" (360). If the fields of writing studies and library science are to reach the goals set by both their frameworks, we need to develop new modes of assessment like those these scholars envision as well.{2} [#note2] If our goals are focused on *students as researchers*, rather than on the research papers students write, if we are to meet Johnson and McCracken's call to assess writing information literacy "not through products but through experiences" (195), then we need to find ways to understand how students are engaging information and how these engagements fluctuate over time and across contexts. We need to find ways to identify, quantify, and discover patterns in how students move or don't move across the kinds of thresholds of understanding the ACRL Framework lays out and the feelings, attitudes, and values that result.

Context and Data Collection

We collected the data for this study in the context of an information literacy pedagogy pilot intended to encourage faculty in our writing program to collaborate with librarians in new ways. The writing program and libraries at our institution, a large private research university, had a longstanding relationship, with a research librarian assigned to each instructor teaching Writing and Research (WR 150)—the second of two topic-based writing courses required of almost all undergraduates across the university's seventeen schools. At the time of the study, our non-departmental independent writing program offered a series of two FYW courses—Writing (WR 100) and Writing and Research (WR 150).{3} [#note3] In all, our instructors, who include full- and part-time non-tenure-track faculty and graduate students, teach over 400 sections each year.

WR 100 and 150 were topic-based seminars taught with a focus on rhetoric in academic arguments. In the second course, Writing and Research, students did more independent scholarly research over the course of writing three source-based academic argument papers on the course topic. Aside from this assignment sequence, a process-focused portfolio assignment, shared learning goals on the syllabus, and a textbook (Kate Turabian's *Student's Guide to Writing College Papers*), instructors designed their courses and assignments as they wished. Learning objectives for information literacy were vaguely defined in the WR 150 curriculum, as reflected in the course goal "learn to conduct college-level research." The only assessment data our program collected about research learning in our classes was the number of sources students cited in their final

academic research paper. Historically, librarians, who are staff, had contributed mainly by offering a one-shot skills-based introduction to locating scholarly sources through the libraries.

Happily, our program had entered a period of instructor-driven experimentation leading up to a curriculum overhaul, including the option to incorporate a non-academic researched argument as one of the course's three major graded assignments. In Spring 2017, as part of this effort, our research team invited writing faculty to participate in a pilot in which they would collaborate with a librarian to develop new models of library instruction based on core concepts from the ACRL Framework. We shared the Framework with all writing program faculty, but we asked those participating in the pilot to devise ways of incorporating it into their teaching in ways best suited to their own topic in collaboration with a librarian. We wanted to generate faculty engagement with the Framework and to see how it might prompt writing instructors and librarians to revise their approach to working together. We asked participants to focus on whichever frames they thought most pertinent for their students and to include them on the syllabus. We did not draw attention to the Framework's emphasis on dispositions or otherwise suggest how piloters should work with the Framework. Eight writing instructors (all full-time or experienced part-time lecturers) participated in the pilot, including the two instructors on the research team. Four librarians collaborated with them, including the librarian on the research team. Because most instructors taught more than one section, a total of fifteen WR 150 sections participated in the pilot in Spring 2017.

We recruited to participate in the study (1) the pilot instructors, (2) students over the age of 18 enrolled in their 15 sections of WR 150, (3) six WR 150 instructors who were not participating in the pilot (full-time or experienced part-time lecturers) and (4) students over the age of 18 enrolled in their seven standard WR 150 sections. We collected syllabi as well as any assignment sheets or exercises related to research that faculty and librarians jointly or separately distributed. We also asked faculty to assign include one standard set of reflection questions about research ([Appendix 2 [#appendix2]](#appendix2)) in the process-based writing portfolio assignment required programwide. We collected writing portfolios, which included a start-of-term self-assessment, drafts and final versions of all graded assignments, selected artifacts offering evidence of learning, an end-of-term reflection (all of which are program requirements), and, in cases where instructors and students complied, answers to the set of questions about research that we provided. From this data set, we selected six sections to analyze in this study. We were limited by the fact that only two of the standard sections included answers to our reflection questions about research consistently in student portfolios. (The third standard section we included incorporated our research questions in its assignment for the portfolio's end-of-term reflective essay.) Seeking to balance the number of standard and pilot sections, we eliminated the pilot sections of the two writing instructors on the research team and those that didn't include in their portfolios a set of structured reflection questions about research that were part of our study design.

The data we analyze in this study includes reflective writing included in the portfolios of 77 students from these six sections of WR 150. Portfolios—one of the sources of assessment evidence that Meyer and Land recommend ("Dynamics of Assessment," 70)—are a rich source of students' understanding of their own learning. In addition to offering evidence of what they can do in the finished work they submit (learning outcomes), the beginning- and end-of-term reflection essays offer evidence of the parts of their learning that are most notable and valuable to them. Of the array of material included in the portfolios, we chose to focus on three kinds of student reflections: beginning-of-term self-assessments, responses to the set of reflection questions we provided, and end-of-term reflective essay. We also collected assignment sheets identified as research-related by six WR 150 instructors—three piloters and three teaching standard sections.

Table 1. Categories of Data

Texts	Written by	When	Context
Self-assessments reflecting on current skills and setting goals for the semester	Students	Beginning of term	Instructors in the program are required to assign self-assessments, but they write their own self-assessment prompts, which vary significantly.
Answers to a set of reflection questions we wrote for the study	Students	End of term	These allow us to compare across sections reflections that are not shaped by the current instructors' various approaches to assigning the other required reflective writing in the portfolios.
Portfolio essays reflecting on work students collect in the portfolio and articulating what they have learned in the course	Students	End of term	Portfolios, including an end-of-term reflective essay, are required across WR 150 courses, but instructors write their own prompts. The quality of this end-of-term essay is an important factor in how the portfolio is assessed.
Assignment sheets: The three major graded writing assignments required in the curriculum and any other homework or in-class activities that instructors identify as research-related	Instructors	Throughout the term	Our program offers topic-based seminars that follow a common assignment sequence. Instructors are encouraged to adapt the shared curriculum in ways suitable to their own topics.

Methodology

In order to discern patterns in the relationships between the assignment sheets that a student engages and the statements students make about their learning, we needed to define the dispositions that interest us precisely enough to code them reliably. The ACRL Framework lists 38 dispositions associated with its six frames or threshold concepts, a number that presented a daunting coding challenge (Appendix 1 [#appendix1]). We reduced the complexity of the ACRL's descriptions in a way that made it possible to code our evidence reliably by drawing on Wardle's definition of *problem-exploring* and *answer-getting* dispositions. In "Creative Repurposing for Expansive Learning: Considering 'Problem-Exploring' and 'Answer-Getting' Dispositions in Individuals and Fields," she defines them as follows:

> Problem-exploring dispositions incline a person toward curiosity, reflection, consideration of multiple possibilities, a willingness to engage in a recursive process of trial and error, and toward a recognition that more than one solution can "work." Answer-getting dispositions seek right answers quickly and are averse to open consideration of multiple possibilities.

This pair of terms offered us a way to describe in straightforward language a meta-disposition that, when applied to information literacy, could encompass the long list of dispositions the ACRL describes. By creating cases drawn from the language of the ACRL Framework and organizing them through this binary, we were able to create a coding scheme that was focused enough to be reliable. Our study design was also informed by Wardle's position that "individuals inhabit dispositions that are acquired through extended participation in fields that reproduce those dispositions." Her observation about the relationship between individual dispositions and institutional practices offers a framework for analyzing student reflections alongside instructor assignment sheets. We used the same definitions of answer-getting and problem-exploring for assignment sheets.

