



Research Information Literacy: Addressing Original Researchers' Needs



Nina Exner*

Librarian, North Carolina Agricultural and Technical State University, USA
 Doctoral student, University of North Carolina at Chapel Hill, USA

ARTICLE INFO

Article history:

Received 26 April 2014

Accepted 17 June 2014

Available online 9 July 2014

Keywords:

Research information literacy

Researcher development

Faculty support

Doctoral student support

ABSTRACT

Information literacy for faculty, doctoral students and other research-based graduate students, post-docs, and other original researchers is complex. There are fundamental differences between the processes of inquiry used by original researchers as compared to students or even faculty who are synthesizing information to find answers. Original research is different from information synthesis for discovery. Therefore, the information literacy processes to train and support those researchers are different. Analysis of the inquiry-oriented parts of the current and emerging information literacy Standards and Framework shows significant differences in the approach needed for teaching research information literacy. Promising instructional outcomes for information literacy training based around original research include gap analysis, theoretical and methodological discovery, and practical skills like funding search and analysis.

© 2014 Elsevier Inc. All rights reserved.

Imagine this: A student is trying to refine an original research question for a dissertation. She or he is told that it must be unique and give a new contribution to the state of knowledge. No one can have written about it before. Then, she or he is told to consult the literature and search for articles that give background on the topic. The student gives a reasonable response, "How am I supposed to find articles about it if it has to be something no one has written about before?"

This scenario points out the inherent paradox in planning a search on a topic in original research. Most searchers locate existing information and synthesize it to form a conclusion. These *information synthesizers* can make an assumption that the components of their answer exist; combine existing knowledge to answer a question. But *original researchers* cannot ever answer their question by searching. The structure of the information need is different. The original research searcher is preparing for an empirical investigation that will answer a question that is original, unique, and unanswered. The nature of the starting point for the search is, in this situation, inherently different from the average one.

The usual starting point in information literacy is determining the nature and extent of information needed (<http://www.ala.org/acrl/standards/informationliteracycompetency#stan>) (Association of College and Research Libraries [ACRL], 2000). Even with changes coming to the Standards in the next year or two, this is the starting point around which current information literacy practices are most commonly built. By the time a student reaches the point of original research it's reasonable to assume that they are indeed information literate enough to determine the nature and extent of their information needs for creating an information synthesis project. However, the nature and extent of the information

needed from the literature is significantly different for original researchers than information synthesizers. Synthesizers get their information from sources and then use analysis to complete their answer. Original researchers' interactions with the literature build up to a question to be asked empirically, and then their final answer comes from experimental or other non-search inquiry.

LITERATURE REVIEW

Information literacy is the de facto structure around which many academic libraries currently organize their instructional programs. From pre-college to faculty levels, libraries use variants on the information literacy concept to organize instructional initiatives. However, most material on the topic addresses undergraduate instruction. Yet, original research is information-rich and must be learned, and should therefore be given the support of information literacy training. On campus, the most common researchers are graduate students (though not all graduate students are researchers), and faculty members (though not all faculty engage in research and of those that do, many use forms other than original discovery and other empirical processes). Some literature addresses these groups, and gives us useful advice even where it excludes research processes.

Graduate students are discussed in the library literature, but are usually not discussed as researchers. Most articles have general instructional advice for graduate instruction, not research-support advice. While one-shot orientations are common, the literature commends a different approach. Established tactics include multiple connected sessions to address the complexity of the graduate-level information process (O'Malley & Delwiche, 2012; Tunon & Ramirez, 2010), timing interventions according to the graduate students' cycle of needs (Rempel & Davidson, 2008), and building information literacy into existing

* F.D. Bluford Library, North Carolina Agricultural and Technical State University, 1601 E. Market St., Greensboro, NC 27411, USA. Tel.: +1 336 285 4177.
 E-mail address: ninae@ncat.edu.

socialization processes such as graduate cohorts also creates stronger impacts (Green, 2006). While this is important advice, it does not address the issue of the research process specifically.

Rempel (2010) observed a noticeable information-need difference between graduate students with and without thesis requirements; those with thesis requirements were expected to delve more deeply into the literature, were more invested in learning to search, and felt a strong need for assistance and training in the literature review process which they were not receiving elsewhere. Graduate students that are not performing original research have simpler needs and less buy-in for information literacy. But contrary to amount of attention given in the literature, this seems to imply research-oriented learners need more information literacy training, not less!

Outside of the library literature, learning the original research process is often treated as a watershed experience. Becoming a researcher is a complex of socialization issues, identity formation, and skills development (Gardner, 2008; Giampapa, 2011; Trafford & Leshem, 2009). Among the many skills involved in becoming a researcher are included those of searching and drawing from the literature, retrieving information and sharing it with colleagues, and contributing knowledge back to the literature (Benge, Mallette, Onwuegbuzie, & Burgess, 2010; Feldman, Divoll, & Rogan-Klyve, 2013; Giampapa, 2011; Hunter, Laursen, & Seymour, 2007; Trafford & Leshem, 2009). There are clear connections with the information cycle and information literacy skills in these skills of becoming a researcher. So it behooves librarians to learn to teach information literacy for original research and empirical questioning.

