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Save a horse, ride a new train of thought: Using threshold concepts to teach information literacy

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Introduction

A persistent challenge of teaching information literacy arises from approaching IL as a list of learning objectives. We frustrate ourselves in attempting to perfect the formula of tutorials, exercises and readings to fortify our students with a broad, ever-changing information skill set. Additionally, we are often expected to cover a wide array of content in an environment where classroom time is at a premium.

While many teaching librarians recognize that less is more, the breadth of the content we teach--rooted in standards such as those defined by ACRL--can cause our classes to morph into a series of confusing vignettes to be endured by students on a Thursday afternoon and forgotten by Sunday. Our challenge is to coalesce disparate learning objectives into meaningful core ideas that both stick with our students and prepare them for future learning. Through our reading, discussion, and practice, we have explored the idea that threshold concepts may hold this potential for information literacy instruction.

Threshold Concepts Defined

Threshold concepts are like learning outcomes with a twist. They are the central concepts that we want our students to understand and put into practice, that encourage them to think and act as practitioners in their field. As described by Jan Meyer and Ray Land (2006), threshold concepts transform and integrate the learner's view of content; though often troublesome, they bring insight into how to think like a practitioner within a discipline. Meyer and Land use the metaphor of the threshold deliberately, giving particular attention to the liminal state in which students struggle to cross to the other side of the threshold. While other approaches (for example, Gestalt learning theory, phenomenography, and cognitive psychology) use similar models of knowledge and skill acquisition, the threshold concept model was particularly productive for us, as teaching librarians, to think through our material and reconnect with our students' experience of it.

Threshold concepts differ from learning objectives because of their transformative and integrative nature: they are gateways for student understanding that, once traversed, fundamentally change the student's perspective. Threshold concepts are those core ideas and processes in any discipline that define the discipline, but often go unspoken or unrecognized by disciplinary practitioners. In their pioneering article, Meyer and Land (2003) proposed five characteristics of threshold concepts:

- Transformative: cause the learner to experience a shift in perspective;

- Integrative: bring together separate concepts (often identified as learning objectives or competencies) as a unified whole;
- Irreversible: once grasped, cannot be un-grasped;
- Troublesome: often counter-intuitive, the place where students stumble or get stuck;
- Bounded: may help define the boundaries of a particular discipline, are perhaps unique to the discipline.

Because the threshold concept approach relies upon subject specialists' in-depth knowledge and ability to analyze their area of expertise, it is a pedagogy well-suited for higher education. Faculty are not required to learn advanced educational theory in order to put it into practice (Meyer & Land, 2007). This is welcome news to librarians who, like many academics, take on teaching responsibilities without formal educational training.

Information literacy in higher education

From its inception, the nature, purpose and teaching of information literacy has been contentious (even the name is still a subject of debate). The first IL models were developed for K-12 education and usually based on a linear research process. They led from topic formation to information use and were designed as a guide for students. In higher education, one might clarify this as the "library research process," or the research process used when preparing a literature review, to distinguish it from the original research conducted by disciplinary faculty.

Academic librarians now embrace a broader conception of information literacy, with exhortations towards critical thinking accompanied by lists of standards, competencies, and outcomes. IL models in higher education, including ACRL's Standards, SCONUL's Seven Pillars and Australia/New Zealand's Framework, share a common focus on the research process (identifying an information need, searching, evaluating) as well as information and knowledge creation, variously enhanced by ideals of social responsibility, teamwork and the ethical use of information.

While we continue to draw on these models in our teaching practice, we find that they lead us into certain pedagogical dead-ends. On the one hand, they are reductive and tend to fragment information literacy into small parts without offering an overall theoretical or conceptual structure. While lists of outcomes can be helpful when seeking focus for an instructional session, this limits our students' (and perhaps our own) conception of IL as a whole. Do the parts add up to something greater than their sum?

On the other hand, our professional standards simultaneously promote grand, but vague, goals implying that IL somehow encompasses the entire university curriculum. We are creating "self-directed learners" who employ "critical discernment and reasoning" in evaluating their information world. This language obscures the reality that the standards represent a grab-bag of approaches, some emphasizing traditional behaviorial-type skills development, others approaching issues of maturation, both emotional and ethical, and still others that depend upon students gaining deeper knowledge of their disciplines (Webber & Johnston, 2000).

This can be overwhelming for librarians confronting the reality of teaching. We are tempted to shelve the issue of a larger theoretical construct that makes sense of IL as a cohesive whole, and fall back on the skill-set approach. Students are left with no real notion of the "big ideas" of IL and thus tend to see it as a boring series of steps and homilies to be memorized or ignored. Threshold concepts offer the tantalizing possibility of identifying those "big ideas" specific to information literacy, ideas that would add new layers of meaning to the current standards and integrate those standards into a more coherent body of knowledge.

Formulating an Information Literacy Threshold Concept

We were introduced to threshold concepts when one member of our group encountered this new idea at a course redesign workshop for disciplinary faculty, and we began to consider whether threshold concepts exist in our own area of instruction. Librarians have spilled quite a bit of ink on the question of whether information literacy is a discipline. We hypothesized that the common way of thinking and practicing shared by information professionals constitutes a body of knowledge for which there are thresholds.