The binary terms *answer-getting* and *problem-exploring* gave us a useful structure for mapping the ACRL's dispositions onto instructor assignment sheets as well as student reflections, but we still needed to find a way to code that captured the shifting—and sometimes conflicting—dispositions they express. As Driscoll and colleagues note in their study-of-a-dispositions study "Down the Rabbit Hole," the temporal complexity of student reflection language makes it more difficult to code for disposition than for other aspects of learning. They note the need to account for "students' trajectories and dispositional shifts over time" and for the "complex and potentially contradictory articulations in the language students use to reflect on their goals and their learning." For example, in our own data, in a single paragraph of reflection, students often explain a current belief by contrasting it with one they no longer hold. They also often make claims that express one attitude or value followed quickly with a different, sometimes conflicting one. Meyer and Land might explain this as characteristic of a liminal state, "an unstable space in which the learner may oscillate between old and emergent understandings" (Cousin 4). In the introduction to her 2016 anthology *A Rhetoric of Reflection*, Yancey highlights how the knowledge-making that is characteristic of reflective writing is "keyed to uncertainty and ambiguity" (8). Our coding scheme needed to account for how students' affect and values around information and research may fluctuate over time as their developmental process as individual learners interacts with the particular learning experience of the course. If students' dispositions can fluctuate, so too can those of teachers and programs. Recognizing how conventions of research instruction can be influenced by institutional practices that position FYW as a skills and mechanics course, we needed to account for "complex and potentially contradictory articulations" (Driscoll) in assignment language as well.

We adopted Cheryl Geisler's coding method because it offered systematicity while simultaneously allowing us to treat our language data as multidimensional and rhetorical, requiring interpretation that depends on context (216). Following Geisler, we segmented our data into clauses, created different codes for different dimensions, and gave each clause one and only one code for each dimension we defined (Figure 1 [#fig1]). We developed a pair of nested coding schemes for assignment sheets and student reflections respectively and tested both schemes until we reached inter-rater reliability (indicated by a Cohen's kappa of at least .7), a process that allowed us to discuss and refine the schemes extensively. All clauses remained visible throughout subsequent phases of coding, allowing coders (members of the research team) to read the clause in context.
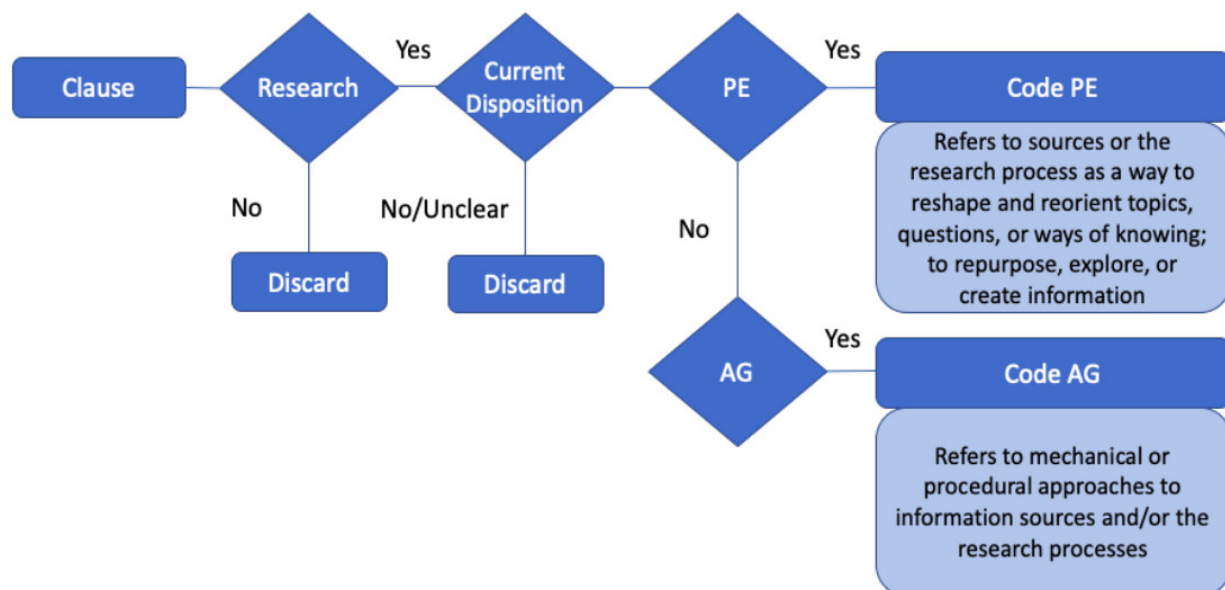
[answer-getting-fig1.jpg]

Figure 1. Coding Scheme

For assignment sheets, we first coded all of the clauses for research or information literacy content. (*Does* this assignment clause refer to information sources or the research process?) We then coded those assignment clauses with research content as either problem-exploring or answer-getting. (*How* does the assignment clause communicate an affective, attitudinal, or valuing disposition toward research?) Although our coding scheme is based on binaries, clause-by-clause coding allowed us to see fluctuations within instructors' materials and to quantify the proportions of problem-solving and answer-getting instructions or advice they included.

To code students' reflective writing for evidence of dispositions at the time and in the context of the course, we needed an additional dimension. After coding each clause for research content (Does this reflection clause refer to information sources or the research process?), we defined a dimension for "current disposition" (Does this clause communicate a *current* affective, attitudinal, or valuing disposition toward research?) to sift out retrospective statements and clauses with research content that were too general or unclear to be coded as dispositional. The patterns that emerged from the remaining 3,131 clauses offered us a view of individual students expressing dispositions toward research that are unresolved and ambiguous, even as the averages showed clear trends from course to course and a clear contrast between pilot and standard sections.

There are, of course, limitations to this methodology. Assignment sheets guide what students do during class and as they complete assignments outside of class, influencing students' choices in ways that have implications for how they will be evaluated. But they are only one piece of the complex context of instruction in any course. Analyzing class transcripts and instructors' written feedback would offer a more complete picture of how a FYW course cultivates dispositions toward research. Student reflections offer evidence that is similarly limited. Assigned portfolio reflections that are part of a student's grade may reflect back the instructor's own beliefs and language, an issue we address in the discussion section below. Student reflections can also only offer evidence of what Driscoll and colleagues describe as a highly contextual "dispositional moment," not of students' dispositions writ large. Finally, the binary terms that made consistent coding possible can't fully capture the complexity of the dispositions the ACRL describes.

Results

Self-assessments. As students assessed and set goals for themselves at the beginning of the WR 150 Writing and Research courses, they did not write very much about research. Course averages for research content ranged between 6% and 19% of self-assessment clauses. Only 36 of the 74 students whose self-assessments we collected made any statements about research or information that we coded as dispositional. The number of dispositional clauses about research was very low across sections (ranging from 4 to 14 clauses per section), but students who did make dispositional statements about research expressed problem-exploring attitudes between 36% and 56% of the time in the different sections. Students in standard sections (with an average of 45% of dispositional clauses coded problem-exploring) and pilot sections (with an average of 48%) started the term similarly disposed to explore problems.

End-of-term reflections. Students had much more to say about research and information in their end-of-term portfolio reflections than in their self-assessments, mentioning research in an average of 49% of the clauses across sections. The amount students talked about research was similar for standard (45%, 319 clauses) and pilot (50%, 495 clauses) sections. But students in standard sections expressed far less inclination to explore problems (with an average of 49% dispositional clauses coded problem-exploring, totaling 95 clauses) than their peers in pilot sections (with an average of 80%, totaling 269 clauses).

Most students made a combination of problem-exploring and answer-getting dispositional statements in their end-of-term portfolio essays. Eighty-six percent of individual students included a combination of answer-getting and problem-exploring clauses, with proportions varying widely. Only 4% did not make any problem-exploring statements at all, and 10% expressed only problem-exploring dispositions toward research.

