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Foregrounding the Research Log in Information Literacy Instruction

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ABSTRACT

Updating an earlier study, this article reviews the literature of information literacy (IL) instruction since 2008 for empirical evidence of the value of research logs or research journals for effective pedagogy, assessment, and prevention of plagiarism in IL instruction at the college level. The review reveals a mismatch between the acknowledged theoretical and practical value of research log assignments and the mixed advocacy for them in the literature. The article further analyzes the literature for the drawbacks of research log assignments and points toward ways of mitigating these drawbacks.

Research logs, also called "research journals," "narratives of research," and a wide variety of other terms, are assigned often—but not often enough—in information literacy instruction. Research log/research journal assignments ask students to keep track of their research process and produce an artifact—a log, a journal, a story—describing and reflecting on that process. I will argue in this paper that the literature of information literacy (IL) instruction provides ample backing for the idea that the research log/research journal assignment can be a useful exercise for the development of information literacy at the college level. In my earlier review of literature published from 2000 to 2008 (Fluk, 2009), the value of such an assignment for effective delivery of IL instruction as well as for insightful performance-based assessment became apparent. Ironically, however, the enthusiasm in the literature for the use of research logs/research journals in IL instruction was not heavily backed by empirical research (p. 49) and was, indeed, belied by underutilization (p. 46). This paper updates the 2009 literature review, looking for scholarly evidence of the value of research logs/research journals for pedagogy, assessment, and—expanding on the earlier review—prevention of plagiarism. Also expanded here is the scope of the literature reviewed to include the major information literacy textbooks and instruction manuals currently in use, searching for their advocacy (or not) of student research logs/research journals.

The research questions are:

1. What empirical evidence is there in the recent literature for the value of research logs/research journals in IL instruction at the college level? *and*
2. How prominently does advocacy of research log/research journal assignments figure in recent IL textbooks, instruction manuals and other works for IL instructors, and scholarly articles on IL instruction? If the advocacy is weak, what drawbacks are discouraging enthusiasm for these valuable tools?

Drawing the implications of the answers to these questions should help answer an important, practical question: Should library faculty and discipline faculty make the considerable effort required to assign and assess research logs/research journals?

PROLOGUE: A SURFEIT OF TERMINOLOGY

The clumsy compound "research logs/research journals" has been overused in the introduction above to highlight a problem of terminology. My 2009 literature review cited more than 30 terms used to describe narratives of research (Fluk, p. 43). That diversity of nomenclature persists in the literature to date; indeed, a few additional permutations have surfaced: "group process journals" (Toedter & Glew, 2007); "i-Map … short for information handling map" (Walden & Peacock, 2006, cited in Accardi, 2013, p. 85); "information literacy narratives" (Detmering & Johnson, 2012; Mackey, 2013); "metalearning essay" (Harris, 2013); "research process assignments" (Vecchiola, 2011); and "research writer's journal" (Belanger, Bliquez, & Mondal, 2012).

In addition, the forms taken by "research logs/research journals" can run a wide gamut: simple description, such as lists of keywords and tables of results (e.g., Bolner, Poirier, Welsh, & Pace, 2013); responses to guide questions (e.g., Hlavaty & Townsend, 2010; Lacy & Chen, 2013); worksheets (Carter, 2013); double-entry journals or two-column note-taking (e.g., Ballenger, 2015; Evering & Moorman, 2012); and more comprehensive reflective search narratives (e.g., Bonnet

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et al., 2013; Detmering & Johnson, 2012; Mackey, 2013; Tuttle & McKinzie, 2007). In physical form, research logs can be created as written text, paper or electronic; in blogs (Land & Meyer, 2010, p. 70) and ePortfolios (Jefferson & Long, 2008); as "think-alouds" or oral reflections (Frey, 2011, pp. 51–52); as recorded "audio journals" (Bowler, 2010); and as reflective classroom dialogue (Sinkinson & Lingold, 2010).

The implications of this profusion of variant terminology are not insignificant. Willson (2012) points out that "differences in terminology … make the literature hard to find" (p. 54). To identify scholarship about research logs, it is often necessary to deduce from a text that a "research log" is indeed under discussion: in their handbook for IL instructors, for example, Torras and Sætre (2008) describe an assignment that has multiple elements of a research log (search strategy, justification of the process, and reflection on the results) but they do not explicitly use the term (p. 47). Likewise, Badke's (2014a) description of his graduate research strategies course eschews the term "research log," but does focus on process and documentation of process. And the worksheets used by Carter (2013) for formative assessment of IL skills are entirely analogous to research logs.

The terminology problem also complicates the scholarly conversation about the utility of the research log assignment. It is clear that "different terminology may imply different instructional purposes and even different pedagogical philosophies" (Fluk, 2009, p. 43). However, the present literature review seeks to establish what, if any, scholarly evidence there is in favor of assigning any type of research log in IL instruction at the college level; whether the level of advocacy of such assignments is high and, if not, why not; and what, if anything, should be done to change the situation. Therefore, at the risk of oversimplification, this paper adopts a broadly inclusive definition of the research log/research journal as *a tool for documenting and reflecting upon the progress of student research*. In reviewing the literature, "research log," "research journal," and cognate terms will be used interchangeably.

RESEARCH LOGS AND LEARNING THEORY

Theoretical backing for the research log assignment is stronger than ever before.

