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Historical development of definitions of information literacy: A literature review of selected resources

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ABSTRACT

This article traces the historical progression of Information Literacy (IL) definitions from 2000 to 2015 in the published literature on first-year seminar and freshman general education IL instruction in the U.S. This period roughly corresponds to the influence of the ACRL's *Information Literacy Competency Standards for Higher Education* (*Standards*) on the work of LIS professionals and scholars in IL and information literacy instruction (ILI), prior to the adoption in January 2016 of the *Framework for Information Literacy for Higher Education* (*Framework*). Following a brief look at the background of IL in Library and Information Science (LIS), the chronological development of IL definitions is examined using the three major categories of IL definitions based on Addison and Meyers' (2013) framework of IL definitions, and concludes with a discussion of limitations of Addison and Meyers' (2013) framework of IL definitions. The information presented here offers one perspective of viewing the development and history of IL in U.S. higher education.

Introduction

This systematic literature review examines the Library and Information Science (LIS) literature for Information Literacy (IL) definitions during the tenure of the ACRL's *Information Literacy Competency Standards for Higher Education* (*Standards*). This review traces the evolution of IL definitions from 2000 to 2015 in the literature on first-year seminar and freshman general education IL instruction in the U.S. This period roughly corresponds to the *Standards'* influence on the work of LIS professionals and scholars in IL and information literacy instruction (ILI), prior to the adoption in January 2016 of the *Framework for Information Literacy for Higher Education* (*Framework*). Although the review focuses on articles published during the period the *Standards* were in place, a few of articles referencing the *Framework* are also included. Following a brief look at the background of IL in LIS, the evolution of IL definitions is examined using the three major categories of IL definitions based on Addison and Meyers' (2013) framework of IL definitions, and concludes with a discussion of limitations of Addison and Meyers' (2013) framework of IL definitions. The information presented here offers one perspective of viewing the evolution of IL definitions in U.S. higher education during the tenure of the *Standards'* influence.

Background

In early 2015, the release of the final version of the *Framework* prompted a flurry of activity on LIS discussion forums and weblogs. The release of the final version of the *Framework* was the culmination of the efforts of the ACRL Task Force's reassessment of the ACRL's *Standards*. The Task Force was established in July 2011. In 2013, the Task Force was comprised of 17 members; 12 academic librarians, one LIS professor, one member of the Middle States Commission on Higher Education, and three others in various information professional roles (ACRL Information Literacy Competency Standards Review Task Force, 2013). The Task Force sought with the *Framework* to address increasingly raised concerns within LIS regarding ambiguities and varied definitions of IL, as well as dissensions with the *Standards* (ACRL Information Literacy Competency Standards Review Task Force, 2012; ALA, 2012). However, throughout 2014, with the release of each draft version of the *Framework*, new criticisms were posted online. At least one member resigned from the Task Force because of misgivings over the *Framework* (Wilkinson, 2014), and in January 2015, a group of librarians from New Jersey voiced their disagreements regarding the new *Framework* in their *Open Letter* (Berg et al., 2015). In what some viewed as disregard for the concerns of many librarians regarding the inadequacies of the *Framework*, on June 25, 2016, the ACRL Board of Directors rescinded the *Standards* in favor of the *Framework* (ACRL

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Board of Directors, 2016).

Discussions and debates over the definition of IL are not new, having been raised, although infrequently, virtually since the term first entered the LIS discourse. Paul Zurkowski is credited with coining the term in 1974 when he used the phrase to describe the information use skills of individuals in their work environments (Owusu-Ansah, 2005; Zurkowski, 1975). It was not long until the term took hold in LIS as scholars and professionals assimilated the term into the jargon of the field. Although tacitly acknowledged within the LIS community to include information use skills in work environments and in normal daily life, since the concept first began to appear in LIS literature on IL in higher education scholars have extended the meaning and typically discuss IL as information use skills in academic and research contexts. The majority of works on IL in higher education in the literature published prior to 2015 refer to the ACRL's *Standards* which delineated guidelines built off the ALA's 1989 definition of IL (Bell, 2013).