In students' responses to the study's questions about research, the trends are similar, with students in each of the five sections that included these questions in their portfolios expressing more disposition to explore problems at the end of the term than at the beginning (ranging from 57% to 82% by section) in a proportion that tracks with the proportion of problem-exploring clauses in those sections' assignment sheets. The average proportion of problem-exploring was 60% (totaling 156 clauses) for standard sections and 77% (totaling 218 clauses) for pilot sections. The percentage of problem-exploring clauses in the three kinds of student reflections collected across standard and pilot sections are shown in Figure 2 [#fig2].
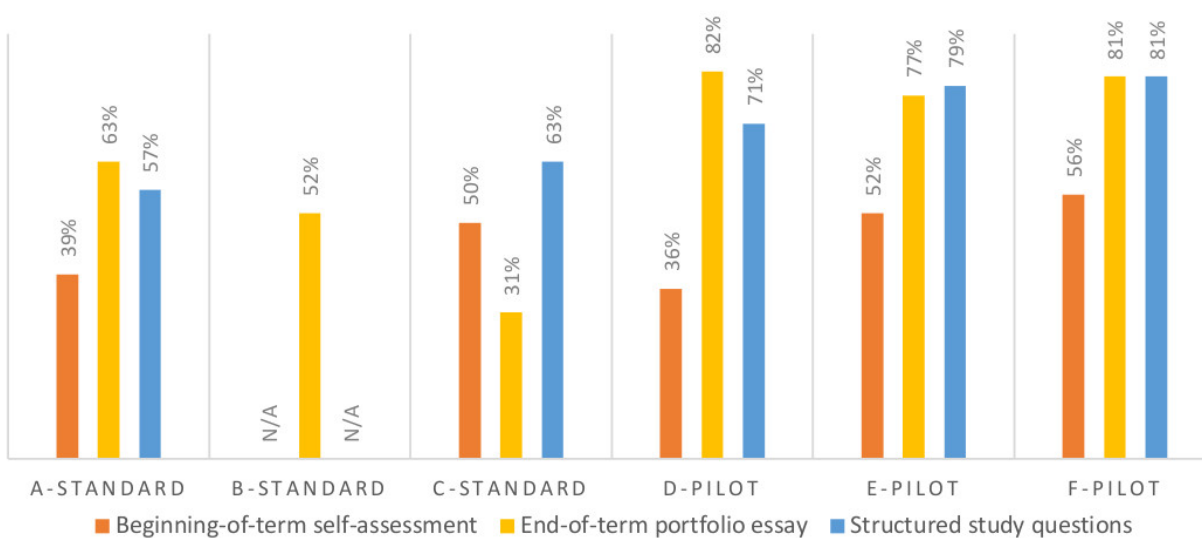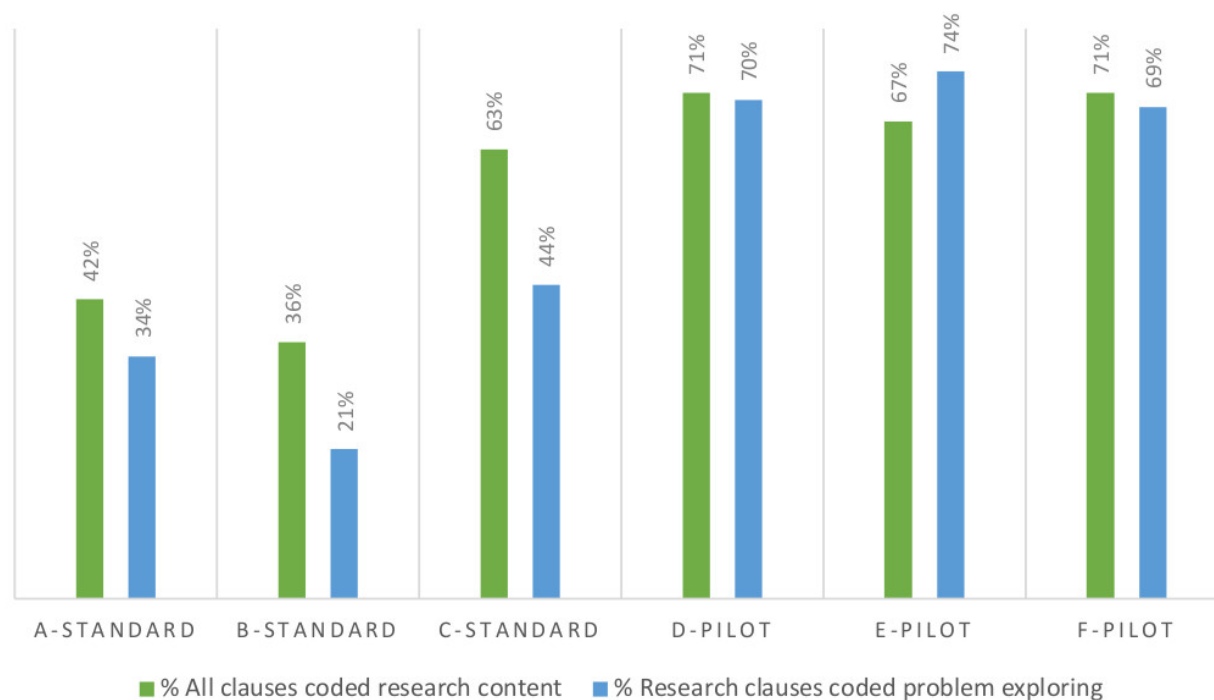

[answer-getting-fig2.jpg]

Figure 2. Student Reflections by Section. % of Dispositional Statements Coded Problem-Exploring

Assignments. The assignment sheets we analyzed varied significantly in *how much* they addressed research,

as shown in Figure 3 [#fig3]. Mentions of research ranged from only 100 clauses concerning research in the section with the lowest number (42% of the clauses in the materials submitted) to 418 clauses in the section with the highest number (71% of the clauses in the materials submitted). This suggests that emphasis on research instruction varied significantly across sections. Figure 3 [#fig3] also shows that the assignment sheets we collected varied greatly in *how* they characterized, advised, and instructed students about research as well. Instructors teaching in the same program expressed divergent values and attitudes through their assignment sheets. The proportion of problem-exploring dispositional clauses ranged from a low of 21% (34 clauses) to a high of 74% (254 clauses). While there was considerable variation among the standard sections (21%, 34%, 44%), the pilot sections' materials were markedly similar in the degree to which they emphasized problem-exploring (69%, 70%, 74%). The average proportion of problem-exploring clauses for the pilot sections was 71% (234 clauses) compared to 33% (41 clauses) for the standard sections.

[answer-getting-fig3.jpg]

