Debbie Sharp, Beth Fuchs, Peter Hesseldenz, and Karyn Hinkle

Merged learning outcomes for information literacy

A David Letterman-style Top Ten List

University of Kentucky (UK) librarians are testing a new approach in the perennial quest to encourage professors and other course instructors to incorporate information literacy concepts into their course designs. Although many curricula desire or even require information literacy to be included among their learning outcomes, many instructors simply do not know what information literacy learning outcomes could or should be. We wondered if a top ten list could help, and we developed one this year, based on a cross-disciplinary group of information literacy standards. Consider your own favorite information literacy outcomes from the ACRL standards, or those that come out of your work with the Framework for Information Literacy: are there some that are more foundational, more widely applicable, more essential? We considered each of these themes in our project, and we're excited to present the final list of ten great information literacy learning outcomes we shared with our university committee.

History

The roots of this project go back to 2009, when UK's Core Curriculum was being developed. The Core requires that undergraduate students take ten classes, covering 30 hours, which are intended to provide them with a broad base of knowledge and a solid foundation for further academic study. Students can choose from many classes to fulfill the requirements in four broad areas:

- Learning Outcome I: Intellectual Inquiry in a) Arts and Creativity, b) Humanities, c) Social Sciences, and d) Natural, Physical, and Mathematical Sciences
- Learning Outcome II: Written, Oral, and Visual Communication
- Learning Outcome III: Quantitative Reasoning
- Learning Outcome IV: Citizenship

One important element of the Core Curriculum is that an information literacy component is required for each course. However, this component was never strictly defined, which allowed for many interpretations over the years. For example, one class might require stu-

Debbie Sharp is director of information literacy emerita, email: debbie.sharp@uky.edu, Beth Fuchs is undergraduate learning librarian, email: beth.fuchs@uky.edu, Peter Hesseldenz is literature and humanities librarian, email: phessel@uky.edu, Karyn Hinkle is visual and performing arts librarian, email: karyn.hinkle@uky.edu, at the University of Kentucky Libraries

dents to work with very specific information sources, such as books, journals, databases, or videos, whereas another might only make the vague suggestion that students "visit the UK Library." The inadequacy of this loose approach became apparent to librarians early on. They understood that faculty developing new course proposals would benefit from a formal set of information literacy learning outcomes that could be applied, as needed, to the variety of subjects covered in the Core Curriculum.

So, when Debbie Sharp, the University of Kentucky Libraries' Information Literacy Coordinator and a member of the UK Core Education Committee, was asked in April 2021 for information literacy input on a proposed course in Earth and Environmental Sciences, she jumped at the chance to present more useful, standardized learning outcomes. The information literacy outcomes that Sharp came up with, in collaboration with Engineering Librarian Sue Smith, for the Natural, Physical and Mathematical Sciences Core area, were so well appreciated that the committee requested a similar list of learning outcomes for the other Core areas.

Process

Sharp began working on this new request by compiling three information literacy documents (ACRL Information Literacy Competency Standards for Higher Education, Information Literacy Standards for Science and Engineering/Technology, and Visual Literacy Competency Standards for Higher Education) and organized the learning outcomes from each in a side-by-side comparison. She then contacted liaison librarians with responsibilities in the arts, sciences, humanities, and social sciences and asked them to participate in a small group to create a list of example information literacy learning outcomes that would be applicable and useful to courses taught in the Core Curriculum. This working group included UK Libraries Teaching and Subject Specialist Librarians Jan Carver, Beth Fuchs, Peter Hesseldenz, Karyn Hinkle, and Margie Ruppel, along with Sharp and Smith. After the initial meeting, the group decided to have each of the members choose their top ten learning outcomes from all three documents that would apply to any course taught in the Core Curriculum and upload their lists to a shared site.

When the group began reviewing their individual work and looking for themes, it became clear that it was difficult to quickly see which learning outcomes from each list were most frequently chosen. Since we were meeting on Zoom, one of the librarians suggested we use the "Annotate" feature and indicate on a shared screen displaying the original side-by-side comparison document which learning outcomes we had each selected. We indicated our choices with a unique mark using symbols provided within Zoom (star, heart, etc.) or colored highlighters. That was a simple and fun activity that allowed us not only to share our work with one another but also provided a visual depiction, similar to a heat map, that quickly revealed themes and shared favorites.

We discussed several issues that came up during the meeting, such as overlapping ideas and the use of disciplinary terminology. For our next step in the process, Sharp took our most-selected learning outcomes and created a combined list that we examined for gaps in the research process. When we looked for gaps, we realized there were a few information literacy learning outcomes we felt were important that were not explicitly stated in the standards we considered, which makes sense after many librarians began working with

the Framework in 2015. We added those learning outcomes to our top ten list as well. We also looked for ways to make the language in each learning outcome universally applicable, regardless of discipline. After this refinement, we had our top ten list of learning outcomes ready to share with the university's Core Curriculum committee.