Methods

In addition to critiques that have appeared throughout the years in the LIS literature, IL has been studied in relation to a number of topics. The number of articles discussing IL that have been published in LIS journals is voluminous; one keyword search for "information literacy" in three library science databases (*Library Literature & Information Science Full Text (H.W. Wilson); Library, Information Science & Technology Abstracts*, and *Library, Information Science & Technology Abstracts with Full Text*) resulted in over 13,000 articles published from 2000 to 2015.

This review of the literature is an adaption of the first section of the review of LIS literature I conducted for my dissertation, and is a systematic examination of LIS literature. I originally performed this review to set the groundwork for my dissertation project in which I conducted a critical discourse analysis of definitions of IL in published LIS literature from 2000 to 2015. One aspect of that project was to examine the influence of the *Standards* on IL definitions. The focus of this review is obtain a view of the IL definitions in the context of U.S. first-year and freshman ILI during the period the *Standards* were in force.

The articles reviewed here were obtained from a combined search of LIS and education databases (*Library Literature & Information Science Full Text (H.W. Wilson); and the following EBSCO databases: Library, Information Science & Technology Abstracts)*, and *Library, Information Science & Technology Abstracts with Full Text, ERIC, and Education Source*). Beginning with a keyword search for "information literacy," the search was refined by limiting to articles on undergraduate IL education in the United States published from 2000 to 2015; to examine definitions of IL during the period the *Standards* were in place. Initial results returned over 2300 articles, and was further narrowed to first-year seminar and freshman general education IL instruction. This resulted in 322 articles. From the 322 articles, the 126 articles reviewed contained either specific definitions of IL and/or discussed specific IL skills taught and/or assessed. Articles discussing skills taught and/or assessed were reviewed, because what is taught and assessed as IL skills can be viewed as an indication of the author's definition of IL. The final 126 articles reviewed include published mostly research studies, some theoretical articles, and a few opinion pieces; all of which discuss IL and U.S. first-year seminar and freshman ILI and had either or both specific definitions of IL and discussions of IL skills taught and assessed.

Many authors from around the world have discussed IL within LIS in higher education and have influenced thought on IL in U.S. higher education, including such well-known LIS scholars as William Badke and Christine Bruce. However, it is beyond the scope of this article to include these authors' works outside of a brief discussion of significance to U.S. thought, unless directly discussing IL in U.S. higher education, since the focus of the review was the IL definitions of scholars and practitioners in the context of U.S. undergraduate ILI.

Definitions

How to define IL has long been a popular topic in LIS literature. The *1989 ALA Presidential Committee on Information Literacy: Final Report* formally defined IL as attributes of an individual, "To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (American Library Association, 1989). Soon after, Arp stated:

> Are information literacy instruction and bibliographic instruction the same? In some ways. Neither term is particularly well defined by theoreticians or practitioners in the field, and so a great deal of confusion will occur unless we continue to articulate the parameters of this question. (Arp, 1990; Meyer and Land, 2003), p. 49)

Perhaps the difficulty of defining IL is due to the inherent nature of IL as situated and contextual, as many scholars have now recognized (Farrell, 2013; Farrell & Badke, 2015; Jastram, Leebaw, & Tompkins, 2014; Nichols, 2009; Roldan & Wu, 2004; Seeber, 2015). In addition, there have been various influences on definitions of IL. Behrens noted the effects of societal and technological factors on the term; "… by the middle of the 1980s the advancing information technology (IT) had begun to affect the information handling requirements for information literacy" (1994, p. 312). The societal construct of the belief in a democratic, productive society has been a key part of the definition of IL. As early as the late 1970s, IL was seen as necessary to promote an egalitarian society.

> Information literacy differs from context to context. All men are created equal but voters with information resources are in a position to make more intelligent decisions than citizens who are information illiterates. The application of information resources to the process of decision-making to fulfill civic responsibilities is a vital necessity.
>
> (Owens, 1976, p. 27; see also Behrens, 1994)

Discussions of IL continued to include ideological contexts, including lifelong learning, perhaps as a means to deal with the proliferation of the information available in new digital technologies with information production and access. Other influences included the literacy movement of the early 1990s, following publications such as *A Nation at Risk: The Imperative for Educational Reform. A Report to the Nation and the Secretary of Education* in 1983, (Behrens, 1994, p. 312). For example, ideologies of IL and democracy helped shaped early events in the IL movement:

