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Librarians and Instructors Developing Student Learning Outcomes: Using Frameworks to Lead the Process

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Librarians and instructors developing student learning outcomes: using frameworks to lead the process

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Structured Abstract:

*Purpose: To design a workshop that effectively facilitates the collaborative revision of student learning outcomes based on current research relating to competencies in information literacy (IL).

*Design/methodology/approach: This case study describes collaborations between librarians and writing instructors throughout an eight-week workshop. The workshop focused on using the results of assessments to revise learning outcomes and restructure instruction practices to help students in the areas they struggle with the most. Three significant frameworks, including threshold concepts, backward design, and decoding the disciplines, were used to facilitate effective discussion and revise learning outcomes.

*Findings: The structure of the workshop based on three key frameworks stimulated innovation, fostered collegiality, prompted future collaborative opportunities, and garnered buy-in for the importance and implementation of IL initiatives. This collaboration served as a pilot workshop for future plans to write and revise IL outcomes with other departments across campus.

Practical Implications (if applicable): This study can serve as a model for future collaborations with any department faculty, especially when information literacy learning outcomes need to be articulated or revised. The frameworks described are particularly helpful for guiding this process.

*Originality/value: While much is written on librarian collaborations, this case study emphasizes the importance of creating even closer collaborative opportunities that place both non-library faculty and teaching librarians on equal footing, allowing everyone in the workshop to take part in the design and implementation of integrating IL into a program. It also gives concrete ways to use threshold concepts to discuss information literacy issues with faculty, which is a major focus of the newly drafted *Framework for Information Literacy for Higher Education.*

Keywords:

information literacy, learning outcomes, faculty collaboration, backward design, learning bottlenecks, threshold concepts

Introduction

Current assessment practice emphasizes the importance of writing and assessing information literacy (IL) student learning outcomes. This study focuses on the collaboration of librarians and English composition instructors in articulating information literacy learning outcomes.

The Utah State University, Merrill-Cazier Library instruction program conducted an eight-week summer information literacy workshop that facilitated this effort. One of the challenges of this effort was learning how to conduct a successful workshop that was highly collaborative, efficient and successful in terms of meeting the major goal, which was to revise the learning outcomes in English composition courses. Three significant frameworks, including threshold concepts (Townsend, Brunetti and Hofer, 2011), backward design (Wiggins and McTighe, 2006) and decoding the disciplines (Middendorf, 2004), were used to facilitate effective discussion and revise learning outcomes. The frameworks both helped keep the workshop focused on its goals, and helped communicate important trends and ideas relating to IL. This paper, written by a writing instructor and two librarians, describes collaborations between composition lecturers and academic librarians to co-develop student learning outcomes and co-create the accompanying curriculum and assessments.

Immediately prior to this collaboration, the Writing Program had undertaken a comprehensive assessment of writing in second-year composition. The library contributed to this assessment by conducting an assessment of first-year composition. After both the library and the Writing Program analyzed the results of their respective assessments, they set up an Information Literacy Fellows program to build a focused collaboration of equals among a small group of writing instructors and academic librarians. Together, lecturers and librarians used a specific set of frameworks—threshold concepts, decoding the disciplines (i.e. learning bottlenecks) and backward design—to review the student learning outcomes for IL in English composition courses and co-develop lesson plans and assessments for these learning outcomes.

Literature Review

Writing Learning Outcomes in Collaboration with Instructors

On a broad level, much is written about faculty and librarian collaboration on courses that have articulated outcomes, and generally about conducting assessment of learning outcomes. However, a smaller portion of this literature focuses specifically on the collaboration of writing the actual IL learning outcomes. Cahoy and Schroeder (2012) emphasize the writing of student learning outcomes, but focus specifically on writing effective outcomes, not on collaboration. Oakleaf (2009) maps out how to design effective IL assessment plans, and mentions well-defined outcomes as a necessary component, but does not necessarily emphasize collaboration in this aspect. Simard (2009) discusses the process of narrowing their IL outcomes to three, and then mapping those to the ALA information literacy standards for science and technology. Corso, Weiss and McGregor (2010) describe their efforts in helping faculty engage with the process of understanding ACRL standards, performance indicators and learning outcomes, paying particular attention to the different articulation of these three elements across various documents.

