Using the ACRL Framework to Develop a Student-Centered Model for Program-Level Assessment

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Abstract

Information literacy instruction presents a difficult balance between quantity and quality, particularly for large-scale general education courses. This paper discusses the overhaul of the freshman composition instruction program at the University of Maryland Libraries, focusing on the transition from survey assessments to a student-centered and mixed-methods approach using qualitative reflections, rubrics, and the evaluation of student artifacts. The article discusses the progression from a pilot assessment program using Twitter as a data collection model to the implementation of a robust and multi-layered assessment using both qualitative feedback from students and the evaluation of student artifacts. Each assessment includes detailed collection methods and customized rubrics for evaluation of student responses. While information literacy assessment has been covered extensively in the literature, few articles discuss the use of qualitative student responses on a large scale (4,000 participants per year). The article also discusses the re-structuring of an assessment program around the ACRL Framework for Information Literacy, which is incorporated throughout the project from the pilot up through the full implementation of the final program.

Keywords: information literacy; assessment; ACRL Framework; first year composition

Gammons, R.W. & Inge, L.T. (2017). Using the ACRL Framework to develop a student-centered model for program-level assessment. *Communications in Information Literacy, 11*(1), 168-184.

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Introduction

Large scale information literacy programming is a constant balance between quality and quantity, requiring partnership with hundreds of sections of a course, or courses, and enormous human, physical, and fiscal resources. As a result, information literacy instruction programs are often standardized—using the same teaching outline from section to section—and rely on newer, less experienced library instructors with heavy teaching loads to meet demand for instruction. At the University of Maryland (UMD) Libraries, this is best demonstrated in the first-year composition instruction program. Extending as far back as 1995, this program has provided information literacy instruction to 95% of first year composition (ENGL101) sections, leading more than 200 sessions per year for nearly 4,000 students.

In fall of 2014, UMD Libraries' first-year composition instruction program was beginning to show its age. Lesson plans were based on a script, which had changed little in the 20-year history of the program, and assessment centered on a four-question survey that measured students' abilities to perform basic skills, such as identifying Boolean operators. In spring 2015, librarians began the process of overhauling the program, starting with the learning outcomes and moving up through assessment. The intent was to shift the focus from a lecture-based format that emphasized search strategies, to an active learning curriculum intended to support the development of higher-level critical thinking skills. Informed by ACRL's *Framework for Information Literacy*, the revised teaching outline introduces students to the threshold concepts through a student-centered lesson plan. New activities include a brainstorming process that guides students through crafting a research question and identifying keywords for database searching (*Research as Inquiry* and *Searching as Strategic Exploration*), as well as an evaluating activity in which students examine sources for credibility (*Authority is Constructed and Contextual*) and suitability for inclusion in their class assignments (*Information Creation as a Process*). Librarians also lead students through a small group discussion in which they identify a topic and analyze how seeking out multiple perspectives on that topic can strengthen an individual's understanding (*Scholarship as Conversation).*

Although updating the lesson plans was time-intensive, the most challenging aspect of the overhaul was not in the teaching, but the assessment. The typical solutions to programmatic assessment—pre- and post-tests, surveys, or the evaluation of small samples of student work—felt passive and distanced from learners, which did not match the critical and student-centered tone of our new instruction program. While student-centered assessment models, such as portfolio reviews or research journals, demonstrated the respect for individuality and the existence of multiple experiences we were seeking, they could not scale to the thousands of students involved in our program. We also faced the challenge of assessing learning in our new lesson plan, which was tied directly to ACRL's *Framework for Information Literacy*. Although a wealth of literature has been published on teaching with the *Framework,* little practical assessment information is currently available. To address this gap, the researchers created an assessment strategy that combines the scalability of a survey with the intentionality of qualitative research. This article discusses the process through which our aging information literacy program was reinvigorated, focusing on the transition from a multiple-choice survey to an iterative, student-centered, and critically grounded assessment model mapped to ACRL's *Framework for Information Literacy*.

