#acrlframework

Framework for Information Literacy for Higher Education

Contents

Introduction

This *Framework for Information Literacy for Higher Education* grows out of a belief that information literacy as an educational reform movement will realize its potential only through a richer, more complex set of core ideas. During the fifteen years since the publication of the *Information Literacy Competency Standards for Higher Education*, (1) academic librarians and their partners in higher education associations have developed learning outcomes, tools, and resources that some institutions have deployed to infuse information literacy concepts and skills into their curricula. However, 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 be focused on foundational ideas about that ecosystem. Students have a greater role and responsibility in creating new knowledge, in understanding the contours and the changing

dynamics of the world of information, and in using information, data, and scholarship ethically. Teaching faculty have a greater responsibility in designing curricula and assignments that foster enhanced engagement with the core ideas about information and scholarship within their disciplines. Librarians have a greater responsibility in identifying core ideas within their own knowledge domain that can extend learning for students, in creating a new cohesive curriculum for information literacy, and in collaborating more extensively with faculty.

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 on a set of standards or learning outcomes or any prescriptive enumeration of skills. At the heart of this *Framework* are conceptual understandings that organize many other concepts and ideas about information, research, and scholarship into a coherent whole. These conceptual understandings are informed by the work of Wiggins and McTighe, (2) which focuses on essential concepts and questions in developing curricula, and on *threshold concepts*, (3) which are those ideas in any discipline that are passageways or portals to enlarged understanding or ways of thinking and practicing within that discipline. This *Framework* draws upon an ongoing Delphi Study that has identified several threshold concepts in information literacy, (4) but the *Framework* has been molded using fresh ideas and emphases for the threshold concepts. Two added elements illustrate important learning goals related to those concepts: *knowledge practices*, (5) which are demonstrations of ways in which learners can increase their understanding of these information literacy concepts, and *dispositions*, (6) which describe ways in which to address the affective, attitudinal, or valuing dimension of learning. The *Framework* is organized into six frames, each consisting of a concept central to information literacy, a set of knowledge practices, and a set of dispositions. These are the six concepts that anchor the frames, presented alphabetically:

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

Neither the knowledge practices nor the dispositions that support each concept are intended to prescribe what local institutions should do in using the *Framework*; each library and its partners on campus will need to deploy these frames to best fit their own situation, including designing learning outcomes. For the same reason, these lists should also not be considered exhaustive.

In addition, this *Framework* draws significantly upon the concept of metaliteracy, (7) which offers a renewed vision of information literacy as an overarching set of abilities in which students are both consumers and creators of information who can participate successfully in collaborative spaces. (8) Metaliteracy demands behavioral, affective, cognitive, and metacognitive engagement with the information ecosystem. This *Framework* depends on these core ideas of metaliteracy, with special focus on metacognition, (9) or critical self-reflection, as crucial to becoming more self-directed in that rapidly changing ecosystem.

Because this *Framework* envisions information literacy as extending the arc of learning throughout students' academic careers and as converging with other academic and social learning goals, an expanded definition of information literacy is offered here to emphasize dynamism, flexibility, individual growth, and community learning:

> Information literacy is the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning.

The *Framework* opens the way for librarians, faculty, and other institutional partners to redesign instruction sessions, assignments, courses, and even curricula; to connect information literacy with student success initiatives; to collaborate on pedagogical research and involve students themselves in that research; and to create wider conversations about student learning, the scholarship of teaching and learning, and the assessment of learning on local campuses and beyond.

Notes

(1) Association of College & Research Libraries, Information Literacy Competency Standards for Higher Education (Chicago, 2000).

(2) Grant Wiggins and Jay McTighe. *Understanding by Design*. (Alexandria, VA: Association for Supervision and Curriculum Development, 2004).