There is some precedent in the literature for an emphasis on the writing of IL learning outcomes, particularly in the role of librarians in articulating these learning outcomes. Armstrong (2010) describes a grant funded summer project at Western Washington University that provided an opportunity to focus on assessment of learning outcomes, including critical thinking, in addition to other IL outcomes. Her research focuses particularly on articulating critical thinking as an outcome, but she gives a careful description of the process of mapping assignments in the developing course to match particular outcomes. She emphasizes the benefits she received during this process, including an improved ability to communicate with discipline faculty (p. 454). Gandhi (2004) discusses a similar mapping process in relation to a five session model created at Valencia Community College East Campus, which included describing each component of the new program and its relation to each outcome. Mackay and Jacobson (2007) describe their analysis process in ensuring that each discrete element of a one-credit information literacy course contributed to their learning objectives (p. 99).

Similarly, Miller (2010) describes a workshop conducted at Eastern Washington University Libraries. However, Miller's workshop and her collaborations with faculty to articulate information literacy learning outcomes spanned three years. Like the workshop conducted at USU, this project had assigned readings for faculty and met 6-8 times over the course of the year. Miller specifically asked faculty about the IL learning outcomes and competencies they wanted students to acquire in their programs (pp. 647-648). Like Western Washington University's efforts, this workshop also received grant funds to pay three to four faculty for their participation from the four main departments selected as part of the project.

The Frameworks

Three frameworks, including threshold concepts, decoding the disciplines and backward design, work especially well in conversation with one another. While each step of the decoding the disciplines model is invaluable for identifying, designing and assessing, we used threshold concepts and decoding the disciplines mainly for the first two steps of the process – identification of bottlenecks and discussion of how experts resolve them. We chose the third framework, backward design, to help us design opportunities and assessments related to these bottlenecks. Each of these frameworks was essential in guiding the collaborative revision of IL learning outcomes, the major goal of the workshop conducted at USU.

Threshold Concepts

Threshold concepts are based on work by Meyer and Land (2003), who define threshold concepts as concepts within a discipline that are transformative, integrative, irreversible, bounded and troublesome. Blackmore applies this framework to information literacy in her conference paper, which identifies a number of threshold concepts in order to improve learning and teaching support in the library (2010). These threshold concepts include, "effective information engagement as "systemic thinking," "effective information engagement as pattern perception," and "effective information engagement as "cultural understanding," to name a few. Hofer, Townsend and Brunetti extend Blackmore's work, identifying the seven following threshold concepts relating to information literacy: "Metadata=findability, good sources use database structure, format is a process, authority is constructed and contextual, primary source is an exact and conditional category, information as a commodity, and research solves problems" (2012, p. 402). Yorke-Barber, et al. surveyed librarians, academics and students to compile a list of three threshold concepts, which include "1. Knowing the research topic and compiling a search strategy, 2. Locating, critically evaluating and tracking information research,

and 3. Referencing and citing information" (2008, p. 5). The authors reiterate that they define threshold concepts as 'the stumbling blocks students encounter in their information research" (p. 6). Similarly, we introduced threshold concepts using Hofer's et al. study, but in our general discussion where we identified troublesome concepts, we used the language of Middendorf's decoding the disciplines model, describing "learning bottlenecks" (2004).