> Information literacy was one of the issues focused on at the Second White House Conference on Libraries and Information Services (WHCLIS) in 1991, where national attention was drawn to the contribution made by libraries and information services to a literate, productive and democratic society. One of the recommendations of the second WHCLIS calls for the U.S. government to establish a National Coalition for Information Literacy (including schools, libraries, labor and industry, government, parents and the general public), with the intention of developing a strategic plan for the general development of skills required for information literacy.
>
> (Behrens, 1994, p. 319)

> International models of IL have also significantly influenced IL definitions in the U.S. One of the most influential has been Christine Bruce's 1997 book, *The Seven Faces of Information Literacy*, which took a phenomenographic approach to a study of the information experiences of academics, rather than relying on experts to create normative conceptions of the information literate student or individual… Bruce organized this relational model around seven faces or aspects of information literacy: information technology; information sources; information process; the information control; knowledge construction; knowledge extension; and wisdom. This

> model has enriched the understanding of information literacy for librarians as a construct that transcends traditional computer literacy or library literacy into a far more pervasive, knowledge-building, creativity-fused aspect of learning.
>
> (Gibson, 2007, p. 24)

Another influence was SCONUL's Seven Pillars of Information Literacy from the 1999 *Information Skills in Higher Education: A SCONUL Position Paper, which* ordered

> the major elements of information literacy into seven major strands: recognizing an information need; determining ways of addressing the information gap; constructing search strategies; locating and accessing information; comparing and evaluating it; organizing, applying, and communicating it; and finally, synthesizing and creating new products based on it.
>
> (Gibson, 2007, p. 24)

Gibson noted that while Bruce's Seven Faces model particularly resonated with LIS academe in the U.S. with "opportunities for deepening pedagogical engagement" (p. 24), SCONUL's Seven Pillars answered the call of the National Research Council's FITness report of 1999 for increased focus on education in IT in conjunction with the efforts of the National Forum on Information Literacy. In addition, echoing the focus on information technology skills in combination with IL skills, the National Forum on Information Literacy and the Partnership for 21st Century Skills conceived Information and Communication Technology Skills (ICT), based on which the Educational Testing Service developed the ICT Literacy Assessment for higher education. ICT literacy was similarly "organized into seven categories (define, access, manage, integrate, evaluate, create, and communicate)" (p. 24).

Addison and Meyers' Framework of information literacy definitions

During the selection process for this review, this researcher found the article by Addison and Meyers that presented a categorization of IL definitions. Their categorization was "concerned with the interpretations of information literacy that stem from the library and information science field… to illustrate how values, goals and institutional priorities play a part in defining (and reifying) who is "information literate" (2013, para. 2, 3). When beginning the process of sorting the articles by IL definitions, Addison and Meyers' categories paralleled initial findings so their categories were used as the means of grouping articles. The advantage of Addison and Meyers' framework in illuminating "how values, goals and institutional priorities play a part in defining (and reifying) who is "information literate "offered a way to examine the literature in light of the goal to understand the definitions of IL during the period the *Standards* were in force.

Many LIS scholars have conceptualized definitions of IL in terms of categories. Foasberg (2015) cited Addison and Meyers' (2013) conceptualizations of IL within the LIS discourse as three distinct ways; as a set of skills, a way of thinking, or a social phenomenon. However, as Addison and Meyers pointed out, other ways of viewing IL have been described such as the three theoretical perspectives of Limberg, Sundin, and Talja (2012) or Lupton and Bruce's (2010) divisions of IL as generic, sociocultural, or critical (2013, para. 2). Addison and Meyers' stated their perspective offers a relevant

> interpretation [that] is unique from these as it is more concerned with the interpretations of information literacy that stem from the library and information science field, and less about either the theoretical underpinnings (Limberg et al., 2012), or the relationship to information (Lupton & Bruce, 2010) that characterize these other views…
>
> We are using this organizing schema not to set up binaries or oppositional arrangements but to illustrate how values, goals and institutional priorities play a part in defining (and reifying) who is "information literate." (para. 2, 3)

Further, they noted the three distinct ways of defining IL they found in their assessment of LIS literature on IL as

> 1) information literacy as the acquisition of "information age" skills, 2) information literacy as the cultivation of habits of mind, and 3) information literacy as engagement in information-rich social practices […provide] a clearer alignment between information literacy and the formal and informal contexts where people employ and develop information literacy.
>
> (Addison & Meyers, 2013, para. 1)

Using these categories, this discussion provides an overview and discussion of definitions of IL and presents a context for the progression of IL definitions within LIS and U.S. higher education.