(3) Threshold concepts are core or foundational concepts that, once grasped by the learner, create new perspectives and ways of understanding a discipline or challenging knowledge domain. Such concepts produce transformation within the learner; without them, the learner does not acquire expertise in that field of knowledge. Threshold concepts can be thought of as portals through which the learner must pass in order to develop new perspectives and wider understanding. Jan H. F. Meyer, Ray Land, and Caroline Baillie. "Editors' Preface." In *Threshold Concepts and Transformational Learning*, edited by Jan H. F. Meyer, Ray Land, and Caroline Baillie, ix–xlii. (Rotterdam, Netherlands: Sense Publishers, 2010).

(4) For information on this unpublished, in-progress Delphi Study on threshold concepts and information literacy, conducted by Lori Townsend, Amy Hofer, Silvia Lu, and Korey Brunetti, see http://www.ilthresholdconcepts.com/. Lori Townsend, Korey Brunetti, and Amy R. Hofer. "Threshold Concepts and Information Literacy." *portal: Libraries and the Academy* 11, no. 3 (2011): 853–69.

(5) Knowledge practices are the proficiencies or abilities that learners develop as a result of their comprehending a threshold concept.

(6) Generally, a disposition is a tendency to act or think in a particular way. More specifically, a disposition is a cluster of preferences, attitudes, and intentions, as well as a set of capabilities that allow the preferences to become realized in a particular way. Gavriel Salomon. "To Be or Not to Be (Mindful)." Paper presented at the American Educational Research Association Meetings, New Orleans, LA, 1994.

(7) Metaliteracy expands the scope of traditional information skills (determine, access, locate, understand, produce, and use information) to include the collaborative production and sharing of information in participatory digital environments (collaborate, produce, and share). This approach requires an ongoing adaptation to emerging technologies and an understanding of the critical thinking and reflection required to engage in these spaces as producers, collaborators, and distributors. Thomas P. Mackey and Trudi E. Jacobson. *Metaliteracy: Reinventing Information Literacy to Empower Learners.* (Chicago: Neal-Schuman, 2014).

(8) Thomas P. Mackey and Trudi E. Jacobson. "Reframing Information Literacy as a Metaliteracy." *College and Research Libraries* 72, no. 1 (2011): 62–78.

(9) Metacognition is an awareness and understanding of one's own thought processes. It focuses on how people learn and process information, taking into consideration individuals' awareness of how they learn. (Jennifer A. Livingston. "Metacognition: An Overview." Online paper, State University of New York at Buffalo, Graduate School of Education, 1997. http://gse.buffalo.edu/fas/shuell/cep564/metacog.htm.)

Frames

These six frames are presented alphabetically and do not suggest a particular sequence in which they must be learned.

Authority Is Constructed and Contextual

Information resources reflect their creators' expertise and credibility, and are evaluated based on the information need and the context in which the information will be used. Authority is constructed in that various communities may recognize different types of authority. It is contextual in that the information need may help to determine the level of authority required.

Experts understand that authority is a type of influence recognized or exerted within a community. Experts view authority with an attitude of informed skepticism and an openness to new perspectives, additional voices, and changes in schools of thought. Experts understand the need to determine the validity of the information created by different authorities and to acknowledge biases that privilege some sources of authority over others, especially in terms of others' worldviews, gender, sexual orientation, and cultural orientations. An understanding of this concept enables novice learners to critically examine all evidence—be it a short blog post or a peer-reviewed conference proceeding—and ask relevant questions about origins, context, and suitability for the current information need. Thus, novice learners come to respect the expertise that authority represents while remaining skeptical of both the systems that have elevated that authority and the information created by it. Experts know how to seek authoritative voices but also recognize that unlikely voices can be authoritative, depending on need. Novice learners may need to rely on basic indicators of authority, such as type of publication or author credentials, where experts recognize schools of thought or discipline-specific paradigms.