Currently, threshold concepts are a major component of the *Framework for Information Literacy for Higher Education*, written by the Association of College and Research Libraries in revision of the *Information Literacy Competency Standards for Higher Education* (ILCSHE). Hofer, et al. supports the use of threshold concepts in these revisions, stating, "Their model [Meyer and Land's] also takes into account the relationship between the affective and cognitive aspects of learning. Threshold concepts resonate with what we experience both as students and as teachers about how real learning works" (2013). The first draft of the framework identified three threshold concepts, including scholarship as a conversation, research as inquiry and format as process (Framework for Information Literacy in Higher Education, 2014).

In the context of library instruction and information literacy, threshold concepts have the potential to help focus discussions on the concepts that are most vital to student learning. According to Hofer, et al., Threshold concepts are "the core ideas and processes that define the ways of thinking and practicing for a discipline, but are so ingrained that they often go unspoken or unrecognized by practitioners" (2012). While the current ACRL information literacy standards give guidance for the competencies and outcomes that should be targeted, the threshold concept framework helped us narrow our focus of where and how to spend class time and effort. Hofer et al. discuss this issue with the ACRL standards that provide so much information that they "do not fulfill the basic function of providing guidance to instructors in prioritizing what to teach" (110).

Decoding the Discipline/Learning Bottlenecks

Learning bottlenecks, or decoding the disciplines, is mentioned in reference to numerous course developments, and occasionally, to IL specifically (Middendorf and Pace, 2004). The model for *Decoding the Disciplines*, *Seven steps to overcome obstacles to learning* provides techniques for addressing bottlenecks by, "identifying the steps experts take to resolve the troublesome areas, tasks that explicitly model these behaviors, opportunities for students to practice these skills, identification of students motivators, and [by] creating forms of assessment that hold them accountable for mastering these tasks" (p. 3).

Pace discusses his attempts to use decoding the disciplines to make changes in his undergraduate history class. While he acknowledges the difficulty of assessing student learning, and linking any changes to one particular strategy, he does acknowledge that, "On a broader scale these approaches might help a department gain a better understanding of the skills that students bring into a history classroom at various levels in its curriculum" (p. 117). Sundt uses the decoding the disciplines model to address student resistance to learning research methods in her Criminal Justice curriculum. She emphasizes her increased understanding of the factors underlying student motivation and of the helpfulness of the decoding the disciplines model in encouraging teachers to think explicitly about what students need in a discipline. She notes that it "forces instructors, as well as students, to engage in meta-cognition and develop a greater awareness of how and why we think in a particular way" (p. 283).

Backward Design

Wiggins and McTighe's (2006) backward design framework focuses on three stages of curriculum planning, including identifying desired results, determining acceptable assessment evidence, and planning learning experiences and instruction that provides those opportunities. Like Middendorf's, their framework emphasizes targeting the student need, or behavior, first.

This framework is described in the literature relating specifically to curriculum design and information literacy, often in collaboration with other faculty. Fox and Doherty (2012) emphasize their use of Wiggins and McTighe's backward design framework in their process of creating information literacy podcasts for students. Emde and Emmett (2007) describe their use backward design over a three year period in order to assess and improve information literacy skills in a graduate chemistry bibliography course. Similarly, Niedbala and Fogle (2010) use backward design to develop an introductory education course focusing on research skills.

Methodology

Assessment as Impetus

USU has a highly course-integrated information literacy program and a strong history of collaboration with the Writing Program. In the spring of 2011, the Writing Program assessed papers from English 2010 courses, analyzing students' competence using 21 criteria, including information literacy components. In fall of 2010 and spring 2011, the library undertook a concurrent assessment project, collecting and analyzing papers from both required English composition courses—English1010 and English 2010—using the AAC&U Information Literacy Rubric. The findings showed that while student work displayed competence with finding resources in library databases and citing their sources, students struggled with critical thinking skills, such as defining key concepts of a topic, evaluating information in context, and synthesizing and organizing information.