Addison and Meyers grouped IL definitions into three categories: 1) a set of skills, 2) a way of thinking, or 3) a social phenomenon or practice. These categories provide a framework to follow the progression of IL definitions. The earliest definitions were predominantly skills-based, but soon followed by the introduction of cognitive models, which heavily influenced the shift from skills-based definitions to IL as a way of thinking. The inclusion of critical theory in conjunction with social constructivist theories in IL definitions is demonstrated in the definition of IL as a social practice. Each of the approaches to defining IL has strengths and weaknesses, discussed below. Although using their framework offered a way to group IL definitions, in the conclusion a limitation to using these categories of IL definitions is noted.

Information literacy defined as a set of skills

The skills-based view holds that IL is a set of skills, abilities, or behaviours exhibited by individuals in their information seeking within digital environments (Addison & Meyers, 2013). A characteristic of this approach is the view that IL is quantifiable and can be measured based on the individual's performance in relation to the experts, i.e., information professionals such as librarians.

For much of ILI within U.S. higher education, the primary definition of IL has been the *Standards*, which describes the information literate individual as successfully performing a set of skills:

- Determine the extent of information needed
- Access the needed information effectively and efficiently
- Evaluate information and its sources critically
- Incorporate selected information into one's knowledge base
- Use information effectively to accomplish a specific purpose
- Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally. (ALA, 2006, pp. 2–3)

Given the background of the national discourse from which the *Standards* emerged, it is not surprising the *Standards* developed as a set of skills. As the dominant skills-based definition for U.S. higher education, the *Standards* shaped IL pedagogy in American undergraduate education since adoption in 2000. Although rescinded June 25, 2016, there are adherents who continue to base ILI on the competencies and outcomes provided within the *Standards*, as a readily available foundation for lesson content and assessment measures.

One of the greatest advantages of the skills-based view is its facility of assessment. This ease of assessment affords libraries and ILI librarians a straightforward means of communicating value to various shareholders. In addition, skills-based definitions offer a clearly identifiable set of outcomes for teaching. These strengths are also weaknesses to the skills-based conceptualization of IL.

A common approach to the *Standards'* skills has been to divide them into lower- and higher-order thinking skills based on Bloom's Taxonomy. Determining the extent of information needed and

searching and accessing that information ranked as lower-order cognitive skills, and positioning evaluation and incorporation of information as higher-order skills (Chalmers, 2008; Gendron & Sclippa, 2014; Hayes-Bohanan & Spievak, 2008; Lacy & Chen, 2013; Maughan, 2001; Menchaca, 2014; Morgan, 2015; Nentl & Zietlow, 2008; Purdue, 2003; Saunders, 2008; Shane, 2004; Sharkey & O'Connor, 2013; Sonntag, 2008; Whitmire, 2001). The view that searching is a lower-order skill has been challenged by those who maintain that "the act of 'searching' is not the subordinate, lower-order operation or activity it is often reduced to" (Wiebe, 2016, p. 55; see also Bodemer, 2012; Morgan, 2014), but rather "is an integral, concurrent component of a situated whole" (Bodemer, 2012, p. 336).

Significant drawbacks stem in part from the conceptualization of IL as a linear sequence of acts based on the ordering of the *Standards*, but may also have roots in development of instruction by librarians from BI to ILI. Although it is beyond the scope of this review to discuss fully the implications of this shift from BI to ILI have had for conceptualizations of IL, one consequence may be the perception of research as a set of steps, or for others teaching IL skills, the linear approach to research often presented in ILI. The sequential view of the process of research based on the ordering of the *Standards* has been challenged by those who see research and writing as an iterative process.