Knowledge Practices

Learners who are developing their information literate abilities

- define different types of authority, such as subject expertise (e.g., scholarship), societal position (e.g., public office or title), or special experience (e.g., participating in a historic event);
- use research tools and indicators of authority to determine the credibility of sources, understanding the elements that might temper this credibility;
- understand that many disciplines have acknowledged authorities in the sense of well-known scholars and publications that are widely considered "standard" and yet, even in those situations, some scholars would challenge the authority of those sources;
- recognize that authoritative content may be packaged formally or informally and may include sources of all media types;
- acknowledge that they themselves are developing their own authoritative voices in a particular area and recognize the responsibilities this entails, including seeking accuracy and reliability, respecting intellectual property, and participating in communities of practice; and
- understand the increasingly social nature of the information ecosystem where authorities actively connect with one another and sources develop over time.

Dispositions

Learners who are developing their information literate abilities

- develop and maintain an open mind when encountering varied and sometimes conflicting perspectives;
- motivate themselves to find authoritative sources, recognizing that authority may be conferred or manifested in unexpected ways;
- develop awareness of the importance of assessing content with a skeptical stance and with a self-awareness of their own biases and worldview;
- question traditional notions of granting authority and recognize the value of diverse ideas and worldviews; and
- are conscious that maintaining these attitudes and actions requires frequent self-evaluation.

Information Creation as a Process

Information in any format is produced intentionally to convey a message and is shared via a selected delivery method. The iterative processes of researching, creating, revising, and disseminating information vary, and the resulting product reflects these differences.

The information creation process could result in a range of information formats and modes of delivery so experts look beyond format when selecting resources to use. The unique capabilities and constraints of each creation process as well as the specific information need determine how the product is used. Experts recognize that information creations are valued differently in different contexts, such as academia or the workplace. Elements that affect or reflect on the creation, such as a pre- or post-publication editing or reviewing process, may be indicators of quality. The dynamic nature of information creation and dissemination requires ongoing attention to understand evolving creation processes. Recognizing the nature of information creation, experts look to the underlying processes of creation as well as the final product to critically evaluate the usefulness of the information. Novice learners begin to recognize the significance of the creation process, leading them to increasingly sophisticated choices when matching information products with their information needs.

Knowledge Practices

Learners who are developing their information literate abilities

- articulate the capabilities and constraints of information developed through various creation processes;
- assess the fit between an information product's creation process and a particular information need;
- articulate the traditional and emerging processes of information creation and dissemination in a particular discipline;
- recognize that information may be perceived differently based on the format in which it is packaged;
- recognize the implications of information formats that contain static or dynamic information;
- monitor the value that is placed upon different types of information products in varying contexts;
- transfer knowledge of capabilities and constraints to new types of information products; and
- 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.

Dispositions

Learners who are developing their information literate abilities

- are inclined to seek out characteristics of information products that indicate the underlying creation process;
- value the process of matching an information need with an appropriate product;
- accept that the creation of information may begin initially through communicating in a range of formats or modes;
- accept the ambiguity surrounding the potential value of information creation expressed in emerging formats or modes;
- resist the tendency to equate format with the underlying creation process; and
- understand that different methods of information dissemination with different purposes are available for their use.

Information Has Value

Information possesses several dimensions of value, including as a commodity, as a means of education, as a means to influence, and as a means of negotiating and understanding the world. Legal and socioeconomic interests influence information production and dissemination.

The value of information is manifested in a variety of contexts, including varied publishing practices, access to information, the commodification of personal information, and intellectual property laws. The novice learner may struggle to understand the diverse values of information in an environment where "free" information and related services are plentiful and the concept of intellectual property is first encountered through rules of citation or warnings about plagiarism and copyright law. As creators and users of information, experts understand their rights and responsibilities when participating in a community of scholarship. Experts understand that value may be wielded by powerful interests in ways that marginalize certain voices. However, value may also be leveraged by individuals and organizations to effect change and for civic, economic, social, or personal gains. Experts also understand that the individual is responsible for making deliberate and informed choices about when to comply with and when to contest current legal and socioeconomic practices concerning the value of information.