After the completion of both assessment projects, the Coordinator of Library Instruction met with a group of lecturers in the Writing Program to discuss shared results and next steps for improving practice. The Coordinator presented the possibility of revising information literacy learning outcomes to better reflect the areas the assessments indicated students struggled with the most, which was framed around the concept of "learning bottlenecks." Initially, getting started, reading comprehension, and synthesis were identified as bottlenecks for student learning relating to information literacy.

The discussions spurred interest among writing instructors. They were enthusiastic about follow-up collaboration to make necessary revisions to the library instruction curriculum based on the assessment results and the group's discussions. A collaborative revision of information literacy learning outcomes had not been attempted since 2005. At that time, librarians had developed lesson plans to address the information literacy learning outcomes identified by writing instructors and librarians. This collaboration was quite successful, but enough time had passed and changes had occurred with the Writing Program's needs, students' needs, and the findings of the recent assessment that a review of the curriculum and learning outcomes was necessary. Growth at the regional campuses and among distance education students also necessitated a review of the curriculum to ensure we were meeting the needs of all students.

The intended goal for the proposed collaboration was to effectively address the learning bottlenecks and learning gaps identified by writing instructors and the recent library assessment. Due to the already strong collaborative relationship between librarians and instructors, both parties were eager to be involved in this process, including design, implementation, and assessment.

Goals

This study is focused on creating collaborative workshops with faculty that address the articulation or revision of information literacy student learning outcomes. This includes a description of the workshop development process, workshop goals, the use of frameworks to achieve those goals and the benefits and challenges to lecturers and librarians throughout this process.

Participants

Three lecturers from the Logan campus and two lecturers from two different regional campuses were selected. The Associate Director for the Writing Program also chose to participate without a stipend. Lecturers who were strong supporters of information literacy instruction were invited to participate based on their close collaboration with librarians in the past. Due to increased enrollment and unique instruction needs of distance education students, we specifically included two lecturers who were located at two different regional campuses. Each lecturer currently taught English 2010, and all had taught or currently taught English 1010 courses.

Four librarians, who worked closely with the Writing Program, participated: the Coordinator of Library Instruction who had developed many of the current lesson plans used for library sessions, the head of the Reference department, the librarian who coordinated library services for regional campuses and distance education, and a library assistant who had worked closely with many of the lecturers involved in the workshop and who had extensive experience working with English composition students.

Development of Information Literacy Fellows Workshop

Librarians determined that the next step was a coordinated revision of the English 1010 and English 2010 curriculum for both the main campus classes and regional campus and distance education classes, and that this could be accomplished through a collaborated effort throughout the summer semester with a small group of writing instructors and librarians. Identifying learning bottlenecks was an important beginning, and next steps involved revising the information literacy goals to reflect our new understanding of where students struggle, and to build new learning activities and lesson plans that targeted those skills. The librarians and writing instructors needed to work together to develop a sequenced information literacy curriculum in English 1010 and English 2010, while determining what skills needed library integration, what skills could be built into the current writing curriculum and introduced by the writing instructors, and what skills should be moved into an online or tutorial format. Finally, instructors and librarians would work together to develop lesson plans that could be integrated throughout the course curriculum.

The Coordinator of Library Instruction and the Head of Reference developed a proposal to fund an Information Literacy Fellows program. The curriculum development efforts would require a close, continued collaboration between librarians and lecturers. This collaboration would go

beyond the traditional role of writing instructors, and therefore a stipend of $500 dollars to each lecturer chosen to participate in the workshops was proposed to library administration. Funding for five lecturers was provided by the library's Associate Dean for Public Services.

The workshop was planned for eight weeks over the summer term. The workshop began with a four-hour session, followed by three workshops each lasting two hours each. One of the regional campus instructors lived near the main campus and attended all the sessions in person. The second regional campus instructor was located at the opposite side of the state as the main campus. Funding for her to travel to the workshop for the first session was provided by her campus and she participated in the subsequent workshops through video chat.

