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Revisiting Metacognition and Metaliteracy in the ACRL Framework

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Abstract

In the early drafts of the *Information Literacy Framework for Higher Education*, metaliteracy and metacognition contributed several guiding principles in recognition of the fact that information literacy concepts need to reflect students' roles as creators and participants in research and scholarship. The authors contend that diminution of metaliteracy and metacognition occurred during later revisions of the *Framework* and thus diminished the document's usefulness as a teaching tool. This article highlights the value of metaliteracy and metacognition in order to support the argument that these concepts are critical to information literacy today, and that the language of these concepts should be revisited in the language of the *Framework*. Certainly, metacognition and metaliteracy should be included in pedagogical strategies submitted to the newly launched *ACRL Framework for Information Literacy Sandbox*.

Keywords: Information Literacy Framework; metacognition; metaliteracy

Perspectives edited by Carolyn Gamtso

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Revisiting Metacognition and Metaliteracy in the ACRL Framework

Introduction

When the first draft of the *ACRL Information Literacy Framework for Higher Education* was released in 2014, it clearly was an entirely new conception meant to replace, rather than revise, the *ACRL Information Literacy Competency Standards for Higher Education* (2000). In Appendix I of that draft, the Information Literacy Competency Standards for Higher Education Task Force outlined a total paradigm shift based on threshold concepts and metaliteracy. Information literacy was now envisaged through the lens of six threshold concepts, defined as “gateway or portal concepts within a discipline, profession, or knowledge domain” (ACRL, February 2014). Metaliteracy contributed emphases on metacognition and the importance of students understanding and fulfilling their roles as information creators and participants in research and scholarship. Metacognition’s important role was noted: A “[g]reater need for sense-making and metacognition in a fragmented complex information environment requires the ability to understand and navigate this environment holistically, focusing on intersections” (ACRL, 2014). These pedagogical constructs—threshold concepts, metaliteracy, and metacognition—were some of the ideas included in the new document that were unfamiliar to many library practitioners.

The subsequent online discussions and revisions to the *Framework* tell an interesting story about its reception and, in particular, the reaction to threshold concepts, metaliteracy and metacognition as fundamental to teaching information literacy. The authors contend that the diminution of metacognition and metaliteracy in subsequent drafts resulted in a diminishment of the *Framework’s* usefulness as a teaching tool. This article revisits metaliteracy and metacognition to determine how these concepts have the potential to impact information literacy pedagogy and student success.

Metaliteracy

Conversations about the need for new types of literacies or expanded conceptions of existing literacies were particularly lively in the first decade of the 21st century, reflecting a dramatically altered and increasingly complex information environment that provided more expansive roles for individual agency (Chauvin, 2003; Ipri, 2010; Jones-Kavalier &

Flannigan, 2006; Thomas, et al., 2007). One of these new literacies, metaliteracy, played a key role in the development of the *ACRL Information Literacy Framework for Higher Education* (2015). Metaliteracy was developed by Mackey and Jacobson (2011) at a time when the ACRL definition of information literacy was more than a decade old. The 2000 *ACRL Information Literacy Competency Standards for Higher Education* defined an information literate person as being able to:

1. Determine the extent of information needed
 2. Access the needed information effectively and efficiently
 3. Evaluate information and its sources critically
 4. Incorporate selected information into one's knowledge base
 5. Use information effectively to accomplish a specific purpose
 6. Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally
- (Association of College & Research Libraries, 2000)

To enhance this definition and suggest an approach to address the burgeoning list of important literacies, Mackey and Jacobson (2011) proposed a path that updated and expanded the conception of information literacy, addressing the commonalities among the various literacies under discussion:

There are many challenges to the standard information literacy definition based on the emergence of new social technologies. While new literacy movements have similar foundation elements to information literacy, specifically related to critical reading and critical thinking, as well as proficiencies in finding, synthesizing, and creating information, differences are often emphasized based on the specificity of technology or media formats. As each new form of literacy is introduced, the shared literacy goals related to critical thinking and information skills are often overlooked, creating an unnecessary divide between information literacy and other literacy types. (p. 69-70)

The evolution of social media has had a profound effect on the roles that individuals play in connection with information. Social media allows learners not only to look for and use information, but also to produce and publish it easily. Learners are doing so in collaborative

communities as well as individually. These elements were not reflected in the ACRL definition, nor was the ability of individuals to easily comment upon or leave feedback for the work of others. Traditionally, this was a role most often undertaken by experts in a field. While the 2000 ACRL definition does incorporate the idea of use of information to accomplish a specific purpose, the expanded role of information publisher is a significant new focus that demands a changed mentality and attitudes, defined values, and carefully honed competencies.