Knowledge Practices

Learners who are developing their information literate abilities

- give credit to the original ideas of others through proper attribution and citation;
- understand that intellectual property is a legal and social construct that varies by culture;
- articulate the purpose and distinguishing characteristics of copyright, fair use, open access, and the public domain;
- understand how and why some individuals or groups of individuals may be underrepresented or systematically marginalized within the systems that produce and disseminate information;
- recognize issues of access or lack of access to information sources;
- decide where and how their information is published;
- understand how the commodification of their personal information and online interactions affects both the information they receive and the information they produce or disseminate online; and
- make informed choices regarding their online actions in full awareness of issues related to privacy and the commodification of personal information.

Dispositions

Learners who are developing their information literate abilities

- respect the original ideas of others;
- value the skills, time, and effort needed to produce knowledge;
- see themselves as contributors to the information marketplace rather than only consumers of it; and
- are inclined to examine their own information privilege.

Research as Inquiry

Research is iterative and depends upon asking increasingly complex or new questions whose answers in turn develop additional 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. Many times, this process includes points of disagreement where debate and dialogue work to deepen the conversations around knowledge. This process of inquiry extends beyond the academic world to the community at large, and the process of inquiry may also focus upon personal, professional, or societal needs. The spectrum of inquiry ranges from asking simple questions that depend upon basic recapitulation of knowledge, to increasingly sophisticated abilities to refine research questions, use more advanced research methods, and explore more diverse disciplinary perspectives. Novice learners acquire strategic perspectives on inquiry and a greater repertoire of investigative methods.

Knowledge Practices

Learners who are developing their information literate abilities

- formulate questions for research based on information gaps or reexamination of existing, possibly conflicting, information;
- determine an appropriate scope of investigation;
- deal with complex research by breaking complex questions into simple ones, limiting the scope of investigations;
- use a variety of research methods, based on need, circumstance, and type of inquiry;
- monitor gathered information and assess for gaps or weaknesses;
- organize information in meaningful ways;
- synthesize ideas gathered from multiple sources; and
- draw reasonable conclusions based on the analysis and interpretation of information.

Dispositions

Learners who are developing their information literate abilities

- consider research as open-ended exploration and engagement with information;
- appreciate the fact that a question may appear to be very simple, but still disruptive and important to research;
- value intellectual curiosity in developing questions and learning new investigative methods;
- maintain both an open mind and a critical stance;
- value persistence, adaptability, and flexibility, and recognize that ambiguity can be beneficial in the research process;
- seek multiple perspectives during information gathering and assessment;
- seek appropriate help when needed;
- follow ethical and legal guidelines in gathering and using information; and
- demonstrate intellectual humility (i.e., recognize their own intellectual or experiential limitations).

Scholarship as Conversation

Communities of scholars, researchers, or professionals engage in sustained discourse with new insights and discoveries occurring over time as a result of varied perspectives and interpretations.

Research in scholarly and professional fields is a discursive practice in which ideas are formulated, debated, and weighed against one another over extended periods of time. Instead of seeking discrete answers to complex problems, experts understand that a given issue may be characterized by several competing perspectives as part of an ongoing conversation in which information users and creators come together and negotiate meaning. Experts understand that, while some topics have established answers through this process, a query may not have a single uncontested answer. Experts are therefore inclined to seek out many perspectives, not merely the ones with which they are already familiar. These perspectives might be either in their own discipline or profession, or may be in other fields. While novice learners and experts at all levels can take part in the conversation, established power and authority structures may influence their ability to participate and can privilege certain voices and information. Developing familiarity with the sources of evidence, methods, and modes of discourse in the field assists novice learners to enter the conversation. New forms of scholarly and research conversations provide more avenues in which a wide variety of individuals may have a voice in the conversation. Providing attribution to relevant previous research is also an obligation of participation in the conversation. It enables the conversation to move forward and strengthens one's voice in the conversation.

Knowledge Practices

Learners who are developing their information literate abilities

- cite the contributing work of others in their own information production;
- contribute to scholarly conversation at an appropriate level such as local online community, guided discussion, undergraduate research journal, or conference presentation/poster session;
- identify barriers to entering scholarly conversation via various venues;
- critically evaluate contributions made by others in participatory information environments;
- identify the contribution that particular articles, books, and other scholarly pieces make to disciplinary knowledge;
- summarize the changes in scholarly perspective over time on a particular topic within a specific discipline; and
- recognize that a given scholarly work may not represent the only—or even the majority—perspective on the issue at hand.