> The ordering of the first four Standards suggests a temporal sequence that is simpler than the reality of research-writing. If one imagines these intellectual operations unfolding in real time, it is easy to see how such delineations begin to fail. Determining "the extent of information needed," accessing "the needed information," evaluating "information and its sources critically," and using "information effectively" are not discrete and sequential, but cyclical, often simultaneous, and mutually influencing.
>
> (Bodemer, 2012, p. 338)

This view of research as a sequential and discrete set of steps results in several negative effects.

When research is viewed as a series of sequential steps, those steps are often taught in order. However, as Saunders (2008) noted, librarians seldom have time to teach IL concepts beyond searching and accessing information; thus, skills such as evaluation of resources and the ethical use of information are infrequently taught by ILI librarians in one-shot sessions, the most common venue of instruction. The application of information skills, including incorporation of information into the individual's knowledge base, the effective use of information, and critical thinking skills are even more infrequently covered by ILI one-shot sessions (Cody, 2006; D'Angelo, 2001; Deitering & Jameson, 2008; Grafstein, 2007; McGuigan, 2002; Saunders, 2008; Simmons, 2005).

Viewing research as a set of sequential IL skills leads to other issues. Several have observed that conceptualizing IL as a set of generic skills easily transferable to all other information-seeking contexts lacks solid basis. IL as a set of generic skills is not fully supported by studies (Lloyd, 2010; Manuel, 2004), and undermined by the creation of subject-specific disciplinary standards (Foasberg, 2015). While Lacy and Chen (2013) note students' failure to transfer IL skills may be due to ILI librarians trying to cover as much material as possible in one-shot sessions, others contend the lack of transferability results from teaching IL skills as generic, rather than contextual or disciplinary. (Crouse & Kasbohm, 2004; Grafstein, 2002; Head, Van Hoeck, Eschler, & Fullerton, 2013; (Hicks, 2013)Hofer, Brunetti, & Townsend, 2013; Hunt & Birks, 2004; Macklin & Fosmire, 2004; Manuel, 2004). Gross and Latham (2013) suggested transfer is better supported by students' engagement in the research process. Others, seeing the lack of instruction on higher-order skills, have proposed alternatives such as teaching the use of discovery tools in order to allow librarian instructions to "mov[e] beyond simply teaching techniques for retrieving information to teaching critical thinking skills" (Buck & Steffy, 2013, p. 77).

Although many may agree with the importance of communicating to "students the authority of librarians with whom they may interact" (Jackson, 2007, p. 31), teaching IL as a set of skills "both reinforces the authority of librarians and also undermines it" (Addison & Meyers, 2013, p. 4). An objection to librarians' authority is a view instruction librarians' lack subject or disciplinary expertise, which many perceive as critical to conducting research in subject-specific knowledge domains (Farrell, 2012, 2013; Farrell & Badke, 2015; Grafstein, 2002).

Wilder also observed along outsiders' views of librarians' authority, the fallacy of teaching IL skills apart from disciplinary research:

> information literacy would have librarians teach students to be more like them. The problem with that approach is that librarians are alone in harboring such aspirations for students. As Roy Tennant noted in the January 1, 2001, Library Journal, "only librarians like to search; everyone else likes to find." Any educational philosophy is doomed to failure if it views students as information seekers in need of information-seeking training. Information-seeking skills are undeniably necessary. However, librarians should view them in the same way that students and faculty members do: as an important, but ultimately mechanical, means to a much more compelling end. Information literacy instead segregates those skills from disciplinary knowledge by creating separate classes and curricula for them. There is no better way to marginalize academic librarianship. (2005, para. 5)

In this view, students are mistakenly perceived as information seekers in the IL-as-skills approach when the appropriate approach would be to see them as involved in subject-specific scholarly discourse; proponents of IL-as-a-way-of-thinking and IL-as-a-social-practice agree with this perspective.