Metaliteracy addresses both of these concerns: it recognizes the expanded abilities needed by an information literate person, and proposes a solution to the ever-expanding list of literacies, seeking to find common ground for those striving to be fully literate regardless of medium. “Metaliteracy provides an overarching and unifying framework that builds on the core information literacy competencies while addressing the revolutionary changes in how learners communicate, create, and distribute information and participatory environments” (Jacobson & Mackey, 2013, p. 84).

Metaliteracy emphasizes four learning domains: cognitive, behavioral, affective, and metacognitive. The cognitive (for example, determine the extent of information needed) and behavioral (access the needed information effectively and efficiently) spheres have long been built into definitions of information literacy (ACRL, 2000). The affective domain recognizes that how an individual feels or reacts to information-related activities plays an important role in their learning experiences. This affective dimension is well known to librarians, and is an important component in metaliteracy. Metacognition, briefly described as critical self-reflection or thinking about one’s own thinking (see expanded definition later in this article), is the fourth core facet of metaliteracy.

Metaliterate individuals function successfully in an uncertain and highly variable information environment. It is an environment in which many information resources do not undergo a traditional publication process and are subject to emendations and comments bearing a range of responses by unknown individuals. Additionally, learners frequently take on the role of information producer, where publication and sharing are easy. In order to work adroitly in such an environment, learners’ abilities need to be wide-ranging and their habits of mind must be flexible and conscientious. An overarching set of abilities and habits of mind is required to function competently and responsibly. It is incumbent upon learners to practice metacognition and reflect on their role as critical evaluators of, and contributors

to, this open information environment. Not only is it vital for individuals to understand their involvement in assessing and creating content, but they must also think about the need to update their understandings and abilities in order to continually keep pace with rapidly evolving information opportunities. Ongoing learning requires self-reflection, including a recognition of one's own strengths and weaknesses. Metacognition, a core foundation of metaliteracy, is the linchpin that connects the affective, cognitive, and behavioral learning domains.

In the introduction to the accepted version of the *Framework*, metaliteracy is noted as having a significant impact upon the document. “This *Framework* depends on these core ideas of metaliteracy, with special focus on metacognition, or critical self-reflection, as crucial to becoming more self-directed in that rapidly changing ecosystem” (ACRL, 2015). Yet as will be seen in this article, removing overt mention of metaliteracy and metacognition while embedding components from them had unintended consequences.

Metacognition

While the term “metaliteracy” is a new concept emanating from the changed information environment, the term “metacognition” has been in use for a much longer time, first in the literature of psychology and then in that of educational psychology, which has discussed metacognition for over 35 years, from whence practitioners adopted the concept. Psychologists state that metacognition encompasses more than “thinking about one’s own thinking” as defined in various drafts of the *Framework*. It also involves what theorists call self-monitoring and self-regulating, traits of “the most effective learners” (Butler & Winne, 1995). Self-regulation happens when

[s]tudents exercise a suite of powerful skills: setting goals for upgrading knowledge; deliberating about strategies to select those that balance progress toward goals against unwanted costs, and, as steps are taken and the task evolves, monitoring the accumulating effects of their engagement. (p. 245)

Self-regulating learners have an enhanced awareness of their own strengths and weaknesses, are more resilient in adapting new tactics for problem solving, and are more adept at overcoming obstacles. Students who are asked to plan, reflect, and set goals begin to monitor their own learning processes (Flavell, 1979). Such monitoring and self-assessment

is said to promote a greater transfer of learning. According to Fadel, Bialia, and Trilling, metacognition “can help optimize the problem-solving experience at a very high level and thus is applicable across a large range of contexts (2015, p. 148). Davidson, Deuser, and Sternberg indicate that students are more successful if metacognitive teaching strategies are applied to problem-solving activities because metacognition is required if a learner is to identify a problem to be solved, figure out what the problem is, and reach a solution (1994).