Figure 3. Instructor Assignment Clauses by Section

Assignments and end-of-term reflections. As shown in Figure 4 [#fig4.jpg], students in sections where assignment sheets more often encouraged them to explore problems through their research tended to express more inclination to explore problems in their end-of term portfolio essays. The increase in student problem-exploring in most sections tracks with the proportion of problem-exploring expressed in instructors' assignment language. The one exception (C-Standard) is also the only section where students expressed less problem-exploring in end-of-term portfolio essays than in the beginning-of-term self-assessments. In the other five sections, students expressed more inclination to explore problems at the end of the term than the beginning, and in classes where assignment sheets expressed these values more often, students were proportionately more inclined.
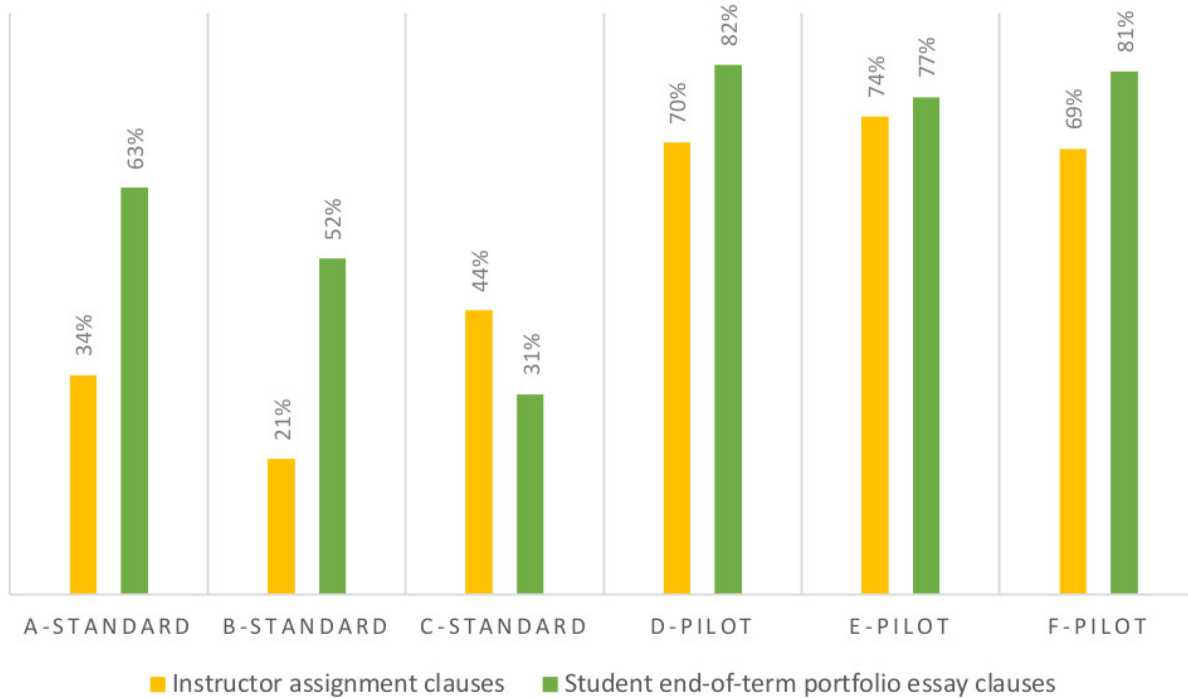
[answer-getting-fig4.jpg]

Figure 4. Assignments and Reflections by Section. % of Dispositional Clauses Coded Problem-Exploring

Finally, as shown in Figure 5 [#fig5], both instructors and students in in pilot courses expressed significantly more problem-exploring (71% on assignment sheets, totaling 234 clauses; 80% on student end-of-term portfolio reflection, totaling 269 clauses) than those from standard sections (33% on assignment sheets, totaling 41 clauses; 49% on student end-of-term portfolio reflections, totaling 95 clauses). A full table of results appears in Appendix 3 [#appendix3].
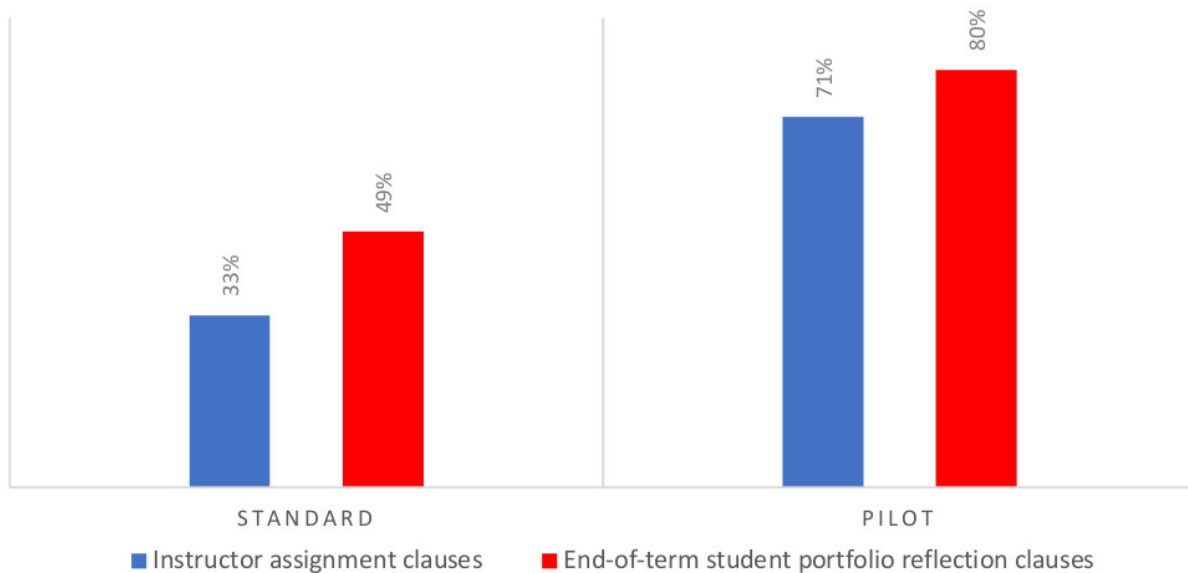
Figure 5. Assignments and Reflections for Standard and Pilot Sections. Average % of Dispositional Clauses Coded Problem-Exploring

Discussion

What dispositions toward research do students express at the beginning of the term? While Wardle speculates that first-year students "who have spent twelve years in an educational field that teaches toward standardized tests and discourages questions would likely emerge with strongly developed answer-getting dispositions," we did not find this to be true in our context. Based on our data, students did not enter WR 150 strongly disposed toward answer-getting. Though students didn't mention research much in their self-assessments (18% of clauses in standard sections and 9% of clauses in pilot sections), when they did, they expressed problem-exploring almost half of the time (45% in standard sections, 48% in pilot sections). They made statements such as "I am good at finding topics that interest me" and "I am excited to begin this process because of the many connections that can be made from the American family to gender or race" almost as often as they expressed answer-getting attitudes such as "I hope to learn how to use resources more efficiently" and "I should learn to get more familiar with writing such as citing the sources properly." It is possible that students more strongly disposed to get answers did not mention research in their self-assessments or that students' experiences in the first semester of college nudged them toward problem-exploring as they entered WR 150, the second of two required writing classes. It is also possible that students' disposition to explore problems was cultivated to some degree through K-12 experiences. The proportions we see in our small sample may not be generalizable, but at the very least, this result serves as a caution against underestimating FYW students' inclination to explore problems.

What dispositions toward research do students express at the end of the term? Across sections, the students in our sample expressed more problem-exploring values, attitudes, and feelings as they reflected on their learning at the end of the term than at the beginning. While the beginning and end-of-term results in Figure 2 illustrate a wide range in degree of change from section to section, across sections the proportion of problem-exploring increased, whether these reflections were assigned by their various instructors (averaging 49% in standard sections, up 4% from self-assessments; 80% in pilots, up 32% from self-assessments) or prompted by the study's set of questions (averaging 60% in standard sections, up 15% from self-assessments; 77% in pilots, up 29% from self-assessments).{4} [#note4]

One might note that any growth in problem-exploring could be attributable to students simply trying to tell their teachers what they want to hear, expressing attitudes and values that they will abandon as soon as they get their grade. Meyer and Land help us understand this phenomenon as "mimicry," part of the learning process that involves "both attempts at understanding and troubled misunderstanding, or limited understanding" ("Epistemological Considerations," 377). Mimicry, then, is a sign that a student inhabits a liminal space—at, not across, a threshold of understanding. Mimicry is also a sign of how an individual student is shaped by the larger educational environment. "Reflection always happens in context," as Yancey puts it ("Reflection," 14). Thus, we see the possibility of mimicry as a characteristic of our evidence rather than as a factor that muddies its clarity.

