Guest Editorial

Informing and Extending the Draft ACRL Information Literacy Framework for Higher Education: An Overview and Avenues for Research

The draft ACRL Framework for Information Literacy for Higher Education (http://acrl.ala.org/ilstandards/) has been developed for a world that has changed radically since the turn of the 21st century. It responds to (and challenges) some information-related habits, understandings, and behaviors of students. It acknowledges the vast array of information formats and modes of delivery, and the ease of finding something about almost anything. This fundamental change in availability and access, and the behaviors it engenders, demands a new approach to the essential underpinnings of information literacy. In addition to being information consumers, students are now content creators, though often without recognizing both the attendant possibilities and responsibilities. These roles span students' lives, from the academic to the personal, and while the Framework focuses on the former, quotidian needs are woven throughout the materials that comprise the toolkit.

Educators recognize that information sources, services, and systems have become fragmented. This fragmentation has left academic resources shadowed by those that are ubiquitous, and seemingly easy to use. If students are able to find information that they perceive meets many of their requirements with circumscribed searching abilities, there is no driving need for them to expend time and effort to improve those abilities. The Framework must recognize this reality, while providing a path that enables students to learn otherwise. To do so requires us to introduce concepts that will hold their attention, change their viewpoint, and provide revelatory "aha" moments. This will lead learners to a more holistic understanding of the processes, possibilities, and responsibilities involved in becoming more adept in our information ecosystem: the "why," not just the "how."

In 2009, Project Information Literacy reported on data collected from 2,318 responses to an online survey of students from six institutions and found:

> [T]hat many of today's college students dial down the aperture of all the different resources that are available to them in the digital age.

> Whether they were conducting research for a college course or for personal reasons, nearly all of the students in our sample had developed an information-seeking strategy reliant on a small set of common information sources—close at hand, tried and true.

> Moreover, students exhibited little inclination to vary the frequency or order of their use, regardless of their information goals and despite the plethora of other online and in- person information resources—including librarians—that were available to them.[1]

These strategies included starting with course readings for academic research, and using particular databases for credible, in-depth content. Google and Wikipedia were the tools of choice for non-academic research.

As part of a later study of first-year students, Project Information Literacy found that while some were moving to using databases in place of Google, others had not made a transition and continued to use Wikipedia and Google for their research papers.[2]

While these results refer specifically to information searching strategies, this limited facility with a basic component of the research process suggest that the richer milieu of information literacy "threshold concepts" is unfamiliar to many college students. Yet such understanding would facilitate their navigation of the complex environment of academic research.

Information literacy threshold concepts help learners recognize and make sense of this environment, guiding them to transform and integrate their understanding. These concepts do so in a cohesive way that allows individuals to incorporate elements from their earlier conceptions of doing research, while moving them to a more sophisticated level of understanding. The process is not solely a cognitive one, but also affective and metacognitive. Learners need to recognize that their own information behaviors can be improved. This may be an uncomfortable or unfamiliar process that they need to monitor regularly. They must also think about their own thinking, checking in to assess if they are being open to and inclined to use new methods, rather than reverting to more familiar behaviors.

The Framework provides an opportunity to expand the conversation about information literacy with faculty members, some of whom may be aware of threshold concepts developed in their own fields and others who may wish to learn more about this idea. The Framework encourages conversations that extend beyond specific assignments, tools, and resources, to information literacy in its more robust sense.

Indeed, one of the objectives for the Framework is for it to be adaptable to individual circumstances. Each institution, each interaction with a faculty member or a program, has unique elements. The Framework is designed so that these elements might be taken into account when creating lesson plans, assignments, or program components. Included are elements designed to assist librarians and faculty members when they are grappling with a particular threshold concept, e.g., sample assignments.

One abiding belief that motivated the Task Force's work is that information literacy instruction must extend beyond one class period. Many librarians have fought hard to gain even this limited access to students, but we feel it is important to provide a model that encourages conversations that explore other options. Librarians might collaborate with faculty members to flip the classroom, for example, or instructors might build information literacy instruction into course content, or departments might address how their majors will become proficient in the information-related aspects of that field.

Next, we should explore the genesis and characteristics of threshold concepts, the impact they can have upon learners, research being done within our field to identify threshold concepts for information literacy, and how the Framework builds upon those concepts. The Framework is being constructed with supporting elements to help librarians and other educators put it to use. And as it begins to be used, there will be a need for research studies to answer a number of questions. Some of those questions are proposed here.