Another problem with the IL-as-skills approach is that the student is invariably seen as deficient in IL skills (Addison & Meyers, 2013, p. 5; see also Elmborg, 2006; Foasberg, 2015; Haider & Bawden, 2007; Harris, 2008; Isaacson, 2003; Lin, 2010; Mani, 2004; Peterson, 2010; Stahura, 2014). Students unaware of the contextual, iterative nature of research may feel information illiterate when research is not accomplished easily on following the steps, and may have no idea how to remedy. This lack of awareness of the iterative nature of research may be one culprit contributing to the superficial research conducted by students, often lamented in the literature, as students may believe research is and should be completed upon one iteration of the steps. Addison and Meyers observed the perception of students as inherently deficient in IL skills arises from the view that IL is measurable, which in turn leads to a number of other problems. For example, when students are seen as deficient in IL skills, the natural progression is that the deficiency can only be remedied through instruction "from experts, namely librarians … [However,] because these experts' skills are often based in bibliographic information systems" (Addison & Meyers, 2013, para. 11), it is not surprising that the skills assessed and taught are most often limited to tests of Boolean logic, construction of search queries, and the like. Furthermore:

> skills instruction, particularly when it is rooted in specific behaviours rather than conceptual structures, may fail to account for the rapid changes in digital technologies. It may also lead to information literacy instruction as a series of platitudes in practice contexts, such as restrictions on the use of Wikipedia.
>
> (Addison & Meyers, 2013, para. 11)

There is also the tendency for adherents to skills-based definitions to conclude that students lack IL skills because "they lack the drive to attain them or, in some cases, they overestimate their abilities" (Addison & Meyers, 2013, para. 11; see also Gross, 2005; Gross & Latham, 2007, 2009, 2011, 2012, 2013; Gross, Latham, & Armstrong, 2012; Latham & Gross, 2008, 2013).

Information literacy defined as a way of thinking

Addison and Meyers described this conceptualization of IL as

"cultivating habits of mind" (2013, para. 12). Characteristic of this approach to IL is an emphasis on cognitive models and a focus on mental processing of information, including reflective thought and motivation. Addison and Meyers placed process models, such as Kuhlthau's Information Search Process and Dervin's Sense Making, and learning models, such as problem-based learning (PBL) within this perspective. The definition of IL-as-a-way-of thinking quickly followed the adoption of the *Standards* (White, as cited in Snavely, 2012, p. 95; see also Day, 1998; Ercegovac, 1998; Kenney, 2008; Kim & Sin, 2007; MacMillan, 2009; Maybee, 2006; Nahl & Bilal, 2007; Pawley, 2003; Robinson, 2006; Schiller, 2008a, 2008b; Spackman & Camacho, 2009; Woodard, 2003). Although the user-centered approach in education has dated to the 1980s (Fisher & Landry, as cited in Nahl & Bilal, 2007, p. 211; Kim & Sin, 2007), the shift from skills-based ILI to a constructivist approach gained momentum with Bruce's *Seven Faces of Information Literacy* (MacMillan, 2009). The rise of adherents to user-centered educational efforts and quantitatively measurable assessments can be linked to the marketization of education (Fairclough, 2013, p. 101).

Adherents of this view, particularly those who support the use of PBL techniques in ILI, claim that transferability of IL skills is supported by the ill-structured real-life problems used. The transferability of IL skills is particularly significant to claims in research studies and opinion pieces that IL supports lifelong learning (Williams, 2006; see also Birmingham et al., 2008; Eisenberg, 2008; Hayes-Bohanan & Spievak, 2008; Orme, 2004; Ormsby & Williams, 2010; Owusu-Ansah, 2004a, 2004b; Pan, Ferrer-Vinent, & Bruehl, 2014; Stevens, 2007), although Williams (2006) and Wilder (2005) note a significant weakness in claims of the importance and transferability of IL skills is that these studies present little or weak evidence in support of the importance of IL. Others, likewise, point out a weakness in this approach by noting assessment of IL is based on students' ability to "apply cognitive frameworks to academic and everyday situations … A key challenge is that they rely on users to transfer knowledge and procedures among contexts and problems, something users are notoriously poor at doing" (Addison & Meyers, 2013, p. 7). While adherents of PBL claim the PBL approach scaffolds transference, others have noted "the failure of such problem-based lessons to include the wide range of problems and behaviours found in schools and workplaces," as well as dissension within adherents regarding the "extent to which information literacy must be contextually situated" (p. 7).