The workshops were facilitated by the Coordinator of Library Instruction, with the specific goals to:

- Revisit, and redefine if needed, learning goals for English 1010 and 2010 to reflect the areas of the research process students struggle with the most (See Appendix A for former and revised learning outcomes)

- Ratchet the goals of English 1010 and 2010 and have a clear idea of how the instruction and learning goals differ in those courses (and in discipline courses)

- Create assignments and lesson plans for learning activities that consider the following: student learning needs, innovation, collaboration, scaffolding, instructor and librarian workloads, library classroom limitations, and possibilities for flipping the classroom

- Plan a marketing/teaching strategy for implementation by librarians and instructors

Content of Information Literacy Fellows Workshop

To facilitate activities outside of the face-to-face workshop time, the Coordinator of Library Instruction created a Canvas course (the University's learning management system) to which the writing instructors and librarians were invited as students. Throughout the workshop, this online forum was used to communicate with participants, post readings and agendas, collect and share assignments, and respond to discussion prompts. The course enabled the easy sharing of ideas and lessons while providing a repository and working space. For the face-to-face component of the workshop, participants engaged in large group discussions, as well as breaking up into small, task-oriented groups when relevant.

The first workshop focused on continuing the discussion of learning bottlenecks which included a discussion of threshold concepts. Prior to the workshop, participants were asked to read an article by Barbara Fister, a librarian and progressive thinker on information literacy (Fister, 2013). The article included novel and somewhat controversial ideas that were used to spark discussion. Participants were also asked to read two articles related to threshold concepts. Threshold concepts helped emphasize the importance of choosing the aspects of information literacy that were most troublesome to students, and to focus our instruction efforts on improving student learning in those areas. We used the language of Middendorf's decoding the disciplines model, describing these troublesome areas as learning bottlenecks. For the breakout sessions during the first day, small groups of instructors and a librarian analyzed one of the

identified bottlenecks, discussing ways experts move past the bottleneck, how instructors and librarians can explicitly model these ideas for students, and how students can be provided opportunities to investigate and receive feedback on practices related to these areas.

The second face-to-face workshop focused on moving from bottlenecks to learning outcomes. In small groups, participants carefully revised the learning outcomes to reflect the bottlenecks that had been identified using the framework developed from Understanding by Design (Wiggins, 2006). Specifically, backward design was used as a framework as librarians and instructors re-wrote learning bottlenecks as learning outcomes and then designed an activity or assignment and an assessment relating to each outcome. Participants again broke up into small groups to develop these lesson plans and assignments.

The third meeting focused on the continued revision of lesson plans and assignments, including specific discussions about the librarian's role in these activities and adaptations for regional campus and distance education courses. Because the learning outcomes had been revised prior to this stage of the process, participants had a clearer idea of how to differentiate the skills between the two levels of English composition courses. Mainly, there was an emphasis on comprehension and summary in the first year course, and helping students learn to synthesize in the second year composition course. The last meeting focused on finalizing revisions to lesson plans and discussions of marketing and implementation. A meeting was planned at the end of the fall semester to discuss efforts to implement the new curriculum.

Discussion

Benefits

The workshop strengthened collaborative relationships between both parties. While the library has a close relationship with the Writing Program, this in-depth collaboration strengthened those relationships and improved librarians' and lecturers' ability to speak to everyone's concerns and ideas as a collective, rather than as two separate groups. The participants consisted of highly motivated instructors and librarians who genuinely wanted to work together to improve student learning. This was evident by everyone's willingness to participate in the workshops, and especially in the online portions where discussions, outside readings, and lesson plan revision took place in between the face-to-face workshop sessions.

We were able to use previous assessments of student work to help begin conversations about where students seemed to be struggling the most. After sharing this assessment, using the framework of identifying learning bottlenecks was a natural and productive way to continue these discussions of troublesome concepts for students. The learning bottleneck framework, combined with the backward design framework helped contain discussions and move efforts along towards the goal of revising outcomes and assignments.

