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Information Literacy in the United States: Contemporary Transformations and Controversies*

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Abstract. While acknowledging that efforts in information literacy are a global, the paper concentrates on information literacy efforts in the USA. The American Library Association (ALA) issued in year 2000 a set of standards that provided a framework for assessing the information literate individual. By 2013 it was realized that many changes require an update and even new approaches to information literacy. At the start of 2014 ALA proposed an initial draft of a new framework for information literacy for higher education. A new definition of information literacy was offered, together with a new framework based on threshold concepts– critically reviewed in the paper. During 2014 several public debates were conducted; the new framework is scheduled to be finalized in 2015. The paper summarizes these debates, with particular emphasis of description and critiques of threshold concept, which is at the core of the new framework.

Keywords: Information literacy, United States, standards, framework, controversy.

1 Introduction

Information literacy in the United States of America has a long history. It started with library instruction, also referred to as bibliographic instruction, at the end of 19th and beginning of 20th century. It transformed into information literacy by the end of 1980s [1]. This article concentrates on information literacy developments in the United States; however, it is fully acknowledged that efforts in information literacy are global, involving many institutions all over the world, many national and international organizations, great many international conferences and meetings, and many international declarations [2]. Information literacy is a global concept and effort, way above any one nation or country.

While recognizing this global component, the aim of this article is narrower: to provide an overview of library efforts toward information literacy in the United States

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with a concentration on evaluation of the 2014 official suggestion by the American Library Association (ALA) for a new framework for information literacy for higher education.

1.1 Back to the United States

Fueled by emerging challenges resulting from great changes in information technology and rapid increase in available information, the Association of College and Research Libraries (ACRL) (a division of the American Library Association - ALA) issued in 1989 a landmark report about information literacy considering it *" ... a survival skill in the Information Age"* [3]

The report also defined information literacy in personal and behavior terms: *"*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." [3]

This (and similar) definitions emphasizing personal orientation were widely used ever since. A variety of educational efforts aimed at creating and enhancing information literacy skills followed.

A decade later, in 2000, a set of information literacy standards were established to be used as a "... a framework for assessing the information literate individual. ... Information literacy forms the basis for lifelong learning." [4]

Five standards and twenty-two performance indicators were included, focusing upon the needs of students in higher education and a range of outcomes for assessing student progress toward information literacy.

To cover schools (kindergarten to grade 12) the American Association of School Librarians (AASL) (also a division of ALA) issued its own standards that: "... offer vision for teaching and learning to both guide and beckon our profession as education leaders. They will both shape the library program and serve as a tool for school librarians to use to shape the learning of students in the school." [5]

2 Practice, Issues, Impact

In practice, efforts in information literacy are rapidly evolving and shifting, due to rapid changes in information technology and users' expectations and growing needs. It is not surprising then that information literacy currently also subsumes digital literacy, computer literacy, and even skills needed to use the Internet effectively. This also involves showing the users how to navigate the information jungle. Libraries in academic institutions and schools provide regular, updated courses or lectures related to information literacy. In other words, the very pragmatic content of information literacy is in constant flux – a problem that must be reckoned with from the start.

Many academic and school libraries offered programs, courses, guides, tutorials and the like for information literacy, based on mentioned 2000 Standards, even though these Standards were rarely, if ever, cited. Three examples are given, each representative of different kinds of efforts and approaches to information literacy.

University of Central Florida, Infolit program currently lists 14 modules (topics)

"... [that provide] short, to-the-point, tutorials to help you learn how to find, evaluate and use information." [6]

A different approach is from San Jose University, Dr. Martin Luther King Jr. Library, bundling information literacy tutorials with all kinds of help guides, offering "online tools plus videos on how to research, write, find articles, find books and use the library databases." [7]

A still different approach is illustrated by Iowa State University, e-Library; they provide guides geared toward development of facilities for critical thinking: "... how can you easily know the differences between a **scholarly journal** and a **popular magazine**? This sort of basic evaluation is a necessary part of the research process, and a means for you to sharpen your critical thinking skills. Listed below are some of the ways that a scholarly research journal typically differs from a popular magazine[1]" [8]

Other countries used or adapted the Standards – impact was global, as already recounted in the introduction.