Literature Review

The literature is replete with studies assessing information literacy instruction at both the programmatic level and at the level of individual one-shot sessions. Researchers have employed assessment tools such as pre- and post-tests (Gilbert, 2009; Bryan & Karshmer, 2013; Swoger, 2011); surveys and questionnaires designed to test students' long-term retention of skills (Wong, Chan, & Chu, 2006); student reflections in the form of journals (Warner, 2003) and in-class activities such as one-minute papers (Choinski & Emanuel, 2006) or a "start/stop" exercise (Flaspohler, 2003); and assessment of student artifacts (Holliday, et al., 2015; Diller & Phelps, 2008). Most of these studies describe relatively small-scale assessment projects. For instance, Warner's (2003) pilot assessment involved only 48 students, while Diller and Phelps' study had about 200 student participants. And while other programs assessed artifacts from over 500 students (for example, Wong, Chan and Chu (2006) surveyed 688 users), none approached the scale of this project, which analyzes over 1200 student responses per semester. This study aims to contribute to the literature by providing a student-centered model for large-scale information literacy instruction assessment that can be adopted by any institution facing the challenge of programmatic assessment.

This study also seeks to contribute to emerging discussions about how to connect assessment to the ACRL *Framework for Information Literacy for Higher Education.* Because ACRL's transition from the *Information Literacy Competency Standards for Higher Education* to the *Framework* is still relatively recent, much of the literature on outcomes-based information literacy instruction is tied to the *Information Literacy Competency Standards.* While there is no dearth of scholarship examining the theoretical underpinnings and practical applications of the *Framework* for instruction, few articles have directly addressed the issue of designing assessment tools using the *Framework.* Oakleaf (2014) and Anderson (2015) have both offered guidance for instruction librarians making the transition to assessing using the *Framework.* Oakleaf addresses concerns about moving away from the *Information Literacy Competency Standards*, with its built-in learning outcomes, to the *Framework's* threshold concepts. She offers a "roadmap" for translating the threshold concepts into student learning outcomes, which can be measured through assessment of appropriate student artifacts. Anderson also acknowledges that the move to the *Framework* represents a significant shift; she suggests that assessment should mirror the *Framework*'s shift from skills-based outcomes to reflection and discussion, by employing assessment tools that "enourag[e] students to collaborate and reflect on their own learning" (2015, p. 9).

For the authors of this study, the introduction of the *Framework* provided an opportunity to reimagine the information literacy assessment program and served as the guiding document of a new outcomes-based assessment model. The authors present a practical application of the *Framework* to a programmatic information literacy instruction assessment, addressing both the need for thoughtful and evidence-based approaches for program-level assessment, and integration of the *Framework*.

Institutional Context

University of Maryland Libraries

The University of Maryland (UMD), is the flagship institution of the University System of Maryland. It offers 91 undergraduate majors and more than 200 graduate degrees across 12 colleges and schools. The university has a total enrollment of 36,440 (27,108 undergraduates and 9,332 graduates); a tenured or tenure-track faculty of 1,487 among 4,509 total faculty; and a staff of 5,315.

UMD Libraries is an eight-library system and one of 16 members in the University System of Maryland consortium. It has 219 total staff members, 69 of which are faculty librarians.

The libraries have a strong history of providing instruction to the university community. In 2015, library staff led a total of 982 instruction sessions to 19,583 students and faculty, which included 221 sessions for ENGL101, accounting for 4,200 students.

Pilot Program

In spring 2015, the researchers began the process of reimagining the first-year instruction program. While the majority of library instructors continued to use the standardized teaching outline, the researchers launched a small pilot using a revised active-learning based lesson plan grounded in ACRL's *Framework for Information Literacy.* To assess the effectiveness of the new lesson plan, the researchers created a simple assessment: at the end of each pilot session, students would be asked to share their "a-ha moment"—a moment from the learning experience that stood out to them, or had personal meaning—in a single sentence. Based on the concept of the six-word memoir (Miller, 2011), the "a-ha moment" is intended to honor individual experience, while encouraging learners to synthesize their thoughts into a short, discrete statement that could be read and evaluated by instructors. To mitigate the time needed to explain the assessment, students were asked to tweet their "a-ha moment" using the hashtag #mylibrarymoment. Rather than measuring the ability to accomplish a specific set of skills, the "a-ha moment" was designed to capture the multiple realities that exist in any one teaching experience and value individual voices.