The research process itself is a problem-solving activity requiring metacognition, as students must learn to identify an information need, articulate it clearly, plan how to proceed when locating sources, and think critically as they evaluate and use those sources. The research process is also similar to math or science problem-solving activities because “changes can occur as people gain a more complete understanding of the givens, goals, and restrictions in a problem or as they find information that has been previously overlooked” (Davidson, Deuser, & Sternberg, 1994, p. 211). Problem-solving, whether it is in math, science, or the research process, is recursive. The *Framework’s* attempt to bring metacognition together with information literacy reflects what the education and psychology community has known for a long time—that students learn better when they engage in guided reflection.

Early drafts of the *Framework*, but not the ultimate version, included explicit ways metacognition could be addressed pedagogically and some implicit ways in which metaliteracy could be addressed, particularly through suggestions for assignments/assessments that included reflective activities. The *Framework* drafters understood that such activities would result in more meaningful student learning.

Development of the *Framework*

In 2011, ACRL constituted a task force as a part of the regular review process of the ACRL Standards. This group’s charge was to review the Standards and to determine if they should be rescinded, revised, or retained. On June 2, 2012, the ACRL Information Literacy Competency Standards Review Task Force sent their decision to the members of the ACRL Standards Committee. The group recommended “the ACRL *Information Literacy Competency Standards for Higher Education* should not be reapproved in their current form” (ACRL, 2012, p. 2). The eight areas recommended for extensive revision were:

1. The Standards must be simplified as a readily understood model for greater adoption by audiences (both disciplinary and collegiate) outside of ALA.
2. The Standards must be articulated in readily comprehensible terms that do not include library jargon.
3. The Standards must include affective, emotional learning outcomes, in addition to the exclusively cognitive focus of the current standards.
4. The Standards must acknowledge complementary literacies.
5. The Standards must move beyond an implicit focus on format.
6. The Standards must address the role of the student as content creator.
7. The Standards must address the role of the student as content curator.
8. The Standards must provide continuity with the American Association of School Librarians' Standards for the 21st Century Learner (ACRL, 2012, p. 4-6)

To address this recommendation, the ACRL Information Literacy Competency Standards for Higher Education Task Force was formed in 2013 with a two- year deadline to complete the project. Based on the recommendations of the Information Literacy Competency Standards Review Task Force, the ACRL Board selected members of the Task Force after reviewing recommendations from ACRL Board liaisons and section committee chairs. The appointments included stakeholders from accrediting agencies and educational organizations as well as librarians. The co-chairs were Trudi Jacobson, Distinguished Librarian and Head, Information Literacy Department, University at Albany, SUNY, and Craig Gibson, Professor and Head, Food, Agricultural, and Environmental Sciences Library, The Ohio State University.

The charge for the Task Force was:

Update the Information literacy competency standards for higher education so they reflect the current thinking on such things as the creation and dissemination of knowledge, the changing global higher education and learning environment, the shift from information literacy to information fluency, and the expanding definition of information literacy to include multiple literacies, e.g., transliteracy, media literacy, digital literacy, etc. (ACRL Information Literacy Competency Standards for Higher Education

Task Force (<http://www.ala.org/acrl/aboutacrl/directoryofleadership/taskforces/acr-tfilcshe>)

The charge provided the Task Force with the opportunity to examine the changes taking place in higher education, such as the increase in online courses and programs and the increased use of educational technology. Flipped classrooms and a vision of students as creators, rather than just consumers, of information, were becoming more prevalent. The Task Force focused on creating a new conception of information literacy that would address the changing landscape of higher education.

In March of 2013, a list of recent information literacy-related models was posted to the Task Force's wiki. The models included the *ACRL Visual Literacy Competency Standards for Higher Education*, (ACRL, 2011), *AASL Standards for the 21st Century Learner* (AASL, 2007), *Metaliteracy* (Mackey & Jacobson, 2011), *Transliteracy* (Thomas, 2013), *Seven Pillars of Information Literacy* (SCONUL, 2011), *Media and Information Literacy* (UNESCO, 2011), *Information Fluency* (21st Century Information Fluency Project, 2013) and *Intellectual Virtues Education Model* (Intellectual Virtues Education Project, 2013). Members of the Task Force were able to compare, contrast, and discuss the different models and how they could be used to revise the existing Standards. In addition to the models posted to the wiki, the Task Force began to explore the use of threshold concepts in information literacy based on the Delphi study of Townsend, Hofer, and Brunetti (2011).

On July 31, 2013, the co-chairs posted to the wiki a set of guiding principles drawn from discussions of the Task Force. This document became the basis for their work. It states, "We plan to use the information literacy threshold concepts (Hofer, Townsend, & Brunetti, 2012) as the scaffolding for the new model. This document went on to state, "The goal is to present information literacy as a network of understandings, core abilities, and affective and metacognitive components" (Principles document ilstandardstf wiki, 2013).