Here are a few key issues that emerged as critical in most if not all efforts to build a practical information literacy project:

- Creation of information literacy skills often involves instruction. A major problem is that librarians feel inadequately prepared for an instructional role [9]. They lack formal training in educational theory and methods to start with.
- Furthermore, trainers need to be trained. Rapid changes in information systems and digital resources place librarians in a position of hard to keep up by themselves – their own information literacy competencies have to be constantly updated.
- Finally and most importantly, information literacy efforts require all kinds of resources – human, technical, facilities, and the like. All this is costly and requires money; financial difficulties are a major hindrance. In practice information literacy is not cheap.

3 After a Decade of Standards

By the end of their first decade the world around these Standards changed dramatically. Among others, technical innovations provided many new capabilities; these resulted in new social interactions and cultural disruptions; information resources became increasingly digital; and the gap between digitally haves and have-nots is widening; as is the gap between those that are digitally knowledgeable and those that are not. All these factors forced a redefinition of what is meant by an information literate person and even a redefinition of mission and services in all kinds of libraries.

A special issue of the open access journal Communications in Information Literacy, entitled "Reflecting on the Standards," has 15 articles analyzing various

[1] Emphasis in the original.

aspects connected with 2000 Standards and suggesting approaches for revision [10]. Two articles from that issue are chosen here to illustrate concerns and reactions.

Hofer et al. first provide a summary of critiques of existing Standards: "...a key problem with the current document [i.e. ACRL, 2000 Standards] ...: it does not fulfill the basic function of providing guidance to instructors in prioritizing what to teach." [11, p. 110]

In that they offer an example of a glaring misunderstanding, shared by many, of what standards are all about and what they stand for in general. Standards present a required or agreed upon level of measuring, quality or attainment; they are a norm summarizing principles of performance. By themselves, standards do **not** offer guidelines on how to achieve them. No standard includes a how-to on implementation. Implementing standards is a very different issue.

In their conclusion, Hofer et al provide a support for threshold concepts (the base of proposed new framework, discussed in the next section) as an approach that will "... help by providing a logical rationale for avoiding content not clearly connected to our disciplinary expertise." [11, p.111]

However, no suggestion is made about how this may help. On the one hand the authors chastise existing Standards for lacking guidelines for achievement, and on the other hand, they consider a suggested basic concept for framework as helpful, but do not indicate at all in what way – they offer no guidelines.

In the same issue, Kuhlthau takes a very different approach – not even mentioning threshold concepts: "I propose three "rethinks" to consider in recasting the ACRL Standards for information literacy for the coming decades. First, rethink the concept of information need. Second, rethink the notion that information literacy is composed of a set of abilities for "extracting information." Third, rethink the holistic process of learning from a variety of sources of information that is central to information literacy. The necessity for these "rethinks" are grounded in my extensive studies of students' experience in the information search process that reveal an evolving, dynamic, holistic process incorporating a series of feelings (affective), thoughts (cognitive) and actions (physical)." [12, p. 92]

In other words, Kuhlthau makes a series of proposals grounded in experiments and observations. These are evidence-based proposals worth considering as a base for rethinking new information literacy standards. This is entirely different than what is suggested in the proposed framework discussed next.

4 Proposed New Framework for Information Literacy

In June 2012, the ACRL Board approved a recommendation that the 2000 Standards be significantly revised. As a result, in February 2014 an initial (first) draft proposed a new framework (which became Framework – capitalized) for information literacy for higher education [13]. The idea was to invite comments and stimulate discussion on proposed changes. A second draft followed in June 2014 [14]. Fundamentally, the second draft is basically the same as the first draft - there were some terminological changes and further additions. After hearings and further comments a third draft is expected in November 2014. A final vote by the ACRL Board is expected at the ALA

Midwinter meeting in January 2015 [15]. All this is in preparation for replacement and sunset of 2000 Standards. An article by Oakleaf provides a summary of the whole process, with a reflection on threshold concepts at the base of the Framework, and then in the longest section of the paper makes elaborate suggestions – 10 steps – as to what to consider in revisions [16]. Needless to say, they are not followed.