There are other issues with the IL-as-a-way-of-thinking approach. The limited time most ILI librarians have to teach is exacerbated under this approach by the depth of PBL lessons, both in terms of preparation and of how much can be covered in one-shot sessions. While many see embedded IL and ILI as a means of addressing this concern, this requires buy-in from and collaboration with instructors, not always easily obtainable. In cases where instructors are not willing to collaborate with ILI librarians, some students may not be reached. Advocates of disciplinary IL see the importance of context in teaching IL, contrasted with librarians who see the importance of teaching both generic, transferable and disciplinary-specific IL skills (Farrell, 2012, 2013).

As early forerunners to IL defined as a social practice pointed out, this approach focuses on an individual's cognitive processes. Those who see IL a way of thinking may omit the socio-cultural constructed aspects of IL (Montiel-Overall, 2007) and focus on peer-review and omit other information sources (Fountain, 2013) or other disciplinary sources (Dold, 2014; see also Doherty, 2007; Doherty & Ketchner, 2005; Elmborg, 2006; Leckie, Given, & Buschman, 2010; Simmons, 2005; Tewell, 2015).

Information literacy defined as a social practice

Adherents to IL as a social practice see IL as highly contextual and socially constructed. The focus of this perspective is on "general capabilities … for living, learning, and working in an information-rich society … [within] the constantly changing nature of technology and the evolving expectations we have of citizens" (Addison & Meyers, 2013, para. 19). Multiliteracies are placed within this perspective. This view arose in popularity following continued voiced concerns with students' failure to transfer IL skills. It has gained momentum in relation to the Open Access movement in response to criticisms of peer review and the rise of critical thought within LIS. Representing this iteration of conceptualizations of IL, the *Framework* is the guiding document with the rescission of the *Standards* on June 25, 2016. Although the *Framework* was officially adopted January 11, 2016, many had already adopted the belief that definitions of IL should include socio-cultural constructs of information and knowledge in IL (Burkholder, 2010; Buschman, 2009; Elmborg, 2006; Fields, 2001; Foasberg, 2015; Gregory & Higgins, 2013; Hicks, 2013; Kraemer, 2007; Mitchell & Hiatt, 2010; Mitchell & Smith, 2009; Montiel-Overall, 2007; Norgaard, 2003; Oakleaf & VanScoy, 2010; O'Connor, 2009; O'Connor, Bowles-Terry, Davis, & Holliday, 2010; Ragains, 2001; Simmons, 2005; Woodard, 2003).

Metaliteracy, threshold concepts, and framework for information literacy in higher education

Metaliteracy is viewed by proponents as a broader framing, or as an umbrella term under which several literacies fit including digital literacy, media literacy, visual literacy, and information technology fluency, compared to the skills-based *Standards* definition of IL. Proponents of IL as a metaliteracy see IL as comprised of key components, or threshold concepts, rather than skillsets, as the crucial attributes and activities that information literate individuals would possess and exhibit (Jacobson & Mackey, 2013; Jacobson & O'Keeffe, 2014; Mackey & Jacobson, 2011).

The concept of metaliteracy began to appear more frequently in the published literature of LIS around 2011. Early proponents of metaliteracy referred to the need to broaden the definition and teaching of IL to encompass metaliteracy and transliteracy (Mackey & Jacobson, 2011; McBride, 2011). Transliteracy is "the ability to read, write and interact across a range of platforms, tools and media from signing and orality through handwriting, print, TV, radio and film, to digital social networks" (Thomas et al., 2007, para. 3; see also Dunaway, 2011; Mackey & Jacobson, 2011). Metaliteracy is seen as a much broader term, as "an overarching and self- referential framework that integrates emerging technologies and unifies multiple literacy types" (Mackey & Jacobson, 2011). Because of the strong emphasis on the social aspects of information, proponents of metaliteracy-based or *Framework*-based IL definitions fit solidly within Addison and Meyers' IL as a socio-cultural practice definitional category.