Methods

The "a-ha moment" assessment was piloted in 12 one-shot instruction sessions for first year composition led by two full-time library instructors and taking place between February and March of 2015. Over the course of the 12 sessions, 142 responses were collected, for a response rate of 62%. "A-ha moment" responses were collected from Twitter using two web-based programs: "If This Then That" (IFTTT) and "TAGS." Each of these required a recipe, or a specific set of circumstances that, when fulfilled, prompted the systems to identify, collect, and archive the tweet. Tweets including #mylibrarymoment were automatically copied and saved to a Google Sheet.

Early in the pilot, the researchers identified a challenge in using Twitter as a collection tool; not only had we overestimated the number of students who were active on Twitter, but also the amount of information students would be comfortable disclosing in a publicly-accessible space. An informal survey revealed that anywhere from one-third to one-half of students were active on Twitter, and of those, approximately half had private accounts. This meant that even when a student authored and published a tweet using #mylibrarymoment, if the

account s/he tweeted from was private, the collection tools were prohibited from accessing or archiving the tweets.

While Twitter offered the benefit of being able to respond to and share tweets publicly, the privacy settings made it difficult to implement this method on a large scale. As a workaround, the researchers added a Google form for students who did not have Twitter accounts or who had private ones. The form was connected to the same Google sheet used by IFTTT and TAGS to archive tweets using #mylibrarymoment. All responses, regardless of whether they were collected through the Google form or Twitter, were capped at 140 characters.

Although individual "a-ha moments" offered insight into the instruction experience, a systematic analysis method was necessary to identify trends in the data. In response, the researchers developed a process for organizing and coding responses based on the ACRL *Framework for Information Literacy*. Because the "a-ha moment" was intended to measure attitudes, rather than skills, the researchers focused on the Dispositions outlined in the Framework. As a team, the researchers identified seven Dispositions, pulled from five of the six threshold concepts that best aligned with the learning outcomes for the course and represented an appropriate developmental level for first year learners. Each "a-ha moment" was read by the team of researchers and assigned to the Disposition that best matched the content. The analysis was based on consensus, with researchers discussing each response and its appropriate placement, deliberating until a unified decision had been reached. Table 1 provides an overview of the Dispositions selected, types of responses assigned to each Disposition, and percentage of responses.

Results

While the pilot lesson plan was based on the *Framework for Information Literacy* and included discussions on a student's role in the scholarly conversation and the construction and contextualization of authority, results from the pilot indicate these concepts failed to resonate with students, or, at the least, they did not stand out as the most meaningful learning experience. The recognition that "scholarly conversations take place in different venues," in particular, scored very low, representing 0% of overall responses. Although the pilot lesson plan intentionally decreased the amount of in-class time spent on database demonstrations and search skills, such as Boolean operators, almost 70% (n=99) of responses continue to align with the Dispositions related to search and retrieval.

Table 1: Pilot Program Fall 2015

Frame	Disposition	Example	%	N
Authority is constructed	develop awareness of the importance of assessing content with a skeptical stance and with self-awareness of their own biases and worldview	"Make sure a publisher is unbiased. #mylibrarymoment."	5%	7
Information creation	respect the original ideas of others	"Some books have more than one author, so you can actually cite the different chapters as different sources #mylibrarymoment"	6%	9
Information has value	value intellectual curiosity in developing questions and learning new investigative methods	"Learning how to use Research Port was really helpful because I was able to find so many more articles that will help me with my research."	49%	70
Research as inquiry	recognize that scholarly conversations take place in various venues	"Working with my peers to find connections between our extremely different topics and sharing databases that wouldn't at first seem to be [applicable]."	9%	13
Scholarship as conversation	see themselves as contributors to the scholarship rather than only consumers	n/a	0%	0
Searching as exploration	seek guidance from experts, such as librarians, researchers, and professionals	"The librarians helped me get really helpful information from Research Port"	6%	9
Searching as exploration	understand that first attempts at searching do not always produce adequate results	"#mylibrarymoment was that you could use synonyms to broaden your search within the same topic. I usually use the same words when I search."	21%	29
Other		"When I found a correlation between contracting celiac diseases and consumption of Genetically Modified Foods"	4%	5

Discussion

The pilot was the first step in transitioning away from the quantitative and skills-based assessment associated with the prior instruction program. Responses from students identified a need for an increased attention to higher-level critical thinking skills, such as the evaluation of information or recognition of self-bias. The high number of students who continued to connect with the search-and-retrieval skills as their "a-ha moment" over critical thinking skills, such as authority or self-bias, indicated that while the researchers had made progress with the lesson plan, there was still work to be done.