The Framework is informed by pedagogical research originating in the work of Meyer and Land, economists who sought to identify particularly challenging concepts for students in their field. Their theory of threshold concepts has been accepted by academics in other disciplines as one way of thinking about the recurring difficulties experienced by students when faced with unfamiliar

landscapes of learning. The metaphor of the "threshold" is crucial because it posits that students must pass through a portal of struggle and difficulty, in order to develop increased understanding of a discipline or knowledge domain. Passing through the threshold calls on both cognitive and affective engagement, and students who successfully accomplish this transition begin to understand those unfamiliar landscapes and to see the interrelatedness of various parts of them.[3]

Meyer and Land identified several characteristics of threshold concepts, which serve to set them apart from other concepts in a given discipline. Among these characteristics are: transformative; integrative; irreversible; troublesome; and bounded. Students who gain an understanding of a threshold concept are assumed to have *transformed* their understanding in some fundamental way; by understanding that concept, they are more readily able to *integrate* disconnected facts and information related to that concept; once they grasp that concept, their learning is *irreversible* and they do not return to a simpler level of knowledge; during this process, students experience difficulty because of the inherently *troublesome* nature of the concept itself; and the concept may demarcate knowledge in a particular field from related fields so that there is a *bounded* separation.[4]

Threshold concepts theory was introduced to the library field by Hofer, Brunetti, and Townsend, whose work has sparked increasing interest in the possibility of redesigning information literacy instruction through the use of threshold concepts.[5] A Delphi Study currently being conducted by these authors (and others) is exploring a set of threshold concepts in information literacy according to the original criteria identified by Meyer and Land.[6] These studies have informed, in a fundamental way, the work of the Task Force developing the Framework for Information Literacy. However, the Framework does include additional elements, including: *knowledge practices*

involved in demonstrating understanding of information literacy concepts; the *dispositions* needed to behave as an adept learner; and some *sample assignments and self-assessments* that would develop understanding of threshold concepts in information literacy, or otherwise pinpoint challenges for students in learning them. The threshold concepts anchor the Framework; the additional elements are meant to provide flexibility in planning instruction and curriculum revision and to stimulate thinking about organizing information literacy instruction in a more holistic way. Threshold concepts identified by the Delphi Study research study include: Scholarship is a Conversation; Research as Inquiry; and Format as a Process. Each of these threshold concepts identifies foundational aspects of engaging with and understanding the information environment: knowing that scholarship is a conversation, for example, enables the student to understand the dynamic flow of the exchange of ideas over time and how scholars and researchers build on each others' ideas or use evidence and disciplinary methods to arrive at different conclusions. Grasping that research is inquiry enables students to carefully formulate research questions and to further refine them during a process of investigation. Knowing that information sources originate from different producers with varying motivations and conventions, and with varying methods of production and distribution, enables students to focus on content rather than the packaging or "container" of the information. These threshold concepts sometimes intersect, but each offers a particular facet of understanding the information environment; the set of threshold concepts used in the Framework creates a web of connected ideas that organize less central concepts and skills.

Concurrent with the work of Hofer, Brunetti, Townsend, and Lu has been the LIS research of Tucker, whose dissertation addresses the use of threshold concepts in the perennially challenging activity of

"Search"—with such research questions as what expert searchers know and do, the particular strategies and tactics they use in searching databases and systems, and their tacit knowledge providing the basis for their expertise. Tucker's research contrasts the knowledge and behavior of expert, experienced searchers in work settings with the knowledge and behavior of adept LIS students who are acquiring expertise. Tucker identified four threshold concepts crucial for expertise in "Search": knowledge of the total information environment; knowledge of information structure; knowledge of search vocabularies and tactics; and concept fusion of the first three concepts that allows the expert to move with agility within and across databases and systems.[7] Tucker's research presents a deeper analysis of searching, involving one set of threshold concepts that demonstrates growing interest in the library profession in threshold concept theory. Tucker and colleagues have continued this work through a study of the potential for threshold concepts to become the underpinnings for learning in the LIS field.[8]

Because threshold concepts are an anchoring element for the Framework, there are many additional opportunities for instruction librarians to conduct action research, in conjunction with disciplinary faculty, teaching and learning centers, student affairs organizations, assessment offices, and other campus units, using parts of the Framework to develop research questions that may complement the investigations of Project Information Literacy. If PIL has shown the gaps in student understandings about information literacy, the Framework itself offers the potential to create an architecture for program planning and concurrent pedagogical research. Research questions for local institutions will naturally focus on the time, resources, and motivation available to use the Framework, and will vary widely. Particular structures and settings that are promising include First-Year Experience Programs, general education programs, Writing Across the Curriculum programs, sets of disciplin-ary courses, or even capstone courses. Investigating these options for concurrent research and program development might focus on such questions as:

1. Are the threshold concepts in the Framework applicable to all disciplines?

2. Are there additional threshold concepts addressing gaps in understanding about information literacy that should be proposed?

3. How can students themselves contribute most effectively to research projects based on the Framework?

4. How can the Framework support other academic competencies such as writing, global awareness, ethical reasoning?

5. Is there an optimal sequence in which the various threshold concepts should be included in the curriculum?

6. How do students envisage this sequence: does it differ from that of librarians and instructors?

7. How might the supporting elements of each threshold concept, for example the self-assessments and dispositions, be used most effectively?

The ongoing value of the Framework depends upon the community of information literacy librarians, their faculty colleagues, and others in the academy with a commitment to information literacy as an ongoing educational reform agenda. The Framework itself allows for flexibility and the ingenuity of many, and the sharing of instructional experiences, materials, best practices, and ideas for continuous improvement and reinvention of our information literacy programs—as institutional enterprises rather than library-owned initiatives—in a future that we create together, with our students.

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Notes

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