An example may illustrate the dynamic interaction between disposition and conceptual-learning experiences for students inhabiting this liminal space. In an end-of-term portfolio reflection, one student wrote, "I am now able to choose sufficient and scholarly sources to support my claim, and then integrate them into my research paper." The student characterizes sources as "sufficient and scholarly," attributing to them a stable and intrinsic value, with authority that helps this student back up a position they have already taken, thus expressing an answer-getting disposition toward research. Note that this is not a past belief under revision in the end-of-term reflection but instead a claim the student is making about what they learned in the course. The student then continues the reflection with a statement that expresses a different and conflicting understanding of source use and value: "I realized that the sources can actually be divided into groups for different functions. Different categories will serve my needs quite differently." In this series of clauses, the student expresses problem-exploring by noting the choices available to them in their use of sources,

suggesting that a source's value depends on how a writer chooses to use it, and beginning to recognize "that authority may be conferred or manifested in unexpected ways" (ACRL). The student is beginning to look at sources rhetorically, integrating a new and perhaps troublesome concept (Bizup's BEAM framework{5} [#note5]). This sequence shows that the student is inhabiting not one disposition or the other but someplace in between. A majority of students (87%) included a combination of answer-getting and problem-exploring clauses in their end-of-term portfolio essays.

What dispositions toward research do instructor assignment sheets convey? As Wardle points out, rhetorical problems are intrinsically "ill-structured," calling for questioning, exploration, and critical analysis. It is not surprising, then, that all WR 150 assignment sheets we collected called for questioning, exploration, and critical analysis in places. However, by coding the assignment sheets clause by clause, we reveal many shades of gray, with statements in each instructors' assignment sheets that encourage problem-exploring and others that instill answer-getting. In the research-related assignment sheets we collected for every section, we found some answer-getting statements prescribing a linear research process, a "proper" way of engaging information, or one stable kind of "credibility"—despite the fact that on a global level all of the larger assignments ask students to engage messy rhetorical problems to which there is no one correct answer. When broken down by clause, instructor texts—like student texts—fluctuate between answer-getting and problem-exploring. Even the instructor (E-Pilot) with the most problem-exploring set of assignment sheets still used answer-getting clauses 26% of the time. And the instructor with the most answer-getting set of assignment sheets still expressed problem-exploring 21% of the time.

We are not suggesting that FYW research assignments ought not include any instructions or advice that cultivates answer-getting. Instructors need to set up parameters to support novices, to offer stable and to some degree limited spaces in which they can explore, and assignments do this at least in part by asking students to "get answers." It makes sense, then, that FYW instructors express both through their assignment sheets. Sometimes an assignment sheet's shift from answer-getting to problem-exploring seems quite intentional. Consider the thoughtful movement from answer-getting to problem-exploring in this sequence of clauses, which are part of a library exercise. The exercise begins with instructions to locate a specific book related to the course topic: "Each slip will contain the title, author and call number of a source in the library stacks. All members of your group go together to find each source. When you have found each source, take a group selfie that shows all members of the group and the title of the book (on the spine, the cover, or the title page)." These clauses unambiguously invite answer-getting. The instructor has chosen the books and students need to use mechanical skills to complete the task. With this scaffolding accomplished, the exercise turns to problem-exploring: "Then, working together, choose a different book that you find nearby in the same area. Scan the titles (and tables of contents if necessary) and try to choose a book that might be helpful for someone doing research in our class." Through its shift from answer-getting to problem-exploring instructions, this exercise creates a manageable space in which students can explore collaboratively.

In other examples, however, the fluctuations seem to reveal contradictions of the kind Kleinfeld noted between FYW faculty's own values and practices around academic research and their instructions to students. An academic research paper assignment from our study, for example, included the following: "Include summary, paraphrase, and/or quotation from at least 10 different sources. You may use no more than one electronic resource that was not obtained through a library index or database." These instructions invite answer-getting through requiring a specific number of sources and attributing these sources' value to the platform through which they were located. Instructions of this kind are common, part of the genre of college research paper assignments. They do not address students as knowledge makers or help them understand how or why scholars engage sources or use particular platforms. Just a few lines later, however, the same assignment says, "I would like your argument to come from your careful engagement with [the course texts] and your research sources, particularly your argument sources. Keep detailed notes and write down questions or problems you have understanding the material: the answers to your questions or solutions to your

problems might lead to a thesis." This series of clauses asks students to engage sources in a very different way, one that reflects the need to embrace difficulty and uncertainty. In this case, though, the conflicting directive to cite ten library sources may inhibit students' ability to adopt this problem-exploring way of thinking and acting.

What does the relationship between dispositions expressed in instructor and student texts reveal about how FYW assignment sheets can cultivate problem-exploring dispositions? While all of the instructors in our study created assignments that asked students to adopt both answer-getting and problem-exploring ways of engaging in research, and while some of each may be necessary to craft an effective assignment, the larger patterns in our data tell a story. Our evidence reveals that the proportions of answer-getting and problem-exploring clauses in instructor assignment language matters. The way instructors characterize research and the manner in which they ask students to engage it in their assignment sheets is strongly correlated with the dispositions students express when they reflect on their learning at the semester's end. The data in Figure 4 [#fig4] shows clearly that lower proportions of problem-exploring in assignments sheets (B-standard: 21%, A-standard: 34%, C-standard: 44%) is associated with lower problem-exploring in students' end-of-term reflections (B-standard: 52%, A-standard: 63 %, C-standard: 31%) and that higher proportions of problem-exploring in assignments sheets (F-pilot: 69%, D-pilot: 70%, E-pilot: 74%) is associated with higher proportions of problem-exploring in students' end-of-term reflections (F-pilot: 81%, D-pilot, 82%, E-pilot: 77%). This evidence suggests that emphasizing mechanical or procedural approaches in assignment instructions and advice does not encourage the dispositions that the ACRL and WPA identify as key to college success in writing and information literacy. Because this is our most important finding, we performed a regression analysis to confirm that exposure to instructor problem-exploring clauses in assignment sheets had an impact far above the threshold for statistical significance on the degree of change in student problem-exploring from the beginning to the end of the term.{6} [#note6]

Common assignment features such as offering examples of paper topics, instructing students to use a certain number of sources or to use specific tools in their research, prohibiting or requiring a certain category of source, and characterizing sources and citations through their formal features were correlated with a higher proportion of answer-getting student statements about research at the end of the term. Likewise, assignment sheets that frequently ask students to explore different possibilities and directions, to exercise autonomy, and to reflect about their engagement with information throughout the research process were correlated with a higher proportion of problem-exploring statements about research at the end of the term. Examples of such language are shown in Table 2 [#table2].

Table 2. Examples of Language

Examples of Answer-Getting Instructor Assignment Language	**Examples of Answer-Getting Student Reflection Language**

"For each annotation in your bibliography, the first sentence or two should summarize the source's content."	"I learned how to properly search for sources, which narrowed down the results and eased the experience."
"Websites do not count toward the minimum number of sources unless approved by me."	"Books tended to provide very objective background information that was good for setting up an argument or a claim."
"Your claim should be grounded and supported by credible research."	"To write in a professional way, it's necessary to cite the sources correctly, and double check the credibility of the sources."
Examples of Problem-Exploring Instructor Assignment Language	**Examples of Problem-Exploring Student Reflection Language**
"What did you become more curious about through searching, browsing, and selecting these sources related to your topic?"	"I learned that research has very much to do with finding connections."
"The way in which you best integrate research into a project depends on the way in which the sources you find are relevant."	"You move from the starting idea to a more guided question that is more in line with the current discourse and more likely to produce a conclusion that can further that discourse."
"Provide a summary of two argument or theory sources relevant to your topic and explain how they pertain to the problem that motivates you."	"I now understand that it's okay to move away from my original ideas and expectations of my research and embrace the path that it is taking."

In sum, our findings show that FYW instructors can help to cultivate problem-exploring dispositions by composing assignment sheets and exercises that do the following in greater proportions:

- Offer students autonomy, letting their questions and interests initiate and drive inquiry.