The benefit of the "a-ha moment" was that it took very little time to explain during an instruction session; the entire process from introduction to collection could be completed in less than five minutes. However, what the assessment gained in in-class convenience, it suffered in the increased time needed for analysis. Development of a coding system (including analyzing the *Framework* and identifying target Dispositions), compilation of the data, and the requisite evaluation of each response required several hours of staff time. However, while the pilot assessment did increase the overall time spent on assessment, especially when compared to the previous four-question multiple choice survey, the character limit imposed by the tweet kept the process manageable. Responses could be read quickly and organized into the appropriate category almost immediately. Coding responses based on the seven Dispositions also helped create meaning from what could have been a disparate pool of data, enabling researchers to develop a better understanding of how students' experiences connected to the student learning outcomes for the session, lesson plan, and *Framework*.

Because of the open-ended nature of the assessment, the researchers had also initially had concerns about the number of irrelevant responses we might receive. However, we were pleased to discover that of the 142 total responses, only 5 (4%) fell outside of the parameters indicated in Table 1.

Implications

To scale up the pilot to meet the needs of the full program, the researchers revised their lesson plan to emphasize the student's role in the research process, developed a more sophisticated rubric to evaluate and code "a-ha moment" responses, and modified the data collection process. However, implementation of the new program was contingent upon a restructuring of our training for library instructors. Extending as far back as 1999, UMD Libraries has hired MLIS students from UMD's iSchool to serve as "special lecturers" to meet the demand for ENGL101 library instruction. Before an active and critically-based lesson plan could be implemented, it was important we equipped our new teachers to succeed by offering an increased level of training and support.

In response, the researchers created a three semester Research and Teaching Fellowship (RTF). Intended to foster an intentional community of practice, the RTF has transformed the "special lecturer" position from an institutional crutch to a virtuous system that gives back to the university and the profession by providing thoughtful training and education to MLIS students. Rather than hiring part time instructors in the fall, as had been the previous

practice, Fellows begin their program in the spring when the amount of library instruction is less demanding. While "special lecturers" were contracted from semester to semester, Fellows commit to the program for a full three semesters, beginning with their second semester in the MLIS program and concluding with their fourth and final semester.[1] In May 2015, the Libraries hired the first cohort of Fellows, compressing the first semester of reading, discussion, co-teaching, and observation into a 10-week summer program.

Full-Scale Implementation

In fall 2015, the researchers expanded the pilot to include the entire first year composition program. In addition to updating the lesson plans and implementing the Research and Teaching Fellowship, the researchers also revised the assessment by switching the collection method from Twitter to Qualtrics: a proprietary web-based survey tool. Although Twitter offered the benefit of being able to share and respond to tweets publicly, it created challenges for data collection. Instead of tweets, responses are collected through a single question Qualtrics survey, linked directly from the library website. The new format also included customized fields for students to identify their library instructor, which has become an important part of the evaluation process. To keep the spirit of the "a-ha moment," responses continue to be capped at 150 characters. The result is a short, quick assessment that provides rich data at the program and instructor levels.

Methods

In addition to improving the collection method, the researchers also made three updates to the analysis process. First, we revised the rubric to include six Dispositions and one Knowledge practice, to address all six threshold concepts in the ACRL Framework. Second, we developed a more robust coding process by creating a rubric to analyze responses, which included criteria for "developing," "proficient," and "advanced" levels of competency. Finally, we added two additional categories: "other," to account for responses that did not fit within one of the seven categories, and "comfort level with UMD library website, physical spaces or library instructor" (Appendix A).

Although rubrics typically require evaluators to score a single learning object using each of the categories represented, the "a-ha moment" rubric asks evaluators to associate each "a-ha moment" with a single category, and then to assign a developmental level (developing, proficient, or advanced) within that category. The only exception would be a response which is indicative of both a "comfort level with UMD library" as well as a concept, such as

the ability to "match an information need with an appropriate resource," in which case the response would be categorized in both areas.