This document was also sent to well-known members of the academic library community for feedback, and one reviewer responded:

The acknowledgement of affective/metacognitive domains is in itself a significant departure from the past standards—perhaps more challenging when considering learner diversity, however; the laserlike focus on cognitive

skills in the past Standards effectively skirted this dilemma. (Outside Readers' Feedback ilstandardstf wiki, 2013)

The outside reviewers' feedback to the guiding principles document helped the Task Force to meet the desired outcomes listed in the charge to the Task Force. Discussions about the development of the *Framework* by the Task Force members included adding cognitive skills to the document and a move away from the prescriptive nature of the Standards.

The two anchoring elements for the *Framework* became threshold concepts and metaliteracy. Metaliteracy directly addresses four of the eight areas recommended for revision from the first task force: #3 (affective learning outcomes), #4 (complementary literacies), #5 (move beyond format), and #6 (student as content creator).

In February 2014, part one of the first draft of the *Framework* was released and contained several references to metacognition and metaliteracy. On April 4, 2014, part two of the first draft was released and contained ideas for incorporating metacognitive pedagogical practices into information literacy instruction. Members of ACRL were invited to provide feedback on the first draft from February to April 15, 2014. The feedback was collected through an online survey. Task Force members also reviewed Twitter, email, and blog posts.

Comments and Feedback on the *Framework*

Comments from these sources were coded by a member of the Task Force and provided to the other members for review. The following sections address the changes to metaliteracy and metacognition in various drafts.

Introduction

Many of the comments and suggestions that were received concerned the Introduction, which contained a new definition for information literacy as well as background on the need for a new guiding document, and an introduction to the pedagogical theories and tools involved in the draft *Framework's* conception. A number of the responses said that terms such as metacognition, threshold concepts and dispositions were not well defined, while others responded that threshold concept theory had a lengthy explanation, while metaliteracy and metacognition did not. Some of the comments indicated respondents thought the first two drafts of the *Framework* were not well written, used vague and unhelpful language, contained too much jargon (though specific terms were frequently not

identified), and would make student learning difficult to assess. Some noted that faculty would not understand some of the terms used, such as metaliteracy and threshold concepts.

Other comments made via the two surveys were very diverse. They could be characterized as constructive, vague, judgmental, contradictory, and in some cases, complimentary. Many respondents said they were happy with the overall *Framework* and were pleased to see less emphasis on skills and tools. Others commented they could not use the document at their institution without specific rationales and applications. Many of the negative and judgmental comments focused on the inability to use the *Framework* for one-shot classes.

Assignments

Some of the contradictory feedback comments pointed to the inclusion of suggested assignments: some respondents thought they should be removed, while others valued them and were pleased by their inclusion. Some respondents to the February through April survey indicated that while they liked the inclusion of the assignments/assessments, they found that the assignments were not practical, well thought-out, or appropriate for one-shot classes. Respondents to the June survey indicated that they liked the idea of moving the assignments to an online sandbox or repository. Others thought including assignments would limit how librarians would use the *Framework* for instruction, and that the assignments would date the document. The final document approved by the ACRL Board did not include any sample assignments or assessments. During an in-person meeting in April 2014, the Task Force decided to “launch sandbox with assignments/assessments” (Ganski, 2014), thus removing them from the final document.

Metaliteracy

Some blog posts that appeared shortly after publication of the first draft of the *Framework* took issue with the inclusion of metaliteracy. In a post on her Information Constellation blog, Donna Witek stated, “I don’t think metaliteracy should be elevated by name to the extent that it is in the new draft *ACRL Framework for Information Literacy for Higher Education*” (2014). Other posts had similar concerns about including metaliteracy in the *Framework*. A post by Berg dated February 25, 2014 noted, “More confusing is whether the concept of metaliteracy is one of the anchors of the new framework, or if it is a desired outcome” (2014). In his February 28, 2014 blog post, Berg stated, “Metaliteracy cannot beget metaliterate students. Please elaborate on what metaliteracy is, how it differs from

‘critical thinking,’ or ‘transliteracy’ or just ‘information literacy,’ and place the concept in a context that is bounded by the rules of logic.” A post by Amanda Hovious to her Designer Librarian blog stated, “We can only unify some literacies within a specific setting, and only when they all share a common objective” (2014). Iris Jastram stated in a post on her blog Pegasus Librarian,