Dispositions

Learners who are developing their information literate abilities

- recognize that they are often entering into an ongoing scholarly conversation, not a finished conversation;
- seek out conversations that are taking place in their area of research;
- see themselves as contributors to scholarship rather than only consumers of it;
- recognize that scholarly conversations take place in a variety of venues;
- suspend judgment on the value of a particular piece of scholarship until the larger context for the scholarly conversation is better understood;
- understand the responsibility that comes with entering the conversation through participatory channels;
- value user-generated content and critically evaluate contributions made by others; and

- recognize that systems privilege authorities and that not having a fluency in the language and process of a discipline disempowers their ability to participate and engage.

Searching as Strategic Exploration

Searching for information is often nonlinear and iterative, requiring the evaluation of a broad range of information sources and the mental flexibility to pursue alternate avenues as new understanding is developed.

The act of searching often begins with a question that directs the act of finding needed information. Encompassing inquiry, discovery, and serendipity, searching identifies both possible relevant sources as well as the means to access those sources. Experts realize that information searching is a contextualized, complex experience that affects, and is affected by, the cognitive, affective, and social dimensions of the searcher. Novice learners may search a limited set of resources, while experts may search more broadly and deeply to determine the most appropriate information sought within the project scope. Likewise, novice learners tend to use few search strategies, while experts select from a variety of search strategies, depending on the sources, scope and context of the information need.

Knowledge Practices

Learners who are developing their information literate abilities

- determine the initial scope of the task required to meet their information needs;
- identify interested parties, such as scholars, organizations, government, and industry, who might produce information about a topic and determine how that information might be accessed;
- utilize divergent (e.g., brainstorming) and convergent (e.g., selecting the best source) thinking appropriately when searching;
- match information needs and search strategies to appropriate search tools;
- design and refine needs and search strategies as necessary, based on search results;
- understand how information systems (e.g., collections of recorded information) are organized in order to access relevant information;
- use different types of searching language (e.g., controlled vocabulary, keywords, natural language) appropriately; and
- effectively manage searching processes and results.

Dispositions

Learners who are developing their information literate abilities

- exhibit mental flexibility and creativity;
- understand that first attempts at searching do not always produce adequate results;
- realize that sources of information vary greatly in content and format, and have varying relevance and value, depending on the needs and nature of the search;
- seek guidance from experts, such as librarians, researchers, and professionals;
- recognize the value of browsing and other serendipitous methods of information gathering; and
- persist in the face of search challenges, and know when they have enough information to complete their information task.

Appendix 1: Implementing the Framework

Suggestions on How to Use the *Framework for Information Literacy for Higher Education*

The *Framework for Information Literacy for Higher Education* is a mechanism for guiding the development of information literacy programs within higher education institutions while also promoting discussion about the nature of key concepts in information in general education and disciplinary studies. The *Framework* encourages thinking about how librarians, faculty, and others can address core or portal concepts and associated elements in the information field within the context of higher education. This *Framework* will help librarians contextualize and integrate information literacy for their institutions and will encourage a deeper understanding of what knowledge practices and dispositions an information literate student should develop. The *Framework* redefines the boundaries of what librarians teach and how they conceptualize the study of information within the curricula of higher education institutions.

The *Framework* has been conceived as a set of living documents on which the profession will build. The key product is a set of frames, or lenses, through which to view information literacy, each of which includes a concept central to information literacy, knowledge practices, and dispositions. ACRL encourages the library community to discuss the new *Framework* widely and to develop resources such as curriculum guides, concept maps, and assessment instruments to supplement the core set of materials in the frames.

As a first step, ACRL encourages librarians to read through the entire *Framework* and discuss the implications of this new approach for the information literacy program at their institution. Possibilities include convening a discussion among librarians at an institution or joining an online discussion of librarians. In addition, as one becomes familiar with the frames, consider discussing them with professionals in the institution's center for teaching and learning, office of undergraduate education, or similar departments to see whether some synergies exist between this approach and other institutional curricular initiatives.

