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# TRANSFORMING THE ONE-SHOT: INCORPORATING DISCOVERY LAYERS, ACTIVE LEARNING AND THE FRAMEWORK INTO IL

BETH TWOMEY AND LISA EGGBRAATEN

## INTRODUCTION

In the summer of 2013, North Dakota State University (NDSU) librarians had the opportunity to rethink their approach to one-shot instruction sessions. The adoption of a new discovery layer (ExLibris's Primo) and a complete overhaul of the curriculum in NDSU's First year Writing program provided the inspiration to break with the traditional bibliographic instruction employed previously. ACRL's soon to be implemented new *Framework for Information Literacy for Higher Education* offered a challenging new way to approach the unique issues that discovery layers can pose.

In particular, we have found that the nature of discovery layer results – a mix of books, articles, online and print resources, audiovisual materials and more – have stymied our students' abilities to determine the format of the resources they are finding. The *Framework for Information Literacy for Higher Education* includes the frame "Information Creation as a Process", which begins to address these issues. This frame was previously called "format as process" and for simplicity's sake, the term format will be retained in this article.

NDSU Librarians developed an instruction session utilizing active learning techniques in which the concept of format is introduced, explored, and ultimately assessed. This paper will discuss the multiple, active ways that we prompted students to grapple with the concept of format, and the formative assessment we used to measure student learning, including results.

## DISCOVERY LAYERS

Discovery layers have quickly become a favored method for accessing library resources over the last seven years, with the rates of adoption greatly increasing about five years ago (Breeding, 2012). Accordingly, the literature is still dominated by articles that focus on choosing a product and the process of implementation. Articles exploring the impact of discovery layers on information literacy instruction are only now starting to be published. The discovery layer's promise of a search engine-like experience, allowing the access of library materials across traditional silos, is certainly appealing, especially in light of studies showing that undergraduate students prefer beginning their research on the open web (Head & Eisenberg, 2009). However, the familiarity of the initial interface – a single search box – disappears when the user encounters the results. Studies conducted so far indicate that users often have difficulties understanding the results. These difficulties range from not understanding what the search box actually searches, to problems with interpreting results (Gross & Sheridan, 2011; Lundrigan, Manuel, & Yan, 2015; Meadow & Meadow, 2012).

When North Dakota State University Libraries implemented Primo in the summer of 2013, librarians learned quite quickly through interactions at the reference desk that students were struggling with results. In particular, like many discovery layers, Primo includes icons representing the type of resource next to the record. Students would rely on the icon rather than the record information and so, for instance, were not able to determine the difference between journal, magazine, and news articles, conference proceedings and, reviews – all of which are accompanied by an article icon in Primo. Relying on the icons for state and federal government documents is also problematic since the icon does not indicate whether that government document is a book, a pamphlet, video, or is research or consumer oriented and so forth.

## CURRICULUM CHANGES

Like many universities, NDSU has a First-Year Writing Program, and in the past, the Libraries provided one-shot bibliographic instruction for those classes. In 2013, the First-Year Writing Program acquired a new coordinator with whom the Humanities librarian was able to establish a strong working relationship. This allowed the Libraries to collaborate with the coordinator as she developed a new curriculum for the program as well as identify an assignment where the Libraries could introduce Primo. The First-Year Writing Program was the perfect place to begin teaching our students how to use Primo effectively and interpret the results, while allowing the Libraries to introduce and teach threshold concepts related to information literacy.

## USING THE FRAMEWORK

One issue we have seen repeatedly with incoming freshmen is that they are, understandably, unfamiliar with the types of resources they need to use at the university level. In particular, they struggle to relate the “real” physical item to the digital one. Taking another step and relating the item to a record in a discovery layer or on Google Scholar often completely confounds them. The concept that there are different format types at all, that they represent work that may or may not be appropriate for university-level work, and that format is one prime indicator of this appropriateness is a genuinely new concept to them.

When we initially began working on this lesson plan, the new *Framework for Information Literacy for Higher Education* was in its first draft. Because of that, we relied on Hoffer, Townsend and Brunetti’s research that was published in 2012. In that paper, one threshold concept they identified was “format as process” – a clear response to the meta-theme of Google and its profound impact on student perception of the information landscape and the theme of format – most simply that the process of creation is what determines the format, rather than the mode of access. This is a simpler formulation than the current Framework’s “Information Creation as a Process,” and we found it easier to work with since we were dealing with a freshman level general education course in the one-shot setting.

We settled on a couple of learning outcomes that were appropriate for our novice researchers and which directly engage with the threshold concept. That is, we asked our novices to engage with the idea that format is a reflection or result of the process of creation, which has implications for how it should be used:

- Students will be able to identify a resource’s format from the information in the record
- Students will be able to articulate the appropriateness of a resource for use in their research

## THE LESSON

The lesson was developed for a commentary paper assignment where students are asked to write in the style of a publication of their choice. There is necessarily some standard bibliographic instruction associated with that but in this paper we will focus on the aspects of the instruction session which introduce the discovery layer and explore the issues of format that it raises.