Metacognition is a vital component of critical thinking and learning. You gesture toward it both with the new focus on affect and also in the metaliteracy sections, and you have section mentioning it on line 246, but calling it out specifically and integrating the richness of the scholarship on the topic would greatly enhance the Framework. (2014)

Andy Burkhardt supported elements of metaliteracy, but had reservations that he stated in a February 25, 2014 post: “I personally love the ideas of threshold concepts and at least elements of metaliteracy, but I feel it needs to be clearer how people can use this in practice (which is why I am excited about the idea of an online sandbox to share resources)” (2014). Meredith Farkas posted on her blog, Information Wants to be Free, “A small gripe I have with the *Framework*: I have never been a big fan of transliteracy or metaliteracy because I believe that all of the things covered under those tents fits into information literacy already” (2014). One blog poster who was enthusiastic about metaliteracy felt that the Task Force should “integrate metaliteracy into this new IL framework without naming it” (Witek, 2014). While this last suggestion may seem like a compromise, the authors assert that not naming something, developing it fully, or articulating it might have the effect of marginalizing it.

The Task Force members reviewed and discussed at length the comments made about the initial draft of the *Framework*, using them to make revisions to the documents. The second draft of the *Framework* released in June 2014 included fewer references to metaliteracy. Because overt references to metacognition were tied to the inclusion of metaliteracy, the emphasis on metacognition was muted. The excised “Related Metaliteracy Learning Objectives” were incorporated into the knowledge practices and dispositions. Remaining were one reference to metaliteracy on line 55 of the Introduction and a paragraph about metacognition in Appendix 1 that begins on line 927. Even though metaliteracy and metacognition remained as underpinnings for the *Framework*, references were minimized.

In the final version, adopted by the ACRL Executive Committee at the end of the ALA Midwinter Conference in 2015, a reference to metaliteracy is found in the last paragraph on page two of the Introduction. The previous reference found in Appendix 1 of draft two is gone. In its place is a greater emphasis on the work of Wiggins and McTighe and threshold concepts.

Metacognition

This section of the article analyzes in detail the role of metacognition through the versions of the *Framework*, identifying those elements that provided pedagogical support for this powerful learning tool. Aside from the changes made in relation to the role of metaliteracy in the *Framework*, the concept of metacognition, which took expression in many cases in the accompanying assignments/assessments, was also diminished through various iterations of the document.

Draft I Part I

Metacognition first comes to light in the section entitled “Shifts in the Higher Education Landscape Since 2000,” where it is pointed out that a “Greater need for sense-making and metacognition in a fragmented, complex, information environment requires the ability to understand and navigate this environment holistically, focusing on intersections” (ACRL, 2014, lines 66-68). Shortly thereafter, this is explicated: “[S]tudents must understand the intricate connections between knowledge, abilities, and critical dispositions that will allow them to thrive” (lines 72-73). When learners understand what allows them to thrive, they are likely engaging in metacognitive thought. This first introduction to metacognition does not clearly define it nor link it to student learning and success.

A new definition of information literacy is proposed that includes a list of “interconnected elements” which includes “metacognitive strategies and critical reflection (metaliteracy, self-assessments)” (line 175). Metacognitive learning is referenced in a quote from Jacobson and Mackey’s article (2013) as it relates to metaliteracy, “Metaliteracy empowers learners to participate in interactive information environments equipped with the ability to continuously reflect, change and contribute as critical thinkers.” (line 239). However, it is not until several lines later, still in the Metaliteracy section, that readers find a definition of metacognition: “Metacognition, or consciously reflecting about one’s thinking, is critical to metaliteracy” (line 246).

Also in the introduction, the reader learns that self-assessments are suggested for each threshold concept as a “starting point for students to examine their learning progress” since “learners must engage in metacognition to be successful” (p. 7, lines 283-285).

Within the threshold concept descriptions in Draft 1, metacognition plays a role in student learning, but without explicit connections to the learning activities. For example, the knowledge practice “Scholarship as a Conversation” states that learners should “recognize that they are entering the middle of the scholarly conversation, not the end” (p. 11, line 442). To do that would mean that learners would need to have a sense of the “big picture” of the entire research process and an individual’s place in that process or “conversation.” Additionally, many of the dispositions and self-assessments provided in each frame do not directly address the role of metacognition in the “scholarship as a conversation” concept, yet they ask learners to view themselves differently, as scholars rather than students, who can contribute to a discourse community and reflect on how scholarly conversations occur (p. 12).