BEHAVIORISM/COGNITIVISM

Traditional behaviorist/cognitivist learning theories have always provided (and continue to provide) natural support for limited forms of research log assignments: Behaviorism and cognitivism assume that knowledge is of fixed character and is attained by direct instruction, drill and practice (Cook, 2008, p. 6). Applied to information literacy, such theory focuses on concrete content and skills: finding the "correct" information sources by pursuing "correct" procedures in the "correct" order (Bowles-Terry, Davis, & Holliday, 2010, p. 226). Behaviorism and cognitivism justify the use of unadorned research logs in the form of lists of search terms, tables of keywords linked by Boolean connectors, and questionnaires and graphical worksheets that guide students through linear procedures for finding information. Such assignments correspond to Moon's (2006) "descriptive journaling" which, she argues, relates to "the accumulation model of learning" (p. 19).

CONSTRUCTIVISM

However, traditional learning theories have, in recent years, yielded primacy of place to constructivist models; the latter are hospitable to more comprehensive research log assignments in IL instruction than are behaviorism and cognitivism (Moon, 2006, p. 19). Constructivist learning theory is "based on the assumption that all learning is contextual and that knowledge cannot be taught but must be discovered" through "student-centered learning" (Cook, 2008, p. 6). "Context" here includes student experiences, classroom dialogue and other activities, authentic problem-solving, and social frames of reference, all contributing to the "construction" of knowledge by students and teacher working together (Cook, 2008, p. 6). Constructivism develops the student engagement required for "deep" rather than "surface" learning (Badke, 2012, p. 120; Diehm & Lupton, 2012, p. 217; Hepworth & Walton, 2009, p. 45).

It follows, then, that in IL instruction, constructivist theory lends support to the assignment of research journals in which students not only describe their research process, but also analyze it and reflect upon it, creating a map of the "thought-path they traveled" (Gilchrist, 2012, p. 17). Hlavaty and Townsend (2010) assigned "pre-scripted [research] logs" in their first-year English composition class to walk students through their research process and thereby make them think about the process and about the relevance to their research of the sources they retrieved (pp. 155–156). Research journals of this kind inculcate a process view of information research: "research as a process not a product, as an activity not an item to be found" (McClure, 2011, p. 323). They also counteract the notion of research as a linear process, acknowledging and validating its "messy" and "iterative" nature (Diekema, Holliday, & Leary, 2011; Head & Eisenberg, 2010, pp. 26–27; Markless, 2009, p. 34; Ortlipp, 2008, p. 704; Sinkinson & Lingold, 2010, p. 82).

The reflection that informs constructivist research journals can be defined as "the ability to think in order to learn something new" (Lähteenmäki & Uhlin, 2011, p. 144) and, more pithily, as the answers to "(1) What? (2) So what? and (3) Now what?" (Jefferson & Long, 2008, p. 140). Answering these questions effectively in the form of a research journal helps students to focus on and organize their search and research process and make sense of the information obtained (Detmering & Johnson, 2012, p. 7; Jefferson & Long, 2008, p. 140; Markless, 2009, p. 33); to become aware of information literacy concepts and issues (Bent & Stockdale, 2009); and to develop into lifelong learners (Kaplowitz, 2012, p. 31). Reflective research journals promote all of the skills in Bloom's taxonomy of learning objectives including the higher-order skills of analysis, synthesis, and evaluation which are not necessarily addressed by research logs informed by traditional learning theories (Hepworth & Walton, 2009, pp. 58–60). Grassian and Kaplowitz (2009) see the reflective research journal as a tool for acquiring metacognitive skills, the "thinking about thinking" that is necessary "in order to really learn" (p. 36).

Constructivism underpins several pedagogical strategies that make use of research journals and their analogues: active learning (Badke, 2012, pp. 116–118; Bean, 2011; Grassian & Kaplowitz, 2009, pp. 102–103; Hlavaty & Townsend, 2010, pp. 151–152; Oakleaf, 2012); discovery-based learning (Farmer, 2011, p. 111; Torras & Sætre, 2008); inquiry-based learning (Bean & Iyer, 2009); learner-centered teaching (Grassian & Kaplowitz, 2009; Kaplowitz, 2012); and problem-based learning (Diekema et al., 2011; Dodd, Eskola, & Silén, 2011).

The most influential theorist of information literacy instruction in the last 30 years is Kuhlthau who has written extensively since 1985 about the pedagogical and psychological implications of her constructivist model of the Information Search Process (ISP). (A selected list of Kuhlthau's publications and a summary of her research about the ISP appear on her website at http://comminfo.rutgers.edu/~kuhlthau/.) Her seminal work, *Seeking Meaning* (2004), contains several justifications for research log assignments: tracking and documenting student experience with the ISP and helping students to "see changes in their thinking" over time (p. 135); serving as "a tool for formulating thoughts and developing constructs" (p. 141); "recording interesting ideas, connecting themes, and emerging questions," deterring plagiarism, and facilitating both student self-assessment and instructor assessment of student learning (p. 147).

This review of the literature on the use of research logs in IL instruction yielded multiple citations to Kuhlthau's work, among them Bonnet et al. (2013) writing on the use of undergraduate personal essays; Bowler (2010) on adolescent metacognition; Cahoy and Schroeder (2012) on affective learning in IL instruction; Deitering and Jameson (2008) on "information literacy portfolios;"