A final change from the pilot to the full-implementation of the program was an increase in number of evaluators. While the pilot was limited to two full-time librarians, who worked in concert to design, implement, and evaluate the assessment, the full-program called for participation by nine staff members (two librarians, two graduate assistants, and five Fellows), who were responsible for teaching ENGL101 library instruction sessions and also participated in the evaluation and analysis of "a-ha moments."

To norm the rubric, the researchers pulled a random sample of 50 from the more than 1,300 total responses collected during fall 2015. As a group, the evaluators discussed each response at length, coming to a consensus on the category and level of competency best represented. Based on this discussion, the researchers made slight modifications to the levels of competency. This process continued in spring 2016, with two changes. In fall 2015, the first semester the assessment was implemented to scale, the researchers built in an extra level of scrutiny by having each response evaluated by two evaluators. The expectation was that the norming process would standardize the evaluation and that each evaluator would assign the response to the same category and level of competency. However, compilation of the final rankings revealed inconsistencies resulting from evaluators who had interpreted responses to be indicative of different levels of competency, or less often, different Dispositions or Knowledge Practices. These issues were resolved in spring 2016 by increasing the amount of responses put through the norming process from 50 to 100, as well as the creation of a list of example responses for each criteria and level of competency (Appendix B).

After the norming, analysis proceeds as follows:

1. At the end of the semester, each library instructor is provided with a spreadsheet with his/her student responses, pulled from the Qualtrics form.
2. Instructors evaluate their set of responses, assigning each to the appropriate category and level of competency.
3. Researchers collect the final spreadsheets and use the data to compile a report both at the macro-level and by individual instructor. Reports show the distribution of responses across the categories and levels of competency.

Results

Results from fall 2015 and spring 2016, as shown in Table 2, indicate that students found their most significant areas of learning to be "information creation as process" (59%, n=1948), which corresponds with the ability to match an information need with an appropriate library resource. The second most significant area, "searching as strategic exploration" (23%, n=783), relates to search strategies and the ability to seek guidance from experts. Few results were indicative of the higher level critical thinking skills, such as "authority is constructed and contextual" (7%, n=222) or "information has value" (2%, n=82).

Within the six categories, a majority of students performed at a "developing" level (60%, n=2018), and about a third of students performed at a "proficient" level (33%, n=1100). Few students demonstrated an "advanced" level of competency in any of the categories (7%, n=248). While Dispositions associated with higher level thinking skills, such as "information has value," were less often represented, students that did share responses indicative of those concepts tended to connect with those ideas more deeply (ex: 63% students performed at an "advanced" level when sharing responses related to "information has value").

Table 2: Responses from Fall 2015 through Spring 2016 coded to the appropriate ACRL Frame and developmental level

ACRL Frame	Developing (1)	Proficient (2)	Advanced (3)		
	%N (n)	%N (n)	%N (n)	Mean	% (N)
Authority is constructed and contextual	75% (165)	25% (55)	0% (2)	1.26	7% (222)
Information creation as process	62% (1207)	33% (651)	5% (90)	1.42	59% (1948)
Information has value	25% (21)	12% (10)	63% (51)	2.23	2% (82)
Research as inquiry	59% (166)	31% (86)	31% (28)	1.50	8% (280)
Scholarship as conversation	18% (9)	27% (14)	55% (28)	2.37	1% (51)
Searching as strategic exploration	57% (450)	37% (284)	6% (49)	1.58	23% (783)
Total	60% (2018)	33% (1100)	7% (248)	Total N = 3366	

Discussion

In many ways, the results above are appropriate for a first-year student audience. It is reasonable and appropriate that first year students visiting the library early in their academic career would perform at a developing or proficient level in any of these criteria. The fact that some of the learners (7%, n=248) were able to demonstrate an "advanced" level of competency in any of the criteria is impressive. It is also important to contextualize the results within the broader arc of our instruction program. Had these responses been solicited even a year earlier, it is probable that all of them would have centered on "information creation as process," or the ability to match an information need with the appropriate library resource; that approximately 40% of responses were indicative of other conceptual frameworks shows enormous growth in our instruction program. However, the emphasis by students on the resources and tools for research, indicates a need for instructors to better frame a conversation about databases and search strategies within the broader research process. It should also be noted that because this is a first-year instruction session with new library users, an orientation to the library system and its resources will always be a necessary component of the library lesson plan. It is reasonable to assume that some students will continue to connect with these ideas as a takeaway from the session, although we can make a more concerted effort to contextualize these processes within a broader discussion.