In the “Research as Inquiry” frame, “metaliteracy learning objectives” are present that relate to metacognition: learners can “recognize that learning is a process and that reflecting on errors or mistakes leads to insights and discovery” (p. 13, lines 515-16). Value is placed on how thinking about one’s research process and even identifying mistakes can lead to greater productivity. Several of the self-assessments in the section labeled Inquiry call upon students to use some form of metacognition. These include asking students to create research logs, noting where changes in direction occur, and later reviewing those logs to identify strengths and problems. This process calls upon learners to reflect on their research process in order to learn more about how they learn. Assessments also include asking learners to reflect upon more than just their own work, but to talk to researchers about their processes, thus making what is normally invisible more visible. The use of research logs or journals emphasizes process over product. In the “Format as Process” frame of the first draft, students are called upon to “reflect on their preferred method of finding information” under self-assessments (p. 16, line 603).

The glossary, found on page 17 of this draft, elucidates some of the terms (such as metacognition, metaliteracy, self-assessments and threshold concepts) that might be unfamiliar to readers.

Draft 1, Part II

Later in 2014, Draft I, Part II was released, in which the Task Force added two frames, “Authority is Constructed and Contextual” and “Searching is Strategic.” This new material made no mention of metaliteracy or metacognition, though learners are encouraged to “challenge themselves” with respect to authority issues. In the Sample Assignments/Assessments section of Part II, under the “Searching is Strategic” frame, an I-Search paper assignment is suggested, wherein students write about their search process, including the keywords, library tools, and evaluative criteria they used (p. 5, lines 175-178). Typically, an I-Search paper includes metacognition, as students are asked to tell what they do and do not know about their topics; why they are writing on the topic; the story of their quest for information; and what they learned through the research process (Macrorie, 1988). Other assignments suggested include a record of learner feelings (good or bad), a research timeline, the sharing of journals, and the use of research logs. Many of these assignments, of course, would involve students paying attention to their own thinking processes. Under the frame “Research as Inquiry,” both metacognition and metaliteracy are reflected in suggested assignments as students are asked to consider steps they might take when researching a major purchase or event in their lives.

Draft 2

The second draft of the *Framework*, dated June 2014, still included clearly articulated concepts of metaliteracy and metacognition. The revised introduction of the document states, “this *Framework* draws significantly upon the concept of metaliteracy, which offers a renewed vision of information literacy...Metaliteracy demands behavioral, affective, cognitive and metacognitive engagement with the information ecosystem; this *Framework* depends on these core ideas of metaliteracy as well, with special focus on metacognition, or critical self-reflection, as crucial to becoming more self-directed in that rapidly changing ecosystem” (p. 2, lines 50-57). Here we see a much clearer link to the relationship between metaliteracy, metacognition, and information literacy earlier in the document where readers can process the importance of these ideas.

That being said, in the rest of Draft 2 we see a diminishment of the use of the terms “metaliteracy” and “metacognition,” starting with the revised definition of information literacy, also found in the Introduction. The words “metaliteracy” and “metacognition” are no longer included in the definition; instead, we see “critical self-reflection” used as the

underpinning for understanding information ecosystems (p. 2, lines 62-67). In all six of the frames, “Metaliteracy Learning Objectives” have been incorporated into “Dispositions.”

Moreover, the term “self-assessments,” which ties directly into metacognitive thinking strategies, has been removed from Draft 2 entirely, though most of the self-assessments suggested in Draft 1 are now listed in a separate section, “Sample Assignments that Support the Framework.” Many of the activities that require critical reflection of some sort are included as “Research as Inquiry” assignments. They include student reflections on research steps; journaling about their own research process or that of an experienced researcher; or an I-Search assignment. Because suggested activities have not been explicitly connected to metaliteracy or metacognition, it would be difficult for some readers to recognize that this document includes “a special focus on metacognition” or “critical self-reflection.”

Draft 2 includes an Appendix I that primarily explains the shifts in information literacy and the many reasons for abandoning the 2000 *Standards* for the new *Framework*. The section on metaliteracy and metacognition, including the definition of the term originally included on page 6 of the first draft, is now on page 26 of Appendix I (lines 926-941). Because of the reorganization of the document, and the way in which metaliteracy and metacognition have been separated from the language in the rest of the document, the overall effect is that those concepts are de-emphasized, de-contextualized, or even dropped completely.