The frames can guide the redesign of information literacy programs for general education courses, for upper level courses in students' major departments, and for graduate student education. The frames are intended to demonstrate the contrast in thinking between *novice learner* and *expert* in a specific area; 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*. ACRL 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.

ACRL realizes that many information literacy librarians currently meet with students via one-shot classes, especially in introductory level classes. Over the course of a student's academic program, one-shot sessions that address a particular need at a particular time, systematically integrated into the curriculum, can play a significant role in an information literacy program. It is important for librarians and teaching faculty to understand that the *Framework* is not designed to be implemented in a single information literacy session in a student's academic career; it is intended to be developmentally and systematically integrated into the student's academic program at a variety of levels. This may take considerable time to implement fully in many institutions.

ACRL encourages information literacy librarians to be imaginative and innovative in implementing the *Framework* in their institution. The *Framework* is not intended to be prescriptive but to be used as a guidance document in shaping an institutional program. ACRL recommends piloting the implementation of the *Framework* in a context that is useful to a specific institution, assessing the results, and sharing experiences with colleagues.

How to Use This *Framework*

- Read and reflect on the entire *Framework* document.

- Convene or join a group of librarians to discuss the implications of this new approach to information literacy for your institution.
- Reach out to potential partners in your institution, such as departmental curriculum committees, centers for teaching and learning, or offices of undergraduate or graduate studies, to discuss how to implement the *Framework* in your institutional context.
- Using the *Framework*, pilot the development of information literacy sessions within a particular academic program in your institution; assess and share the results with your colleagues.
- Share a wide range of instructional materials with other information literacy librarians in the online repository developed by ACRL.

Introduction for Faculty and Administrators

Considering Information Literacy

> Information literacy is the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning.

This framework sets forth these information literacy concepts and describes how librarians as information professionals can facilitate the development of information literacy by postsecondary students.

Creating a Framework

The Association of College & Research Libraries (ACRL) has played a leading role in promoting information literacy in higher education for decades. The *Information Literacy Competency Standards for Higher Education*, first published in 2000, enabled colleges and universities to position information literacy as an essential learning outcome in the curriculum and promoted linkages with general education programs, service learning, problem-based learning, and other pedagogies focused on deeper learning. Regional accrediting bodies, the American Association of Colleges and Universities (AAC&U), and various discipline-specific organizations employed and adapted the *Standards*.

It is time for a fresh look at information literacy, especially in light of changes in higher education, coupled with increasingly complex information ecosystems. To that end, an ACRL Task Force developed a new *Framework for Information Literacy for Higher Education*. The *Framework* seeks to address the great potential for information literacy as a deeper, more integrated learning agenda, addressing academic and technical courses, undergraduate research, community-based learning, and co-curricular learning experiences of entering freshman through graduation. The *Framework* focuses attention on the vital role of collaboration and its potential for increasing student understanding of the processes of knowledge creation and scholarship. The *Framework* also emphasizes student participation and creativity, highlighting the importance of these contributions.

The *Framework* is developed around a set of "frames," which are those critical gateway or portal concepts through which students must pass in order to develop genuine expertise within a discipline, profession, or knowledge domain. Each frame includes a knowledge practices section that is used to demonstrate how the mastery of the concept leads to application in new situations and knowledge generation. Each frame also includes a set of dispositions that address the affective areas of learning.

For Faculty: How to Use the *Framework*

A vital benefit in using threshold concepts as one of the underpinnings for the new *Framework* is the potential for collaboration among disciplinary faculty, librarians, teaching and learning center staff, and others. Creating a community of conversations about this enlarged understanding should engender more collaboration, more innovative course designs, and a more inclusive consideration of learning within and beyond the classroom. Threshold concepts originated as faculty pedagogical research within disciplines; because information literacy is both a disciplinary and a transdisciplinary learning agenda, using a conceptual framework for information literacy program planning, librarian-faculty collaboration, and student co-curricular projects, can offer great potential for curricular enrichment and transformation.