In addition to providing an opportunity to hear directly from our learners, the "a-ha moment" has also allowed us to critically evaluate our work as teachers. During the assessment cycle, which occurs once a semester, evaluators come together as a group: first, to norm a random sample of responses in preparation for coding, and second, to reflect on the process and discuss results after the coding has been completed. While the coding takes place individually, reflection takes places as a community and is dedicated to improving practice both at the individual and program levels. During the group discussion, evaluators compare reports generated at the micro (individual) and macro (program) levels. If a particular instructor—as compared to the overall responses—has a more challenging Disposition, such as "seeks out conversations taking place in their research area" represented more often, or her responses demonstrate a comparatively advanced level of competency, the instructors will discuss the individual's approach to instruction. These discussions about individual praxis offer opportunity for rich dialogue around the teaching and learning process. The granularity of this approach gives insight not only into the work of the large-

scale program, but also individual growth and process, which is particularly important for Fellows who are developing their teaching skills.

Limitations

The most significant change from the pilot and the full-implementation of the "a-ha moment" has been the introduction of the rubric with levels of competency. Mapping the responses onto the rubric has enabled evaluators to identify program-wide trends in the data that would have been difficult to spot on an individual level. However, it should be noted that while the assessment includes a period of norming each semester, assigning of responses to categories and developmental levels continues to be subjective; responses may be impacted by how the library instructor introduced the assessment, when the library session occurred during the semester, and how the evaluator interpreted and ranked the results. The results provide a general, rather than specific, overview of what students found the most meaningful from the library sessions. This is not to say that the results are not valuable, but that they should be contextualized within the inherent limitations of qualitative research.

Conclusion

Integrating an iterative student-centered assessment has not only changed the approaches to teaching within UMD Libraries, but also provided a holistic evaluation of information literacy instruction at the individual and program levels. In response, the researchers have made radical changes to the teaching outline for first year composition, emphasizing active learning and discussion and minimizing lecturing and database demonstrations. The hiring and training of "special lecturers" has also been transformed. Rather than hiring lecturers a few weeks before the start of the semester, the Research and Teaching Fellowship scaffolds the development of teacher-training over three semesters, improving the experience of the MLIS student participants and increasing the overall instruction experience for first year students.

As a result of these changes, the relationship between the libraries and the first-year composition program has improved. ENGL101 students are retaining more information from the session and are engaging with material on a deeper level. Library instructors are more satisfied with their teaching experience, which creates opportunities for more positive interactions with students and course instructors. Using the ACRL *Framework* as a guiding document for assessment has prompted instructors throughout the Libraries to engage more deeply with the *Framework*, incorporating it into their individual teaching practices.

The teaching and assessment process has also created a more student-centered and empathetic community of practice among instructors, who are working together to evaluate and improve instruction. Finally, the "a-ha moment" offers an opportunity to value our learners as individuals with unique and important experiences. While large-scale assessment can have a tendency to feel clinical and disengaging, we are proud to have created a program that prioritizes relationship building between library teachers and students, and allows students and library instructors to bring their full-selves into the assessment process. Moving forward, it is the hope of the researchers that more programs will implement, assess, and share thoughtful approaches to large-scale program-level instruction.

Note

1. For more information on the Research and Teaching Fellowship, see: Gammons, R., Carroll, A., & Inge, L. (2017). Sharing our success: Using a teacher training program to improve information literacy instruction and support MLIS students. Proceedings from ACRL 2017 available at http://hdl.handle.net/1903/19171

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Appendix A: A-Ha Moment Rubric