Appendix II, entitled *Introduction for Faculty and Administrators*, offers ideas on how to refocus use of the 2000 *Standards* into employing the *Framework*. One of the more interesting points is “How you and a librarian design learning experiences that will encourage students to assess their own attitudes, strengths/weaknesses and knowledge gaps related to information and how might you collaboratively design assignments for your courses?” (p. 31, lines 1142-1148). This alludes to metacognition and the type of self-assessments outlined in earlier drafts. However, this point is not made very forcefully with the librarian audience in earlier parts of the document.

The Final Draft of the *Framework*—Where Did Metaliteracy and Metacognition Go?

The final draft of the *Framework* includes revisions that significantly shorten the document. Metaliteracy and the “special focus on metacognition or critical self-reflection” is still

present in the document's Introduction, along with definitions of those concepts, but there is very little textual evidence in the rest of the document that supports a special focus on either one. What takes center stage are the threshold concepts, knowledge practices, and dispositions, some of which are greatly changed.

Missing from the document is any connection between the content outlined by threshold concepts with metaliteracy and metacognition. Many dispositions in the final document require learner self-awareness, critical reflection, and engagement in other activities that promote metacognitive thinking in order to be information literate, but that is not stated clearly. The following dispositions require metacognitive strategies to be successful.

Learners

- develop, in their own creation processes, an understanding that their choices impact the purposes for which the information product will be used and the message it conveys (p.7)
- acknowledge that they themselves are developing their own authoritative voices in a particular area (p.6)
- are conscious that maintaining these attitudes and actions require frequent self-evaluation (p.6)
- see themselves as contributors to the information marketplace rather than only consumers of it (p.9)
- are inclined to examine their own information privilege (p. 9)
- see themselves as contributors to scholarship rather than only consumers of it (p.11)
- determine the initial scope of the task required to meet their information needs (p. 12)
- design and refine needs and search strategies as necessary (p. 12)

Without reflection learners will neither change to see themselves as empowered learners with authoritative voices, nor will they be conscious of their own attitudes.. In addition, in order to identify an information need, a researcher must be able to articulate that need based on prior knowledge, reflect on knowledge gaps, and then move into focused research. Before being able to assess whether an information need has been met or a search strategy is successful, more reflection must occur.

The eliminated self-evaluations and assessments might have been used to promote learner awareness about their own research processes. The material that emphasized self-evaluation activities, particularly in the second draft, offered excellent scaffolding for instructors to create connections between content in the *Framework* and learner reflections about their own learning.

Conclusion

Perhaps the initial resistance in accepting metaliteracy, combined with its emphasis on metacognition, was the general unfamiliarity with that framework and its applications and the lack of adequate explanation. In revisiting the *Framework* through the lens of metaliteracy and metacognition, a case can be made for restoration of these concepts throughout the document with a more forceful articulation about their relevancy.

Recently, the ACRL Framework Advisory Board launched the *ACRL Framework for Information Literacy Sandbox* (ACRL, 2016). The Sandbox is an openly accessible platform and repository for librarians and their educational partners to discover, share, collect, and use ongoing work related to the *Framework*. This resource is an excellent venue for including many of the sample assignments contained in earlier drafts of the *Framework*, work that directly pertains to metaliteracy and metacognition. As Sandbox visitors begin to use and share resources that reflect best practices related to metaliteracy and metacognition, it is hoped that they will see the clear connection between theory and practice. In addition, contributions to other information-related repositories, such as CORA, the Community of Online Research Assignments (<http://www.projectcora.org/>) or MERLOT (<https://www.merlot.org/merlot/index.htm>), might tag metacognition and metaliteracy in addition to the *Framework* in submitted materials.

A goal of the *Framework* developers was to reflect current trends, theories, and practices in teaching and learning. The teaching of information literacy must be closely tied to broader pedagogical practices. The terminology used in the *Framework* versions aligned with concepts connected to this practice and theory. It is incumbent upon information literacy librarians to be aware of how people learn and how to best facilitate this learning. While this might be new territory for some of us, we can all engage our own lifelong-learning propensities to gain this knowledge, and then use it to enhance campus conversations about information literacy instruction. Teaching is a joy for most of us, but it is also our

responsibility to keep up with changes in pedagogical practices, and to be aware of those affected by the evolving information environment.

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