The two drafts, [13] and [14], are not a final product. They only propose. Thus, any discussion so far, including this one, is only a comment on the drafts of the proposal and **not** on the final adopted document – not available at the time of this writing.

In general, the proposed Framework represents a significant change from previous Standards. The 2000 Standards outline competencies, skills, and outcomes that students need to achieve in order to become information literate. In contrast, the Task Force organized the new 2014 Framework around six sections, called Frames, each centered on a "threshold concept" (discussed in detail in the next section) that is determined to be an integral component of information literacy [14].

A justification is offered: "The rapidly changing higher education environment, along with the dynamic and often uncertain information ecosystem in which all of us work and live, require new attention to foundational ideas about that ecosystem." [14]

A broader agenda is sought: "The *Framework* offered here is called a "framework" intentionally—because it is based on a cluster of interconnected core concepts, with flexible options for implementation, rather than a set of standards or learning outcomes, or any prescriptive enumeration of skills. The *Framework* is based upon *threshold concepts*, which are those ideas in any discipline that are passageways or portals to enlarged understanding or ways of thinking and practicing within that discipline[2]." [14]

Even a new definition is offered using a notion of information ecosystem rather than just information: "Information literacy combines a **repertoire** of abilities, practices, and dispositions focused on expanding one's understanding of the information ecosystem, with the **proficiencies** of finding, using and analyzing information, scholarship, and data to answer questions, develop new ones, and create new knowledge, through **ethical participation** in communities of learning and scholarship[3]." [14]

But there is already a problem with that definition. "Information ecosystem" is not defined. Elsewhere in the document other undefined terms are also used such as "metacognition" and "metaliteracy." What is encompassed? They are not primitive terms universally understood. They are jargon.

5 Threshold Concept

In both, first and second drafts [13-14], it is suggested that the expanded conception of information literacy also calls for a creation of a more open framework. An approach called "threshold concepts" is used as the basis for the 2014 Framework.

[2] Italics in the original

[3] Emphasis in the original

Threshold concepts have grown out of pedagogical consideration for education in economics in the United Kingdom; original authors are Jan Mayer and Ray Land [17]. The authors suggest that threshold concepts are intended to be used "in the design of effective learning environments within disciplines and to indicate the linkages to ways of thinking and practising within these disciplines." [17]

In that report they did not define the concept, but offered the following comparison and description instead of a definition: "A threshold concept can be considered as akin to a portal, opening up a new and previously inaccessible way of thinking about something. It represents a transformed way of understanding, or interpreting, or viewing something without which the learner cannot progress." [17]

Threshold concepts are considered as having five characteristics:

> "[Threshold concepts are]:
>
> a. *Transformative...* in that, once understood, its potential effect on student learning and behaviour is to occasion a significant shift in the perception of a subject, or part thereof...
> b. Probably *irreversible* in that the change of perspective occasioned by acquisition of a threshold concept is unlikely to be forgotten, or will be unlearned only by considerable effort...
> c. *Integrative* ... that is, it exposes the previously hidden interrelatedness of something...
> d. Possibly often (though not necessarily always) *bounded* in that any conceptual space will have terminal frontiers, bordering with thresholds into new conceptual areas...
> e. Potentially (and possibly inherently) *troublesome...* such concepts often prove problematic or 'troublesome' for learners....[4]" [17]

A blog by Rice further discusses these characteristics and provides a short history on the emergence of the concept – the idea came about at a "coffee break conversation" [18].

Over the years a literature about threshold concepts has emerged. A bibliography of this literature, including videos, podcasts, and PowerPoint presentations, is listed in [19]. Furthermore, these ideas have been explored in a few disciplinary contexts [20].