We begin by asking students if they have ever shopped on Amazon, which typically, all have. We ask about the number of results they would get if they searched for something like a black jacket and how they manage the results. If there is time, we do a search on Amazon for a black jacket and point out the options for narrowing the search along the left side. We ask students what happens to their results when they click on them. Students will generally participate in these discussions because they are comfortable and competent using Amazon and they know the answers to our questions. This makes it easier to introduce Primo because we can tell students that when they are using the Libraries' search bar, they are just shopping for information in the same way they would use Amazon.

Obviously, however, the results of a search in the discovery layer are more difficult to parse than Amazon. Since these are students new to university research, we bring in a lot of print materials of all different types. We hand them out and ask groups of two or so to examine the item and be prepared to tell the class what type of resource they think it is and why, as well as whether the resource could be considered scholarly. Note that we do not give the students criteria for their evaluation process – we just throw them right in. As we call on students to tell us what they think their resource is, we have multiple, rich opportunities for conversations about peer-review, popular vs. scholarly sources, the publishing cycle, the purposes behind the choice of format for various types of content and much more. In this way, we help our students to begin to engage in the threshold concept of format as process (or “Information Creation as a Process”) at a level appropriate to novices.

Print resources provide a multitude of clues that students find easier to interpret than the citations and bibliographic information that they would retrieve via a discovery layer. To address that issue, we turn to a second active exercise. This time, we hand out printouts of records from Primo and ask students to once again tell us what type of resource it represents and why. We encourage them to consult with others if they have a particularly tricky record. Once again, we call on students to share their thoughts

and for this, we display a PowerPoint slide of the record the students are talking about so that everyone in the class can see. This allows us to point out features of the record and explain how to interpret them to the entire class.

This particular exercise furthers the concept of format while hopefully making the use of Primo more approachable for our students. When possible, we reinforce the connection between the physical item and the record by re-introducing appropriate print materials that we used previously in the class. The goal is that doing so assists students in making distinctions between formats in the digital environment by stressing that the resources they encounter are created for different reasons and to fill different needs.

## THE ASSESSMENT

We knew that the thought and care that we put into this lesson did not mean anything if it did not help students reach our desired outcomes. We believed that a quick formative assessment would be the most effective way for us to understand what our students were thinking, and to provide the type of feedback needed to constantly revise and improve our praxis.

What we settled upon was simple. Students are presented with a record as in the previous exercise. This time, however, the record comes from Google Scholar and, a citation in MLA format is included. Three simple questions are asked which are directly tied to our learning objectives for the lesson:

- Identify the type of resource
- Identify the title of the journal or book
- Answer the following question: With what you have learned today about identifying sources and determining relevance, would this be an appropriate resource for a commentary paper on topic X? Why?

This very quick assessment – one that asked students to actually do what they have to do when they are doing research – has taught us a tremendous amount about where our students are at with regards to this threshold concept.

## RESULTS

As we note in the previous section, the first two questions of the formative assessment asked students to analyze the given citation and determine the type of resource they were viewing. The responses were coded for use in this paper. The third question was open-ended and provoked a wide variety of responses. We have yet to determine the best approach to interpret these results so they are not included in this paper.

Students responded to the prompts in a variety of ways. The first question, "Identify the type of resource," was reviewed with responses falling into five general categories: article (40%), periodical (36%), book (11%), other (8%), and combination (5%).

### Table 1: Responses to “Type of resource”

Each category represents a cluster of related formats. For example, “article” includes responses like journal article, online article, newspaper article, and so forth. Under the category “periodical,” responses varied from periodical to magazine to communication journal. “other” is a catch all for responses that only have one response (e.g., blog, audio, textbook) and for responses that are not formats (for example: online library, website, database). The most easily categorized responses were for “book,” because those were the most uniform (most students responded “book” without additional text). Any answer that included two or more of the previously mentioned responses are included under “combination,” including book/article, journal/magazine, online library or journal article. The second question, "Identify the title of the journal or book," had less variation in the types of responses and these were placed into three categories: article title (57%), journal title (40%), and other (3%). We coded all of the students' responses into the various categories.

### Table 2: Responses to “Title of the Journal or Book”

Since a discussion about the different types of articles was a key component of our instructions session, we pulled out the student responses from question one that identified "article" as the resource type for further evaluation. Table 3 shows 79% of student responses correctly identifying the resource as an article, but closer examination reveals that 19% of responses misidentified the resource as an online article, magazine article, newspaper article, or other, instead of one of the responses we expected to get (journal article, peer-reviewed article, or simply article).

### Table 3: Breakdown of Article Types in Responses to “Type of Resource”

## CONCLUSIONS

We believe that discovery layers, while easy to navigate, are difficult to interpret in ways students do not encounter while using a search engine or a traditional library catalog. The ability to understand citations and identify formats are key skills students need to develop in order to use these tools effectively. Using the *Framework* as inspiration for changing our pedagogical approach in response to the implementation of Primo proved to us that it is possible to address threshold concepts in the one-shot environment in an incremental way. Yet, as the results of our assessment show, format is a more slippery concept to teach than we believed it would be. While we have been aware of students' difficulty with deciphering citations, the results of our assessment showed us the true extent of the issue and the myriad ways that they interpret the citations they encounter. Until students get a firm grasp on interpreting citations and begin to comprehend the concept of format, they are bound to struggle with research in the higher-educational setting.