In particular, discussion of learning bottlenecks helped lecturers see what students need, rather than what lecturers may think students need. The lecturers learned to address direct concerns through thoughtful curriculum design, including the framework of backward design, rather than focusing on favored approaches or the most comfortable lesson plans. The frameworks focused the revisions, for both librarians and lecturers, in targeted ways to improve student learning, not just in ways that felt new and exciting.

Participants benefitted from a unique opportunity to share teaching concerns, insights, and lessons plans among new lecturers, senior lecturers, online lecturers, and distance education lecturers. In addition to the pedagogical significance of meeting and discussing teaching with often-isolated instructors, lecturers valued and respected the coordinating librarians who facilitated the collaborative opportunity by understanding lecturer needs.

Because the majority of the workshop focused on student issues, rather than librarian issues, lecturers were less resistant to helping librarians rewrite literacy goals and more amenable to incorporating librarians into more areas of their lesson plans. This shared focus on how best to teach students helped avoid the situation where librarians felt they must demand respect from instructors rather than collaborate with instructors on an equal footing. Librarians were able to contribute and inhabit a design role in the process of providing information literacy instruction. Librarians are often in prime positions to help instructors design outcomes, assignments and activities. In this case, lecturers and librarians played equal roles in all these aspects. The workshop environment and collaborative structure of the endeavor relieved any tension that might exist when librarians adopt roles that blur lines between teachers and librarians.

This workshop also helped librarians understand how to conduct effective workshops on writing and revising learning outcomes, with the intention to continue similar workshops throughout other disciplines. It provided librarians the opportunity to see what issues might need to be addressed in future workshops, how lecturers would engage with information literacy research and readings and what activities within the workshop worked best for facilitating relevant discussion.

The specific design of this workshop provided four essential elements deemed necessary for effective collaboration: "a shared, understood goal; mutual respect, tolerance, and trust; competence for the task at hand by each of the partners; and ongoing communication" (Ivey 2003, p. 108). These elements are vital to the success of future collaborations with the Writing Program and across other disciplines.

Finally, the workshops enabled us to explore a structure and lay the groundwork for expanding the process to disciplinary faculty. As threshold concepts gain prominence in the conceptions and teaching of information literacy, developing processes for working with disciplinary faculty will become increasingly useful.

Challenges

One of the biggest challenges, particularly from a facilitation perspective, was managing time and conversations. It can be tricky to allow for needed conversations to surface, but also to stay focused enough to meet the intended workshop goals. Perhaps by necessity, the first meeting was particularly messy. Big issues surfaced, such as the reorganization of the learning outcomes for ENGL1010 and 2010, the need for students with incoming competencies, unique teaching situations of the distance education instructors, general departmental issues and personal instruction concerns and opinions. Once most of these issues were voiced, the frameworks helped determine which conversations belonged in this particular workshop and which ones needed to be addressed in a different venue. While not all issues were able to be addressed in our workshop, many of the issues were brought up elsewhere, beginning conversations and movements on bigger issues that were helpful to both librarians and writing instructors.

Narrowing the learning bottlenecks was also a major consideration. In the end, four bottlenecks were selected, but it took quite a bit of time and consideration to make those choices. Sentence-level revision as a group can also be difficult. During the learning outcome revision portion, participants found it useful to break into smaller groups, first to focus on one outcome and then to discuss those revisions as a group.

After the conclusion of the workshop, lecturers were anxious to share their new knowledge of particular learning bottlenecks and lesson plans that addressed each bottleneck with their colleagues who were not in attendance. Two lecturers gave a presentation in an English 2010 staff meeting where they outlined and explained the specific learning bottlenecks encountered by USU students, and then shared two specific lesson plans that would help students move past these obstacles. Lecturers and other instructors (adjuncts and graduate instructors) were eager to learn more about the lesson plans developed in the workshop, but those lesson plans were not digitally available until later in the semester after undergoing more revision. It was challenging to maintain enthusiasm for the new ideas when those materials were not immediately available.   While the workshop formally ended in August of 2013, participants requested to meet after the semester ended to discuss implementation and sharing of the revised outcomes, which helped as librarians and instructors tried to implement the revisions throughout the writing curriculum (see revised lesson plan website: http://libguides.usu.edu/lessonplans).