- Investigate threshold concepts in your discipline and gain an understanding of the approach used in the *Framework* as it applies to the discipline you know.
    - What are the specialized information skills in your discipline that students should develop, such as using primary sources (history) or accessing and managing large data sets (science)?
- Look for workshops at your campus teaching and learning center on the flipped classroom and consider how such practices could be incorporated in your courses.
    - What information and research assignments can students do outside of class time to arrive prepared to apply concepts and conduct collaborative projects?
- Partner with your IT department and librarians to develop new kinds of multimedia assignments for courses.
    - What kinds of workshops and other services should be available for students involved in multimedia design and production?
- Help students view themselves as information producers, both individually and collaboratively.
    - In your program, how do students interact with, evaluate, produce, and share information effectively in a variety of formats and modes?
- Consider the knowledge practices and dispositions in each information literacy frame for possible integration into your own courses and academic program.
    - How might you and a librarian design learning experiences and assignments that will encourage students to assess their own attitudes, strengths/weaknesses, and knowledge gaps related to information?

For Administrators: How to Support the *Framework*

Through reading the *Framework* document and discussing it with your institutions' librarians, you can begin to focus on the best mechanisms to implement the *Framework* in your institution. As an administrator, you can take the following approaches:

- Host or encourage a series of campus conversations about how the institution can incorporate the *Framework* into student learning outcomes and supporting curriculum.
- Provide the resources to enhance faculty expertise and opportunities for understanding and incorporating the *Framework* into the curriculum.
- Encourage committees working on planning documents related to teaching and learning (at the department, program, and institutional levels) to include concepts from the *Framework* in their work.
- Provide resources to support meaningful assessment of information literacy of students at various levels at your institution.
- Promote partnerships between faculty, librarians, instructional designers, and others to develop meaningful ways for students to become content creators, especially in their disciplines.

Appendix 2: Background of the *Framework* Development

The *Information Literacy Competency Standards for Higher Education* (ILCSHE) were published in 2000 and brought information literacy into higher education conversations and advanced our field tremendously. These, like all ACRL standards, are reviewed cyclically. In July 2011, ACRL appointed a Task Force to decide what, if anything, to do with the current *Standards*. In June 2012, that Task Force recommended that the current *Standards* be significantly revised. This previous review Task Force made recommendations that informed the current revision Task Force, created in 2013.

The charge for this Task Force was to *update the* Information Literacy Competency Standards for Higher Education *so that 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, for example, transliteracy, media literacy, digital literacy, etc.*

Two new elements underlie the model that has been developed: threshold concepts and metaliteracy. The Task Force released the first version of the new *Framework for Information Literacy for Higher Education* in two parts in February and April of 2014 and received comments via two online hearings and a feedback form that was available online for four weeks. The committee then revised the document, released the second draft on June 17, 2014, and sought extensive feedback through a feedback form, two online hearings, an in-person hearing, and analysis of social media and topical blog posts.

On a regular basis, the Task Force used all of ACRL's and ALA's communication channels to reach both individual members and ALA and ACRL units (committees, sections, round tables, ethnic caucuses, chapters, and divisions) with updates. The Task Force's liaison at ACRL maintained a private e-mail distribution list of over 1,300 individuals who attended a fall, spring, or summer online forum; provided comments to the February, April, June, or November drafts; or were otherwise identified as having strong interest and expertise (such as members of the Task Force that drafted the ILCSHE, leading LIS researchers and national project directors, members of the Information Literacy Rubric Development Team for the Association of American Colleges & Universities, Valid Assessment of Learning in Undergraduate Education initiative). Via all these channels, the Task Force regularly shared updates, invited discussion at virtual and in-person forums and hearings, and encouraged comments on public drafts of the proposed *Framework*.