Several articles and blogs also expressed critiques of threshold concept. Main points in these critiques are included here as a quote from an article by Barradell: "However, this ready acceptance of something that still is emerging [meaning threshold concepts as formulated in 17] has meant that aspects of the discussion around threshold concepts have not necessarily been undertaken with the rigour they perhaps should, and that a number of important questions remain unanswered. For example, how many of the five characteristics should a concept possess to be regarded as a threshold concept? Are some characteristics more important than others? If a concept is troublesome and integrative but not transformative, is it still a threshold concept?" [20]

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[4] Italics in the original

Development of threshold concepts requires a lot of work. Specific threshold concepts can be specified for each discipline, each topic within a discipline, each curriculum, each course, and even could be specific for each lecture. As will be seen in the next section, six threshold concepts, called Frames, are proposed for information literacy.

5 Proposed Framework and Threshold Concepts

As mentioned, threshold concepts are central to the proposed 2014 Framework. Descriptions and characteristics of threshold concepts have been incorporated almost verbatim as presented (and quoted in the preceding section) in the original paper by Meyer and Land [17]. Interpretations and quotes below are taken from the second draft of the proposal [14]:

> "The Framework is organized into six Frames, each consisting of a threshold concept that is central to information literacy; a set of knowledge practices; and a set of dispositions. The six threshold concepts that anchor the frames are:
>
> 1. Scholarship is a Conversation
> 2. Research as Inquiry
> 3. Authority is Contextual and Constructed
> 4. Format as a Process
> 5. Searching as Exploration
> 6. Information has Value." [14]

Each of the six Frames is followed by detailed explanation and a list of Knowledge Practices (Abilities) and Dispositions. Here is an example of what is meant by a Frame, in this case Frame 2. Research as Inquiry:

> **"Research as Inquiry refers to an understanding that research is iterative and depends upon asking increasingly complex questions whose answers develop new** questions **or lines of inquiry in any field.** Experts see inquiry as a process that focuses on problems or questions in a discipline or between disciplines that are open or unresolved. Experts recognize the collaborative effort within a discipline to extend the knowledge in that field by developing a knowledge base of lines of inquiry, research methodologies, and best practices for conducting research. Many times, this process includes points of disagreement where debate and dialog work to deepen the conversations around knowledge. ...
>
> **Knowledge Practices (Abilities)**
>
> Learners who are developing their information literate abilities:

- Conduct research through the lens of inquiry in order to enhance the impact of their work.
- Provide evidence of understanding that methods of research leading to new knowledge creation vary by need, circumstance, and type of inquiry.
- Formulate questions for research based on gaps in information or data available. ...

Dispositions

Learners who are developing their information literate abilities:

- Value persistence, adaptability, and flexibility, and recognize that ambiguity can be beneficial.
- Seek opportunities to transform current research-related practices in order to conduct more authentic research.
- Practice thinking critically when confronting new learning, where lack of familiarity with new methods and approaches requires additional effort. ...[5]" [14]

Interestingly enough, Knowledge Practices and Abilities in 2014 Frames [14] seem familiar – upon some comparison they look similar to Performance Indicators and Outcomes listed for each of five standards in 2000 Standards [4].

The proposal also suggests use of the Frames in specific work applications:

> "The Frames can guide the redesign of information literacy programs for general education courses, for upper level courses in students' major department, and for graduate student education. The Frames are intended to demonstrate the movement of thinking from novice to expert in a specific area; this movement may take place over the course of a student's academic career. Mapping out in what way specific concepts will be integrated into specific levels of the curriculum is one of the challenges of implementing the *Framework*. The Task Force encourages librarians to work with faculty, departmental or college curriculum committees, instructional designers, staff from centers for teaching and learning, and others, to design information literacy programs in a holistic way[6]." [14]

As yet, no comments on the proposed Framework appeared in the literature or on the Internet. Wilkinson's blog is an exception: it summarized the basic aspects of threshold concepts as adopted in the Framework, lists close to 20 short emails by librarians as part of invitation to respond, and provides own critique of the threshold concepts [21]. Here is an informal, even funny, comparison between 2000 Standards