While equality was present in the sense that librarians and instructors worked together towards the same goals, the librarians facilitated the workshops and secured funding for instructors. Securing funding for this and future efforts of this kind can be a challenge. This was quite a bit of extra work for lecturers, who already do not receive high pay for their work. In planning for the workshop, librarians felt that lecturers needed to be compensated for their work. Librarians were not paid additionally for participating in this workshop. Recruiting support from faculty for future efforts will likely be improved if funding continues to be available to compensate faculty for their efforts. Librarians were able to procure funding from an Associate Dean of Libraries at USU, but of course, such funding is often limited. However, funding can be essential in gaining full collaboration, especially if workload expectations are relatively high. Participants attended four face-to-face meetings, contributed to online discussions, created lesson plans and submitted them prior to meetings and completed assigned readings. Funding helped with participant "buy in" and kept everyone actively engaged in the process. Funding is often needed to enact change.

Conclusion

 The feedback from all participants regarding the workshop was very positive. The major success of the workshop was that we met our goals to revise the learning outcomes and practice based on previous assessments. Librarians and instructors were able to shape their collaborative work around key frameworks and literature, which shaped the way information literacy was designed, assessed and implemented in the English 1010 and 2010 curriculum. While any significant change is difficult to enact, the results of this workshop have begun to improve library instruction and the way it is integrated within the Writing Program, and has started conversations between librarians and instructors around the idea of threshold concepts and their role in student learning. These changes are slow and ongoing, but the results of the workshop helped jump start efforts to improve both library and composition instruction by

looking more closely at learning outcomes to ensure that time and resources are being placed where they are needed most.

This workshop also served as a pilot program for other library efforts to articulate and revise information literacy learning outcomes throughout the majors. Librarians were able to provide the space and structure to allow this collaboration to occur. Conversely, future collaborations emerged that were facilitated by the Writing Program. For example, the Writing Program formed an assessment committee and invited a librarian to serve as a member.

We see value in adapting these processes with key disciplinary programs with whom librarians seek to develop a set of shared information literacy outcomes. While we do not expect, or intend, to fund summer-long workshops with faculty in every discipline, our plans for future research include using these frameworks and what we learned about facilitating these discussions in our future efforts to continue these conversations with other departments.

Our collaboration with the English lecturers benefited from the connections and shared purposes between the three frameworks, but depending on the type of collaboration, time allowed and people involved, the scope of this workshop and the use of all three frameworks may be too ambitious. However, the frameworks and the discussions they facilitate, can easily be broken into discrete opportunities for collaborations between faculty and librarians. Continued investigations into methodologies and using frameworks such as threshold concepts, learning bottlenecks, and backward design to develop effective collaborations between librarians and teaching faculty is needed.

In this case, librarians determined that they needed a very close level of collaboration in order to revise the learning outcomes. If librarians had revised the outcomes independently, it would not have had the impact or buy-in from the instructors, which was needed to implement the changes. By highlighting the lecturers' value in revising IL learning outcomes and forming the collaborations around specific frameworks, librarians created a trusting, collaborative environment in which lecturers and librarians could partner to make needed change and carefully assess the best ways to improve student learning. These frameworks, especially threshold concepts, have become increasingly significant to the field of library instruction. As major revisions occur in the way we assess, think about and discuss information literacy, we need to share and use these in conversations with faculty in practical, meaningful ways.

Appendices

[Insert Appendix A]
Appendix A: Revised learning outcomes

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