In particular, the research dissertation is given special place that defines the (non-practice doctorate) doctoral experience and the state of “doctorateness” that often represents the gateway to independent academic research (Trafford & Leshem, 2009) and the literature review has a central place in the dissertation (Boote & Beile, 2005). Yet, many academic librarians do not understand the dissertation process or the needs of doctoral students (Fleming-May & Yuro, 2009). In return, doctoral students often do not know what information skills they are missing, or that librarians can assist with them, or what they would ask for if they did talk to librarians (Tunon & Ramirez, 2010). Framing is critical to reach graduate students, moving away from library-centric views and embedding information within the research process (Macauley & Green, 2009). Graduate students (and, as mentioned below, other researchers) are interested in actively pursuing skills but only if they feel that training will directly answer their perceived needs (Fleming-May & Yuro, 2009; Hoffmann, Antwi-Nsiah, Feng, & Stanley, 2008; Macauley & Green, 2009; O'Malley & Delwiche, 2012). Embedding information literacy in appropriate contexts is critical: Rempel and Davidson (2008) commend that the literature review was highly effective and Hoffmann et al. (2008) found identifying key research papers to be a very popular concept in their assessment of graduate students' needs. Research-focused information literacy instruction needs to be framed in terms of the research process. Librarians interested in reaching original researchers absolutely must ensure that their understandings of original research are up-to-date, especially if the librarians themselves did not write a thesis. Otherwise, disconnection from the researcher's world will become obvious and damage the instructional program.

The same goes for faculty research information literacy. Reaching faculty is not easy; evidence of lack of understanding of faculty lives and needs can only add complications. The literature discusses collaboration extensively, but in a different context. Many library articles focusing on faculty are about partnering with faculty to reach their students or about supporting faculty teaching needs (e.g. Badke, 2008; Gaspar & Wetzel, 2009; Ge, 2010; Haines, Light, O'Malley, & Delwiche, 2010; Hemminger, Lu, Vaughan, & Adams, 2007; Julien & Given, 2002; Niu et al., 2010; Sheeja, 2010; Xiao & Traboulay, 2007). Some projects have addressed a more holistic involvement with faculty development and design skills (Iannuzzi, 1998). One “research literacy” program in the medical disciplines spans the uncertain zone between empirical research and meta-research, training medical faculty to generate

questions for evidence-based practice and for publishing to contribute to the evidence-based literature (Kreitzer, Sierpina, & Fleishman, 2010). And a large body of literature explores specific disciplines' research information behaviors (e.g. Hoppenfeld & Smith, 2014; Xuemei, 2010). But none combine original (especially empirical) research processes with information literacy training. As a result, there is relatively little guidance on faculty-level research information literacy. One might argue that faculty are already researchers and have no information literacy needs, but this ignores new faculty as well as faculty transitioning to new disciplinary information environments.

So, original research requires flexible instructional planning. The literature encourages a whole-task oriented approach to teaching original research, rather than the list-oriented approach to which the Standards are often harnessed (Kreitzer et al., 2010; Macauley & Green, 2009). However, most librarians use the Standards to create assessments and outcome measures as well as to guide lesson planning. Standard One is a critical place to address the differences between synthesis and original research.

INFORMATION LITERACY STANDARDS—STANDARD ONE

Social sciences and sciences especially rely heavily on the process of question-asking and articulating an actionable method of inquiry, such as an experimental hypothesis or set of formalized research questions (Babbie, 2012; Creswell, 2009; Freedman, 2004; Gower, 1996). This fits easily with Standard One's dictate, “The information literate student determines the nature and extent of the information needed” (ACRL, 2000). The nature of information needed is, for original researchers, fundamentally different than that of information synthesizers. While information synthesizers are asking a question which is intended to be answered through the information gathering process, original researchers are consulting the literature to refine a question and design an experiment in order to lead to and inform empirical inquiry (Figs. 1 and 2).

Because the nature of the information need is differently structured, the process of determining the nature and extend of needed information is different. It is therefore necessary to deconstruct the Performance Indicators that make up Standard One, in order to accurately describe different aspects of the original research planning process.

PERFORMANCE INDICATOR ONE: “THE INFORMATION LITERATE STUDENT DEFINES AND ARTICULATES THE NEED FOR INFORMATION”

As one might expect from the first indicator of the first standard, this is the starting point for many research projects. An outcome (1.1.f) for this Indicator is “Recognizes that existing information can be combined with original thought, experimentation, and/or analysis to produce new information” (ACRL, 2000). But original researchers need to go far beyond this and determine how much of their question is appropriate to which part of this. An original researcher may need to use existing information and analysis to lead to experimentation to require additional analysis and original thought before a final answer is reached. That is a more complex outcome, and needs more complex library instruction in planning the process.

To that end, it is necessary to look at other outcomes for this Indicator: outcomes about the topic and thesis. Outcomes (a) through (d) of this Indicator address defining the “information need” and can be taken separately or can be used as the steps in a question-defining process:

1. confers with instructors and participates in class discussions, peer workgroups, and electronic discussions to identify a research topic, or other information need
2. develops a thesis statement and formulates questions based on the information need
3. explores general information sources to increase familiarity with the topic
4. defines or modifies the information need to achieve a manageable focus

Download English Version:

<https://daneshyari.com/en/article/358304>

Download Persian Version:

<https://daneshyari.com/article/358304>

[Daneshyari.com](https://daneshyari.com)