- Build in student decision-making and include reflection on decisions as a regular part of the research process.

- Ask students to determine or reflect on genre or disciplinary features and why they are used in particular contexts when students encounter or produce them.

- Emphasize how sources can be used rather than what they are and ask students to reflect on the same.

- Ask students to reflect on the conventions of citation and judge for themselves what kind of citation is appropriate for a certain context.

While librarians seldom exercise the same degree of control over assignments, they can engage, advocate, and model these problem-exploring pedagogies in their work with both students and teachers, as well as in their contributions to instructional materials.

Our results help establish these practices' relationship to dispositions toward research in ways relevant to the

frameworks that guide our fields. They highlight the degree to which expressions of disposition change in response to context and identify concrete ways for teachers to foster problem-exploring in their FYW students' engagements with information. They draw attention to how the language of assignments can shape the manner in which students undertake them and how students who are still newcomers to the university come to see themselves as potential knowledge makers.

Do faculty who work with librarians to incorporate core concepts from ACRL frames into their instruction cultivate more problem-exploring than those who do not? The contrast between the results in our pilot and standard sections suggests that even loosely structured collaborations between writing instructors and librarians may be an effective way to seed problem-exploring approaches. As shown in Figure 5, instructors working with a librarian using the ACRL Framework wrote more about research in their assignments, and students in these classes wrote more about research when they reflected on what they learned at the end of the term. Across the board—and without coordination with each other—pilot instructors included very similar proportions of problem-exploring clauses in their assignment sheets (69%, 70%, 74%), and their students expressed similarly high proportions of problem-exploring in their end-of-term reflections (77%, 81%, 82%). The averages for problem-exploring in both instructor assignments and student reflections were also significantly higher in pilots than those in standard classes.

It is true that the instructors who opted into the pilot were likely already particularly interested in research pedagogy, whether or not they knew about the ACRL Framework or collaborated with a librarian, but the consistently high proportions of problem-exploring expressed in both instructor and student texts suggests that the ACRL framework had some effect. These results support our hypothesis that the ACRL Framework's organization through threshold concepts could offer FYW faculty practicable, theoretically informed ways to center their information literacy instruction on the kind of conceptual understandings that shape students' identities as researchers—an approach that also serves the WPA Framework's goals of fostering curiosity, openness, engagement, creativity, persistence, responsibility, flexibility, and metacognition.

Conclusion

One student participant in this study noted in a portfolio reflection that "answering one question almost always leads to further questions." And so it is with this study. The data we analyzed raised new questions about how individual students' dispositions appear to shift within and between different kinds of assignments. Future research using similar methods could help pinpoint where and how students inhabit "stuck places" (Meyer and Land "Epistemological Considerations," 377). If that research collected demographic information and tracked individual students who move more or less than average, it would allow us to better incorporate perspectives from critical information literacy of the kind Tewell champions. And because the threshold concepts played a key role in the ACRL and therefore in the way we thought about dispositions in this project, we can imagine a study that places the threshold concepts identified in *Naming What We Know* at the center of a pedagogical intervention that could be assessed using similar methods to those we developed here. We can see a line of research stretching out in front of us.

But, to invoke our epigraph once again, students are not the only ones who find themselves in a "liminal space" when it comes to positioning themselves as knowledge makers (Purdy and Walker 11). The instability of students' academic identities is not unlike those of FYW instructors, or librarians, for that matter, in the larger context of the university. As a team made up of two non-tenure-track lecturers and a staff librarian, over the course of the project we repeatedly noted our own ambivalence toward the study's data-driven methods, felt the instability of our own dispositions in designing and carrying it out, and wondered at the liminal space we were occupying as practitioners inhabiting the role of researchers. Norgaard and Sinkinson remind us that "both of our faculties—in Writing and Rhetoric and in University Libraries—have historically been marginalized groups whose identities, roles, and 'place' have been defined more by others than by

ourselves" (1). In collaborating, FYW faculty and librarians can face the challenges of working at the margins in solidarity, bringing transdisciplinary ways of knowing to both teaching and scholarship in research and information literacy.

So we conclude this project with a renewed interest in the role of power, privilege, and identity in the pedagogy of writing information literacy. We hope that by offering a view of assignment design through the lens of disposition, by linking individual dispositions to institutionalized practices, this study and others like it will encourage writing teachers and the librarians who work with them to question some of the orthodoxies of research pedagogy—together. We know that questioning institutional practices in higher education that position students as non-knowledge makers entails some risk. Introducing more problem-exploring elements in FYW assignments means that some students will produce less polished work, and most if not all of them will feel more lost and frustrated at some point in the research process. This may not be comfortable for students or faculty, and the risk may be greater for less privileged students and less privileged faculty alike. The rewards of such a shift are easy to feel in the form of less drudgery and more excitement, but they are hard to measure, at least in the traditional ways.

In the final analysis, national organizations can call for cultivating curiosity, flexibility, creativity, and persistence all they want, but as long as our roles are defined by others, and as long as the easier-to-measure skills and mechanics are evaluated in program assessments and expected by faculty teaching upper-level classes, we will need to negotiate those roles and measures. That is how institutionalized practices are forged. Rethinking assignments on the micro level, as we have in this study, should be paired with an expansive and creative rethinking of how our institutions assess and value who our students are as knowledge makers on a macro level. When compositionists and librarians get the institutional support to establish a place for our transdisciplinary kinds of expertise at the center rather than the margins of the university's knowledge-making ecosystem, students will be empowered to cross the thresholds we all claim to value.

Appendices

Appendix 1: ACRL Frames and Associated Dispositions

Frame: Authority Is Constructed and Contextual

Dispositions: Learners who are developing their information literate abilities

- develop and maintain an open mind when encountering varied and sometimes conflicting perspectives;

- motivate themselves to find authoritative sources, recognizing that authority may be conferred or manifested in unexpected ways;

- develop awareness of the importance of assessing content with a skeptical stance and with a self-awareness of their own biases and worldview;

- question traditional notions of granting authority and recognize the value of diverse ideas and worldviews;

- are conscious that maintaining these attitudes and actions requires frequent self-evaluation.

Frame: Information Creation as a Process

Dispositions: Learners who are developing their information literate abilities

- are inclined to seek out characteristics of information products that indicate the underlying creation process;

- value the process of matching an information need with an appropriate product; accept that the creation of information may begin initially through communicating in a range of formats or modes;

- accept the ambiguity surrounding the potential value of information creation expressed in emerging formats or modes;

- resist the tendency to equate format with the underlying creation process;

- understand that different methods of information dissemination with different purposes are available for their use.

Frame: Information Has Value

Dispositions: Learners who are developing their information literate abilities

- respect the original ideas of others;

- value the skills, time, and effort needed to produce knowledge;

- see themselves as contributors to the information marketplace rather than only consumers of it;

- are inclined to examine their own information privilege.

Frame: Research as Inquiry

Dispositions: Learners who are developing their information literate abilities

- consider research as open-ended exploration and engagement with information;

- appreciate that a question may appear to be simple but still disruptive and important to research;

- value intellectual curiosity in developing questions and learning new investigative methods;

- maintain an open mind and a critical stance;

- value persistence, adaptability, and flexibility and recognize that ambiguity can benefit the research process;

- seek multiple perspectives during information gathering and assessment;

- seek appropriate help when needed;

- follow ethical and legal guidelines in gathering and using information;

- demonstrate intellectual humility (i.e., recognize their own intellectual or experiential limitations).

Frame: Scholarship as Conversation

Dispositions: Learners who are developing their information literate abilities

- recognize they are often entering into an ongoing scholarly conversation and not a finished conversation;

- seek out conversations taking place in their research area;

- see themselves as contributors to scholarship rather than only consumers of it;

- recognize that scholarly conversations take place in various venues;

- suspend judgment on the value of a particular piece of scholarship until the larger context for the scholarly conversation is better understood;

- understand the responsibility that comes with entering the conversation through participatory channels;

- value user-generated content and evaluate contributions made by others;

- recognize that systems privilege authorities and that not having a fluency in the language and process of a discipline disempowers their ability to participate and engage.