Themes and lessons learned

As we embarked on this project, a few basic assumptions underpinned our work. First, we felt that an awareness of the needs of our intended audience—the teaching faculty for Core courses—needed to always be in the forefront of our minds. So, in addition to making sure that the document was complete in terms of the subject matter it covered, an equally important part of the writing process was to ensure that it was easily understood by those outside of the library community and not weighed down with unnecessary padding. To that end, we concentrated on making it compact, accessible, and jargon-free.

To achieve this goal, our guiding principle was to use simplicity and directness. When writing and proofreading the learning outcomes, we strove to express ideas in the most concise way possible, without sacrificing accuracy or descriptiveness. Nuanced differences in words, like *accuracy* and *validity,* were closely examined to ensure that the desired point was best expressed. We were also cognizant of librarians' tendency to use professional jargon when describing foundational topics, like information literacy teaching outcomes, and tried not to lose sight of the fact that the audience for the project is not other librarians. We had to be attuned to words and phrases like *controlled vocabulary* and *information retrieval system,* which are not often used outside of libraries, as well as commonly used words like *thesaurus,* which we knew probably have a different meaning for teaching faculty.

Another principle we adhered to is that working with a diverse group helps ensure a well-rounded product. Though this point may seem obvious, it is important to note. For many projects, working groups are kept small in order to increase efficiency. Accommodating many points of view inevitably requires compromises and also tends to make any process slower, more complicated, and messier. But a large number of participants representing different backgrounds also greatly increases the likelihood that the project will result in a comprehensive, useful product.

Each of the seven participants who worked on this project approached it from a different vantage point, as they considered the discipline-specific information needs and research practices of the teaching faculty and students in their areas. Although, in general, there are more commonalities than differences in the research processes of a university's disciplines, the differences that exist are often significant and need to be accounted for and resolved. As a way of confronting these issues, this process was approached in multiple stages in several meetings that occurred over the course of a summer. This strategy ensured that the finished product would go through multiple edits and emerge pruned of redundancies and unnecessary information and retain only the most relevant and useful information that addresses the breadth of Core courses.

Conclusion and next steps

At this stage, the university's Core Curriculum committee has approved the information literacy learning outcomes we submitted, with several members giving compliments on our

work. Our list of ten information literacy outcomes will be posted to the Core website for instructors to consider incorporating into their classes. In our next stages with the project, we look forward to learning how they are received by the Core course instructors. We look forward to investigating how our suggested learning outcomes for information literacy will eventually be adopted into new Core course proposals and future syllabi, and even how they will be assessed and incorporated into students' work.

Without further ado, here is our top ten list of great information literacy learning outcomes:

1. Defines and articulates the need for information by identifying a research topic for the assigned paper, lab exercise, or other project.
2. Identifies key concepts, keywords, synonyms, and related terms for information needed, and employs an appropriate vocabulary specific to the research discipline.
3. Recognizes the need for and purpose of images within a project (e.g., illustration, evidence, primary source, focus of analysis, critique, commentary, etc.).
4. Determines the value and differences of potential resources in a variety of formats (e.g., multimedia, database, website, data set, patent, Geographic Information Systems, 3-D technology, open file report, audio/visual, book, graph, map).
5. Acquires needed information effectively and efficiently, determines whether information provides evidence relevant to the information need or research question, and persists with further research when necessary.
6. Evaluates search results from each resource for relevance, quantity, quality, accuracy, authority, and currency/timeliness; assesses the limitations of the information retrieval systems or investigative methods used; and determines whether alternatives should be pursued and used.
7. Compares information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias; employs consciously selected criteria to determine whether the information contradicts or verifies information used from other sources.
8. Employs specialized online or in-person services to retrieve the information needed (e.g., librarians, interlibrary loan, document delivery, professional associations, institutional research offices, community resources, experts, and practitioners).
9. Develops familiarity with concepts and issues of intellectual property, copyright, and fair use as they apply to image content, data sets, and other research information.
10. Demonstrates understanding of research data preservation responsibilities and the importance of retaining information for its intellectual property, research value, or other legally binding reasons.

Finally, we would like to test our selection of our top ten information literacy outcomes against other librarians' favorites. How universal would our selections be? How can they be explored through the Framework for Information Literacy? We chose from among three discipline-based standards, and modified from there, but there are certainly many other options. We would be interested to learn what you would choose for your campus. �