We started thinking about a format-related threshold concept when a student asked one of us the deceptively simple question, "What's the difference between a journal and a website?" As members of the cut-and-paste generation, our students have always had easy access through Google to unending amounts of information. Many do not differentiate between different types of information. To them, it all just looks like words on a page or screen, words that can be used for research papers and assignments. When most of what we use is available through a web browser, what difference does it make whether it's a book or newspaper article?

Librarians, of course, have always relied on print journals, newspapers and books. Even when we retrieve these formats online, our recognition of them is shaped by their print ancestors. Our students lack this frame of reference, and are understandably confused when they are asked to find specific formats for research projects. To demonstrate the differences, librarians will roll in book trucks full of "analog" scholarly journals and magazines for students to examine, thinking this exercise will clarify the nature of journals. To us, this is a logical method of explanation. However, calling attention to physical formats sidesteps the larger question of what makes a journal article a journal article, and what constitutes a website.

The threshold concept model suggests that we -- information professionals -- look carefully at how we identify and experience formats, and that we recognize why a thoughtful student who had held a copy of a print journal, searched a scholarly database, and retrieved websites using Google would still not know the difference between a journal and a website. What tacit understanding has not been explained?

We posit that the threshold is understanding that *format is the result of a process*: information is packaged in different formats, both digital and print, because of how it was created and shared. This is why the distinctions between formats are not going away in the online age. A book--which has been researched, vetted by editors, has chapters, a table of contents and an index--maintains its essential "bookness" whether it is pulled off a library shelf or downloaded from Google Books. This concept applies equally well to new formats that are the result of new processes. The immediate and do-it-yourself nature of blogs, for example, stem from a high-speed, low-editorial process that is often appropriate for timely news items but perhaps not for a research paper.

When students look at text in a browser, they must understand how to identify its format because different formats contain different kinds of information that meet different kinds of information needs. That's why we continue to teach formats, and that's what we need our students to grasp before they leave our class.

Threshold Concepts and Curriculum Redesign for Online Learning

When we applied the threshold concept approach to our 10-week information literacy class, we saw how incorporating thresholds at the center of a learner's experience clarified and unified much of our content, including

finding, evaluating and effectively using information. In addition, distilling learning objectives into overarching, perspective-changing thresholds facilitated the process of taking our course online. That a simple idea that is obvious to IL instructors can focus a class in this way is in itself a transformative experience for us, librarians learning to become better teachers ourselves.

For example, to convey the formats concept discussed above, we created online presentations that introduce students to various information formats and address the processes that lead to the creation of each format. Our materials discuss why understanding format is critical to understanding citation, database searching, and fair use of materials. Students are then asked to identify and explain formats in a series of exercises. Teaching about format became a starting point around which to base specific learning objectives and skill sets.

Using threshold concepts also had a slimming effect on our content. In our experience, it is easy to inadvertently slip into a "more is better" approach to teaching as a natural outgrowth of our constantly changing discipline. New e-collections, web 2.0 applications, and citation management tools make for tempting subject material, but can add to students' feeling overwhelmed and ultimately dismissing the content. The threshold concept approach, however, required us to stick closely to our conceptual framework. Any content that did not relate to or illuminate these concepts was either relegated to optional status or jettisoned.

Threshold Concepts and One-Shot Instruction Sessions

Threshold concepts can provide a new way of framing the dialog with disciplinary faculty when we are invited to talk about the library for 20 minutes of their precious class time. Faculty may be more open to a follow-up visit, an assignment revision, or a lab session instead of a lecture/demo once they make the connection that what we teach has thresholds that take time to traverse. They may be interested in reading about threshold concepts for themselves and thinking about them in terms of their own discipline.

On the other hand, the reality is that we are often called for a very short one-shot. Let's take another look at a perennial question for librarian instructors: what can we accomplish with students within extreme time constraints?

Thinking and talking about threshold concepts with our colleagues changes our orientation to the material that we cover in these sessions. As when we redesigned an information literacy course to take it online, certain content becomes unnecessary while other points emerge as absolutely essential to cover. For example, we might skip the prepared search. Letting the students lead the session with questions and topic suggestions cuts to the places where that particular group is getting stuck at that particular moment. This is not to say that we are unprepared: we expect to hear certain types of questions over and over because the places where students usually get stuck point to the thresholds that we can identify.

Instructors may also help us identify information related learning thresholds for their disciplines, which we can use to shape instruction sessions. Working with threshold concepts in an online environment suggests that some content could be pushed out to students prior to an in-person instructional session (maybe that prepared search?) in order transform it from a one-shot into one part of a larger embedded IL curriculum.

Conclusion

It is very difficult to remember what it looks like from the other side of the threshold. Because of the transformative nature of threshold concepts, we may feel that we've always known something or looked at the world in that way. We lose our connection to where our students are when they come in the door. Learning about threshold concepts encourages contemplation based on classroom experience and disciplinary knowledge: as a teacher, you want to grab your nearest colleague and start questioning, brainstorming, and theorizing.

We intend this presentation as the beginning of a conversation. What are the learning thresholds in information literacy? How can we use this approach to reshape the IL curriculum? What information-related thresholds might we discover through talking to our colleagues in other disciplines? Threshold concepts offer an exciting way to re-envision and re-energize IL instruction by providing a simple and useful framework for questioning what we focus on in our teaching and why.

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