[5] Bold in the original
[6] Italics in the original

and 2014 Framework, but with a ring of truth: "I suppose the simplest way to understand the change is to think of the previous standards as the authoritarian gym coach yelling "here are the five things you need to be information literate–learn them" the new standards are more like the hippie English teacher saying, "hey guys, here's some stuff to think about, but interpret it whatever way works best for you." [21]

After surveying the literature Wilkinson concludes that critical analysis of threshold concepts is rare. (This is my own conclusion as well). After examining authors that analyze threshold concepts (abbreviated as TC) Wilkinson observes:

> "Each of these authors admits that the threshold concepts hypothesis has some kernel of truth, but that there are serious difficulties plaguing how TCs are formulated. We can break the criticisms down the following way:
>
> **1. How can probable characteristics be defining characteristics?**
> ... Meyer and Land tell us that threshold concepts are "likely to be…probably irreversible…possibly often (though not necessarily) bounded…potentially (and possibly inherently) troublesome" and so on. These hedges are concerning because they force the question of whether a putative threshold concept is actually a threshold concept. ...
> **2. Concepts do not imply abilities**
> ... the definition of threshold concepts equivocates over the term 'concept'. ... First, a concept is sometimes defined as a mental representation of something, i.e., a mental model in our language of thought. ... Second, some define a concept as an ability to think of, classify, or recognize something. ... example [of difference] of *knowing how* to play tennis versus *being able* to play tennis. ... The basic point I'm trying to make is that the connection between having a particular threshold concept and having certain abilities is nebulous at best, nonexistent at worst. ...
> **3. Being troublesome or transformative are agent-relative properties**
> ... a core problem for threshold concepts is that they are agent-relative: what is transformative for me might not be transformative for you. What is troublesome for you might not be troublesome for me. ...
> 4. **Do disciplines really have a unified body of knowledge?**
> O'Donnell (2010) [one of the authors surveyed in the blog] raises what I feel is the most damning criticism: that the threshold concept hypothesis requires us to reduce disciplines down to core sets of unchanging beliefs. The push to have students "think like an *x*" (a doctor, an engineer, an economist, a librarian, etc.) has negative impacts on critical thinking, O'Donnell argues, because "if we want creative thinkers and innovators, we need graduates capable of moving *outside* the *x* framework and operating within multiple frameworks" ...

> Actually, it's worse than that. Even within a single discipline, there are often radically incompatible views held among practitioners. For example, I actually *disagree* that scholarship is a conversation ...[7]" [21].

Disciplines are not monolithic. In addition scholarship is in constant flux – it changes dynamically. Paradigms shift. Knowledge is updated, sometimes even overturned. Whose threshold concepts define a discipline? A topic? A frame? In general, I agree with Wilkinson's critiques. Actually, they are a repudiation of threshold concepts.

6 Conclusions

As mentioned in the Introduction, the aim of this article is to provide an overview of library efforts toward information literacy in the United States with a concentration on evaluation of the 2014 official suggestion by the American Library Association (ALA) for a new framework for information literacy for higher education. In the next year or two, new standards and then guidelines may emerge. They are needed.

Unfortunately, the proposed 2014 Framework for information literacy standards in the US is not based on any evidence, observation or experience at all. The Framework is based on threshold concepts which are **not** an appropriate and fruitful approach for using a pragmatic framework for information literacy. Even if the idea of threshold concepts is considered as a theory, it is not a testable theory at all; thus it is not a scholarly theory. Even though some articles about threshold concept argued as to being appropriate or adaptable to several disciplines, the concept was never been tested experimentally. Even though it was applied in several disciplines, the applications were a variation on the theme of subjectively interpreting a variety of responses by students or others to various broad questions or experiences and not any practical applications at all. There is no evidence-based practice of threshold concepts in any discipline. Thus, it is highly unlikely that the proposed framework for information literacy can be fruitfully developed for empirical application based on threshold concepts.

This has implications not only for the United States, but for the library community globally. And there is plenty of need and room for discussion.

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[7] Emphasis in the original

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