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**Images for Tables and Figures (Editor will put in body of the text later)**

Table 1

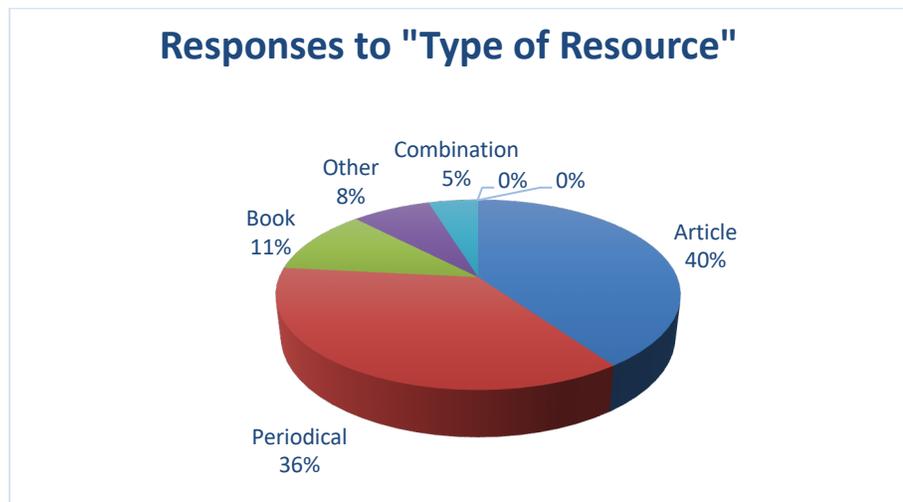


Table 2

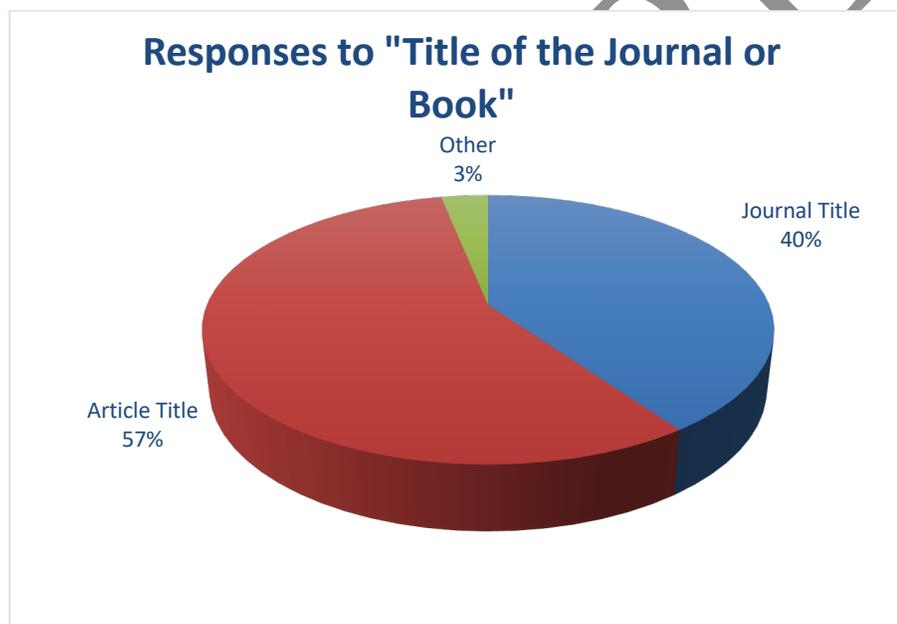
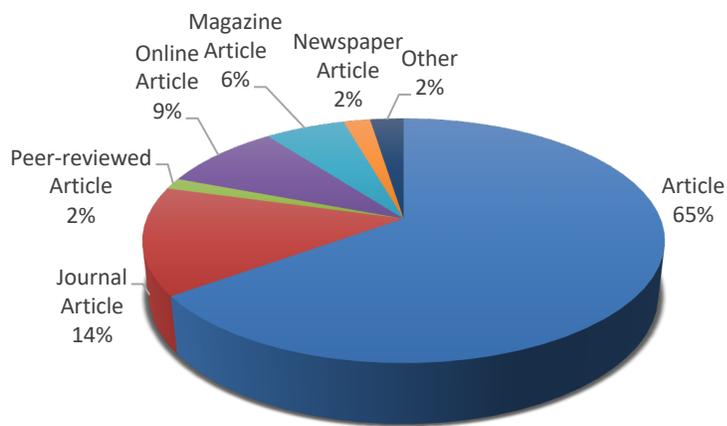


Table 3

### Breakdown of Article Types in Responses to "Type of Resource"



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