ACRL recognized early on that the effect of any changes to the *Standards* would be significant, both within the library profession and in higher education more broadly. In addition to general announcements, the Task Force contacted nearly 60 researchers who cited the *Standards* in publications outside library and information science literature, more than 70 deans, associate deans, directors or chairs of library and information science schools, and invited specific staff leaders (and press or communications contacts) at more than 70 other higher education associations, accrediting agencies, and library associations and consortia to encourage their members to read and comment on the draft.

The Task Force systematically reviewed feedback from both the first and second drafts of the *Framework*, including comments, criticism, and praise provided through both formal and informal channels. There were 562 responses to the three official online feedback forms, as well as numerous direct e-mails sent to members of the Task Force. The group was proactive in tracking feedback on social media, namely blog posts and Twitter. While the data harvested from social media is not exhaustive, the Task Force made its best efforts to include all known Twitter conversations, blog posts, and blog commentary. In total, there were several hundred feedback documents, totaling well over a thousand pages, under review. The content of these documents was analyzed by members of the Task Force and coded using HyperResearch, qualitative data analysis software. During the drafting and vetting process, the Task Force provided more detail on the feedback analysis in an online FAQ document.

The Task Force continued to revise the document and then published the third revision in November 2014, again announcing broadly and seeking comments via a feedback form.

The Task Force members as of November 2014 included the following:

- Craig Gibson, Professor, Ohio State University Libraries (Co-chair)
- Trudi E. Jacobson, Distinguished Librarian and Head, Information Literacy Department, University at Albany, SUNY, University Libraries (Co-chair)
- Elizabeth Berman, Science and Engineering Librarian, University of Vermont (Member)
- Carl O. DiNardo, Assistant Professor and Coordinator of Library Instruction/Science Librarian, Eckerd College (Member)
- Lesley S. J. Farmer, Professor, California State University–Long Beach (Member)
- Ellie A. Fogarty, Vice President, Middle States Commission on Higher Education (Member)
- Diane M. Fulkerson, Social Sciences and Education Librarian, University of South Florida in Lakeland (Member)
- Merinda Kaye Hensley, Instructional Services Librarian and Scholarly Commons Co-coordinator, University of Illinois at Urbana-Champaign (Member)
- Joan K. Lippincott, Associate Executive Director, Coalition for Networked Information (Member)
- Michelle S. Millet, Library Director, John Carroll University (Member)
- Troy Swanson, Teaching and Learning Librarian, Moraine Valley Community College (Member)
- Lori Townsend, Data Librarian for Social Sciences and Humanities, University of New Mexico (Member)
- Julie Ann Garrison, Associate Dean of Research and Instructional Services, Grand Valley State University (Board Liaison)
- Kate Ganski, Library Instruction Coordinator, University of Wisconsin–Milwaukee (Visiting Program Officer, from September 1, 2013, through June 30, 2014)
- Kara Malenfant, Senior Strategist for Special Initiatives, Association of College and Research Libraries (Staff Liaison)

In December 2014, the Task Force made final changes. Two other ACRL groups reviewed and provided feedback on the final drafts: the ACRL Information Literacy Standards Committee and the ACRL Standards Committee. The latter group submitted the final document and recommendations to the ACRL Board for their review at the 2015 ALA Midwinter Meeting in Chicago.

Appendix 3: Sources for Further Reading

The following sources are suggested readings for those who want to learn more about the ideas underpinning the *Framework*, especially the use of threshold concepts and related pedagogical models. Some readings here also explore other models for information literacy, discuss students' challenges with information literacy, or offer examples of assessment of threshold concepts. Landmark works on threshold concept theory and research on this list are the edited volumes by Meyer, Land, and Baillie (*Threshold Concepts and Transformational Learning*) and by Meyer and Land (*Threshold Concepts and Troublesome Knowledge: Linkages to Ways of Thinking and Practicing within the Disciplines*). In addition, numerous research articles, conference papers, reports, and presentations on threshold concepts are cited on the regularly updated website Threshold Concepts: Undergraduate Teaching, Postgraduate Training, and Professional Development; A Short Introduction and Bibliography, available at http://www.ee.ucl.ac.uk/~mflanaga/thresholds.html.

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