UMD Libraries Information Literacy Dispositions Rubric			
	Developing (1)	Proficient (2)	Advanced (3)
Authority is Constructed and Contextual			
Understands importance of evaluating information and demonstrates self-awareness of individual biases	Writer acknowledges information evaluation as concept	Writer articulates the rationale or importance of evaluating the credibility of a source	Writer demonstrates the value of evaluating a source, and indicates an understanding of the role of self-bias in the process
Information Creation as Process			
Matches an information need with an appropriate resource	Writer acknowledges that different resources are available for research	Writer identifies a type, purpose, or title of a specific resource	Writer articulates how a specific resource addresses their individual information need
Information has Value			
Respects the original ideas of others	Writer acknowledges attribution methods	Writer articulates the value of attribution	Writer articulates the importance of attribution and identifies resources for help/attribution methods.
Research as Inquiry			
Values intellectual curiosity in developing questions; Consider research as open ended exploration and engagement with information	Writer acknowledges research as concept	Writer acknowledges research as process	Writer articulates the iterative process of developing / defining a research question.
Scholarship as Conversation			
Seeks out conversations taking place in their research area	Writer acknowledges that there are different points of view on a topic	Writer articulates the need to incorporate different points of view	Writer demonstrates the value of incorporating different points of view
Searching as Strategic Exploration			
Designs and refines search strategies as necessary	Writer acknowledges search strategies for narrowing or broadening	Writer articulates specific search strategies (such as key terms, subject thesaurus, etc...)	Writer demonstrates awareness of search strategies and how they can aid in student research
Seeks guidance from experts such as librarians, researchers, and professionals	Writer acknowledges assistance available	Writer acknowledges assistance available and identifies ways to get in contact with appropriate professionals	Writer articulates specific ways appropriate professionals can support students
Other			
Comfort with UMD library website, physical spaces, or library instructor			
Other			

Appendix B: Examples of student responses coded to the appropriate ACRL disposition/knowledge practice and developmental level

UMD Libraries Information Literacy Dispositions Rubric			
	Developing (1)	Proficient (2)	Advanced (3)
Authority is Constructed and Contextual			
Understands importance of evaluating information and demonstrates self-awareness of individual biases	"I learned what a scholarly source is!"	"That not all articles are trustworthy, always make sure to see the legitimacy of the articles you decided to use as a source"	"My a-ha moment was when we researched the credibility of George Zornick. I realized the importance of studying the author's history."
Information Creation as Process			
Matches an information need with an appropriate resource	"I realized that I should be using the library's resources instead of normal search engines to yield more refined results."	"My a-ha moment was the CQ researcher database. It's really cool and seems helpful for preliminary information"	"I was impressed by CQ researcher, which gives a great overview of my research topic and which helped me think of new subtopics to research."
Information has Value			
Respects the original ideas of others	"Today I learned a lot about how to find valid sources and how to cite them. This will be very helpful when writing my paper."	"I was able to effectively learn how to properly cite in MLA with clear instructions from the instructor."	"EBSCO citations are always capitalized and I did not know that they were incorrect. Now I know to double check so people can find my sources."
Research as Inquiry			
Values intellectual curiosity in developing questions; Consider research as open ended exploration and engagement with information	"I have a variety of resources online and in-person that I can come to! Doing research can be easy"	"Today's lesson helped me with structuring the way I do my research. I know how to start a broader search and then refine it."	"The stasis theory can allow me to find out what I already know about my topic and what question I can ask to make my researching process easier!"
Scholarship as Conversation			
Seeks out conversations taking place in their research area	"LOVE the pro/ con link on the cqpress! Especially for just starting research."	"Learning about CQ Researcher and how you can find great balanced information on controversial issues"	"Finding possible research topics on CQ, and reading through the Pros/Cons section to get a better sense of the argument!"
Searching as Strategic Exploration			
Designs and refines search strategies as necessary	"Learning to put filters on my sources. I'm surprised no one has ever told me to do that."	"I learned that you can narrow the search on Academic Search Complete by using the thesaurus terms to find other key terms."	"On EBSCO I did not know that other websites were available to find specific articles that fall under education or psychology."
Seeks guidance from experts such as librarians, researchers, and professionals	"A library instructor can help if a link doesn't work"	"The library has the help chatting page which is extremely useful"	"I like the "I have a question" form. It will be useful when I need to ask a question about my assignment or need help with it."
Other			
Comfort with UMD library website, physical spaces, or library instructor	"OMG McKeldin has EVERYTHING <3 / This was extremely informative, and Rachel was super nice and helpful!		
Other			