Frame: Searching as Strategic Exploration

Dispositions: Learners who are developing their information literate abilities

- exhibit mental flexibility and creativity

- understand that first attempts at searching do not always produce adequate results

- realize that information sources vary greatly in content and format and have varying relevance and value, depending on the needs and nature of the search

- seek guidance from experts, such as librarians, researchers, and professionals

- recognize the value of browsing and other serendipitous methods of information gathering

- persist in the face of search challenges, and know when they have enough information to complete the information task

Source: Association of College and Research Libraries. *Framework for Information Literacy for Higher Education*. Acrl.org. 2015.

Appendix 2: Study's End-of-Term Reflection Questions

1. How did your research question change and develop over the course of this project? What is the most important lesson you learned about research questions? How will that lesson inform your future decisions?

2. What have you learned about formats, genres, and sources of information, including the different ways they are created and disseminated and the different ways you can use them?

3. What have you learned about the scholarly conversation around your topic that surprised you or made you think differently about the topic? What have you learned about the way scholars think and act?

4. Think about what you knew about research at the beginning of this course. How has your view of research and the research process changed? How will that inform research you undertake in the future?

Appendix 3: Results Table [answer-getting-appendix3.pdf]

Notes

1. It also describes knowledge practices for each Frame. For the full text of the ACRL Framework, see https://www.ala.org/acrl/standards/ilframework [https://www.ala.org/acrl/standards/ilframework]. (Return to text. [#note1_ref])

2. Johnson and McCracken chart connections between the ACRL's threshold concepts and those in *Naming What We Know*, noting that the interest in threshold concepts in both fields creates "an opportunity for rich, cross-disciplinary integration that could potentially empower teachers in two separate fields to advocate collectively against one-off, skills-focused writing and research instruction" (180). (Return to text. [#note2_ref])

3. A few small general education programs at our institution offer alternatives to this pair of required writing classes, but no incoming first-year students are exempt from first-year writing. Multilingual writers are given a placement test and sometimes required to take prerequisite courses. (Return to text. [#note3_ref])

4. Looking across sections, there is a single exception: the end-of-term portfolio essays for C-Standard expressed less problem-exploring than that section's initial self-assessments; however, C-Standard's responses to the study's questions expressed more problem-exploring. (Return to text. [#note4_ref])

5. Noting that the common terms *primary* and *secondary* are "anti-rhetorical," Bizup proposes an alternative vocabulary for categorizing sources, one that describes sources according to how a writer uses them—as *background*, *exhibit*, *argument*, or *method*. Bizup's BEAM vocabulary was a recommended part of our writing program's curriculum. (Return to text. [#note5_ref])

6. We are grateful to Ryan Frost, of our institution's Master of Science in Statistical Practice, for his help with this analysis. (Return to text. [#note6_ref])

Works Cited

Adler-Kassner, Linda, and Elizabeth Wardle. *Naming What We Know: Threshold Concepts of Writing Studies*. Utah State University Press, 2015.

Association of College and Research Libraries. *Framework for Information Literacy for Higher Education*. Acrl.org. 2015. https://www.ala.org/acrl/standards/ilframework [https://www.ala.org/acrl/standards/ilframework]. Accessed 8 February 2022.

Baer, Andrea. *Information Literacy and Writing Studies in Conversation: Reenvisioning Library-Writing Connections*. Library Juice Press, 2016.

Bizup, Joseph. "BEAM: A Rhetorical Vocabulary for Teaching Research-Based Writing." *Rhetoric Review*, vol. 27, no. 1, 2008, pp. 72-86. doi:10.1080/07350190701738858 [https://doi.org/10.1080/07350190701738858].

Council of Writing Program Administrators, National Council of Teachers of English, National Writing

Project. *Framework for Success in Postsecondary Writing*, 2011. https://wpacouncil.org/aws/CWPA /asset_manager/get_file/350201?ver=7548 [https://wpacouncil.org/aws/CWPA/asset_manager/get_file /350201?ver=7548]. Accessed 8 February 2022].

Cousin, Glynis. "An Introduction to Threshold Concepts." *Planet* (Plymouth), vol. 17, no. 1, 2006, pp. 4-5.

D'Angelo, Barbara J., et al. *Information Literacy: Research and Collaboration Across Disciplines*. The WAC Clearinghouse, 2017.

Driscoll, Dana Lynn. "Connected, Disconnected, or Uncertain: Student Attitudes about Future Writing Contexts and Perceptions of Transfer from First-Year Writing to the Disciplines." *Across the Disciplines,* vol. 8, no. 2, 2011, pp. 1-31. https://wac.colostate.edu/docs/atd/articles/driscoll2011.pdf [https://wac.colostate.edu/docs/atd/articles/driscoll2011.pdf].

Driscoll, Dana Lynn, Gwen Gorzelsky, Jennifer Wells, Carol Hayes, Ed Jones, and Steve Salchak. "Down the Rabbit Hole: Challenges and Methodological Recommendations in Researching Writing-Related Student Dispositions." *Composition Forum*, vol. 35, 2017. https://compositionforum.com/issue /35/rabbit-hole.php [https://compositionforum.com/issue/35/rabbit-hole.php].

Driscoll, Dana Lynn and Roger Powell. "States, Traits, and Dispositions: The Impact of Emotion on Writing Development and Writing Transfer Across College Courses and Beyond." *Composition Forum*, vol. 34, 2016. https://compositionforum.com/issue/34/states-traits.php [https://compositionforum.com/issue /34/states-traits.php].

Driscoll, Dana Lynn, and Jennifer Wells. "Beyond Knowledge and Skills: Writing Transfer and the Role of Student Dispositions." *Composition Forum*, vol. 26, 2012. https://compositionforum.com/issue /26/beyond-knowledge-skills.php [https://compositionforum.com/issue/26/beyond-knowledge- skills.php].

Geisler, Cheryl. "Coding for Language Complexity: The Interplay Among Methodological Commitments, Tools, and Workflow in Writing Research." *Written Communication*, vol. 35, no. 2, Apr. 2018, pp. 215-249. doi:10.1177/0741088317748590 [https://doi.org/10.1177/0741088317748590].

Head, Alison. "Project Information Literacy: What Can Be Learned About Their Information-Seeking Behavior of Today's College Students?" Association of College and Research Libraries (ACRL) Proceedings 2013, Chicago: ALA, 2013. https://projectinfolit.org/pubs/evaluating-information- study/pil_evaluating-information_2010-11-01_what-learned.pdf [https://projectinfolit.org /pubs/evaluating-information-study/pil_evaluating-information_2010-11-01_what-learned.pdf], Accessed 8 February 2022.

Head, Alison & Michael Eisenberg. "Assigning Inquiry: How Handouts for Research Assignments Guide Today's College Students." *Project Information Literacy*, 2010. https://dx.doi.org/10.2139/ssrn.2281494 [https://dx.doi.org/10.2139/ssrn.2281494].

Inoue, Asao B. "How do We Language So People Stop Killing Each Other, or What Do We Do About White Language Supremacy?" *College Composition and Communication*, vol. 71, no. 2, 2019, pp. 352-369.

Jamieson, Sandra. "What the Citation Project Tells Us About Information Literacy in College Composition." In *Information Literacy: Research and Collaboration Across Disciplines*. Perspectives in Writing Series. Edited by Barbara D'Angelo, Sandra Jamieson, Barry Maid, Janice R. Walker. Fort Collins, Colorado: WAC Clearinghouse & University Press of Colorado, 2017, pp. 115-138.