Threshold concepts have been used as a way to broaden IL from a skills-based definition to that of a metaliteracy. Meyer and Land defined threshold concepts as:

> a transformed way of understanding, or interpreting, or viewing something without which the learner cannot progress. As a consequence of comprehending a threshold concept there may thus be a transformed internal view of subject matter, subject landscape, or even world view. (Meyer and Land, 2003), p. 1)

For many, threshold concepts have been viewed as a way to escape the difficulties in defining IL, provide a means to incorporate changing information formats, and foster development of individuals' IL skills in the social information environments of the global age. The *Framework* is based on a view of IL as a metaliteracy and presents six threshold concepts central to IL:

- Authority Is Constructed and Contextual
- Information Creation as a Process
- Information Has Value
- Research as Inquiry
- Scholarship as Conversation

- Searching as Strategic Exploration. (ALA, 2015, p. 2)

Although the IL-as-a-social-practice approach to defining IL has several strengths, there are weaknesses and challenges as well. This section focuses on critiques of the *Framework*, which now influences IL and ILI in U.S. higher education, and because critiques of the *Framework* often include criticisms of many of the core concepts of IL defined as a social practice such as threshold concepts and metaliteracy.

The incorporation of the term, metaliteracy, in the *Framework* was not well received by all (Witek, 2014). One respondent noted frustration with the contradiction of teaching authority while simultaneously undermining authority, while other voiced concerns with the (then potential) loss of the *Standards* cited the clear outcomes, ease of assessment, and institutional and accrediting agency buy-in of the *Standards* as benefits lost with the adoption of the *Framework* (Berg et al., 2015; Witek, 2014). Others criticized the misuse of threshold concepts in the *Framework*, charged the *Framework* with overreaching by placing IL as a separate discipline, and noted the difficulty in assessment of IL based on threshold concepts (Bombaro & Watstein, 2016; Wilkinson, 2014). In fact, as Bombaro & Watstein noted, "an inherent contradiction arises: we have been asked to adapt the *Framework* locally by writing our own outcomes, while using a document based on a theory whose authors reject outcomes-based assessment in its application" (Bombaro & Watstein, 2016, p. 555). Bombaro and Watstein also pointed out the seeming disregard or misunderstanding by the ACRL in the *Framework* and its adherents of the work librarians do. This charge was underscored by an interview with Lisa Janicke Hinchliffe prior to the ACRL's decision to rescind the *Standards*, in which she stated she believed there was still a need for the *Standards*. Hinchliffe noted ILI librarians who "decide that those Standards-based outcomes are still the best choice […] no longer have the authority of ACRL behind them and ACRL will no longer be offering any training and support for libraries who are working in that mode" (Bombaro, Harris, Odess-Harnish, & Mitchell, 2016, p. 551).

Conclusion

This article presents one way to categorize IL definitions by looking at the evolution of IL definitions prior to the adoption of the *Framework*. While Addison and Meyer's framework of IL definitions is useful to analyzing the myriad discussions on IL within LIS, one limitation to this approach is their approach focuses "less … [on] either the theoretical underpinnings … or [on] the relationship to information" (Addison & Meyers, 2013, para. 2). The omission of these aspects tends to make placing authors' definitions within one of the three categories somewhat difficult at times. However, they stated, their approach is "not to set up binaries or oppositional arrangements but to illustrate how values, goals and institutional priorities play a part in defining (and reifying) who is 'information literate'" (para. 3). Further, using this approach provided a look at the context surrounding the progression of definitions of IL in U.S. higher education, by showing "a clearer alignment between information literacy and the formal and informal contexts where people employ and develop information literacy" (para. 1).

Examining the literature using the lens provided by Addison and Meyer's framework provides insight in the ways LIS practitioners and scholars defined IL in U.S. undergraduate education during this time period. Although each category of definitions can be found throughout most of the 15-year span from 2000 to 2015, in the articles examined in this review, the rise in prevalence of each category of definitions followed a predominantly chronological pattern. The definitions of IL in the articles on which this review was performed displayed a pattern that the rise in the literature of one way of defining IL correlated to a lessening occurrence of the previous. Thus, by grouping IL definitions using their categories, a unique perspective is gained regarding the progression of definitions of IL and offers glimpses of some of the factors influencing the development and prevalence of each of the three categories of definitions. The hope is that this review opens the stage for others to build upon in future projects. One project might be to compare prevalent definitions of IL from the period before the *Standards* were adopted by the ACRL, those during the timespan the Standards were in place, and those since the *Standards* were rescinded and the *Framework* was adopted. This and other projects might provide insight into how the ACRL and host institutions have shaped the way we discuss IL in our field. This is significant because the ways we discuss IL in the literature can have implications on how others in the field perceive what IL is and how they teach IL.

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