Johnson, Brittney, and I. Moriah McCracken. "Reading for Integration, Identifying Complementary Threshold Concepts: The ACRL Framework in Conversation with *Naming What We Know*: *Threshold Concepts of Writing Studies*." *Communications in Information Literacy*, vol. 10, no. 2, 2016, pp. 178-198. doi:10.15760/comminfolit.2016.10.2.23 [https://doi.org/10.15760/comminfolit.2016.10.2.23].

Johnson, Kristine and Sarah Kolk. "Frameworks in Conversation: Habits of Mind, Curriculum and Assessment." *The Future Scholar: Researching and Teaching the Frameworks for Writing and Information Literacy*. Edited by Randall McClure and James P. Purdy. Medford, New Jersey: Published on Behalf of the American Society for Information Science and Technology by Information Today, Inc., 2016, pp. 3-22.

Junisbai, Barbara M., Sara Lowe, and Natalie Tagge. "A Pragmatic and Flexible Approach to Information Literacy: Findings from a Three-Year Study of Faculty-Librarian Collaboration." *The Journal of Academic Librarianship*, vol. 42, no. 5, 2016, pp. 604-611. doi:10.1016/j.acalib.2016.07.001 [https://doi.org/10.1016/j.acalib.2016.07.001].

Kleinfeld, Elizabeth. "Just Read the Assignment: Using Course Documents to Analyze Research Pedagogy." *Points of Departure: Rethinking Student Source Use and Writing Studies Research Methods*, edited by Tricia Serviss and Sandra Jamieson, Utah State University Press, 2017, pp. 224-244.

Lancaster, Amber, Donell Callender, and Laura Heinz. "Bridging the Gap: New Thresholds and Opportunities for Collaboration." *Rewired: Research-Writing Partnerships within the Frameworks*, edited by Randall McClure, Association of College and Research Libraries, a Division of the American Library Association, 2016, pp. 85-101.

Mackey, Thomas P., and Trudi E. Jacobson. *Metaliteracy: Reinventing information Literacy to Empower Learners*. American Library Association, 2014.

McClure, Randall, and James P. Purdy, eds. *The Future Scholar: Researching and Teaching the Frameworks for Writing and Information Literacy*. Medford, New Jersey: Published on Behalf of the American Society for Information Science and Technology by Information Today, Inc., 2016.

McClure, Randall, ed. *Rewired: Research-Writing Partnerships within the Frameworks*, Association of College and Research Libraries, 2016. ProQuest.

Meyer, Jan H. F., and Ray Land. "Threshold Concepts and Troublesome Knowledge (5): Dynamics of Assessment." In *Threshold Concepts and Troublesome Knowledge*. Leiden: Brill Sense, 2010, pp. 61-79. doi:10.1163/9789460912078_005 [https://doi.org/10.1163/9789460912078_005].

---. "Threshold Concepts and Troublesome Knowledge (2): Epistemological Considerations and a Conceptual Framework for Teaching and Learning." *Higher Education*, vol. 49, no. 3, 2005, pp. 373-388., doi:10.1007/s10734-004-6779-5 [https://doi.org/10.1007/s10734-004-6779-5].

Mills, Jenny, Wiley, Claire, and Williams, Judy. "This Is What Learning Looks Like! Backward Design and the Framework in FY Writing" *Portal: Libraries and the Academy*. Baltimore vol. 19, no. 1, 2019, pp.155-175. doi:10.1353/pla.2019.0008 [https://doi.org/10.1353/pla.2019.0008].

Norgaard, Rolf. "Writing Information Literacy: Contributions to a Concept." *Reference & User Services Quarterly*, vol. 43 no. 2, 2003, p. 124-130.

Norgaard, Rolf, and Caroline Sinkinson. "Writing Information Literacy: A Retrospective and a Look Ahead." *Information Literacy: Research and Collaboration Across Disciplines*. Fort Collins, CO: WAC

Clearinghouse and University Press of Colorado, 2016. "

Oakleaf, Meghan. "A Roadmap for Assessing Student Learning Using the New Framework for Information Literacy for Higher Education," *Journal of Academic Librarianship*, vol. 40, no. 5, 2014, pp. 510-514, doi:10.1016/j.acalib.2014.08.001 [https://doi.org/10.1016/j.acalib.2014.08.001].

O'Neill, Peggy, et al. "Creating the 'Framework for Success in Postsecondary Writing.'" *College English*, vol. 74, no. 6, 2012, pp. 520-524. JSTOR, https://www.jstor.org/stable/23212910 [https://www.jstor.org/stable/23212910]. Accessed 27 Aug. 2021.

Purdy, James P. "Common Dispositions and Habits of Mind: The ACRL and WPA Frameworks in Conversation for Tomorrow's Researcher-Writer." *Teaching Information Literacy and Writing Studies: Volume 2, Upper-Level and Graduate Courses*, edited by Grace Veach, Purdue University Press, West Lafayette, Indiana, 2019, pp. 51-64. *JSTOR*, https://www.jstor.org/stable/j.ctv15wxqwx.9 [https://www.jstor.org/stable/j.ctv15wxqwx.9]. Accessed 1 Mar. 2021.

Purdy, James P. and Joyce R. Walker. "Liminal Spaces and Research Identity: The Construction of Introductory Composition Students as Researchers." *Pedagogy*, vol. 13 no. 1, 2013, pp. 9-41. Project MUSE https://muse.jhu.edu/article/494990 [https://muse-jhu-edu.ezproxy.bu.edu/article/494990].

Tewell, Eamon. "The Problem with Grit: Dismantling Deficit Thinking in Library Instruction." *Portal: Libraries and the Academy,* vol. 20, no. 1, 2020, pp. 137-59. doi:10.1353/pla.2020.0007 [https://doi.org/10.1353/pla.2020.0007].

Townsend, Lori, et al. "Identifying Threshold Concepts for Information Literacy: A Delphi Study." *Communications in Information Literacy*, vol. 10, no. 1, 2016, pp. 23-49.

Veach, Grace, ed. *Teaching Information Literacy and Writing Studies*. Vol. 1. Purdue University Press, 2018.

Veach, Grace, ed. *Teaching Information Literacy and Writing Studies*. Vol. 2. Purdue University Press, 2019.

Wardle, Elizabeth. "Creative Repurposing for Expansive Learning: Considering 'Problem Solving' and 'Answer-getting' Dispositions in Individuals and Fields." *Composition Forum*, vol. 26, no. 2, 2012. https://compositionforum.com/issue/26/creative-repurposing.php [https://compositionforum.com/issue/26/creative-repurposing.php].

Witek, Donna, and Teresa Grettano. "The Frameworks, Comparative Analyses, and Sharing Responsibility for Learning and Assessment." *Rewired: Research-Writing Partnerships within the Frameworks*, edited by Randall McClure, Association of College and Research Libraries, a Division of the American Library Association, 2016, pp. 227-258.

Yancey, Kathleen Blake. "Introduction: Contextualizing Reflection." *A Rhetoric of Reflection*, edited by Kathleen Blake Yancey, University Press of Colorado, Boulder, Colorado, 2016, pp. 3-20. *JSTOR*, https://www.jstor.org/stable/j.ctt1djmhfg.4 [https://www.jstor.org/stable/j.ctt1djmhfg.4]. Accessed 27 Apr. 2021.

Yancey, Kathleen Blake. "Reflection and Electronic Portfolios: Inventing the Self and Reinventing the University." *Electronic Portfolios 2.0: Emergent Research on Implementation and Impact*, edited by Darren Cambridge et al., Stylus Publishing, 2009, pp. 5-16.

"Answer-Getting and Problem-Exploring in First-Year Writing" from *Composition Forum* 48 (Spring 2022)
Online at: http://compositionforum.com/issue/48/answer-getting.php

[http://www.addthis.com/bookmark.php?v=250&username=compforum]