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The Credo IL Strategy Handbook

From Planning to Assessment: *A Guide to Creating a Successful IL Program*

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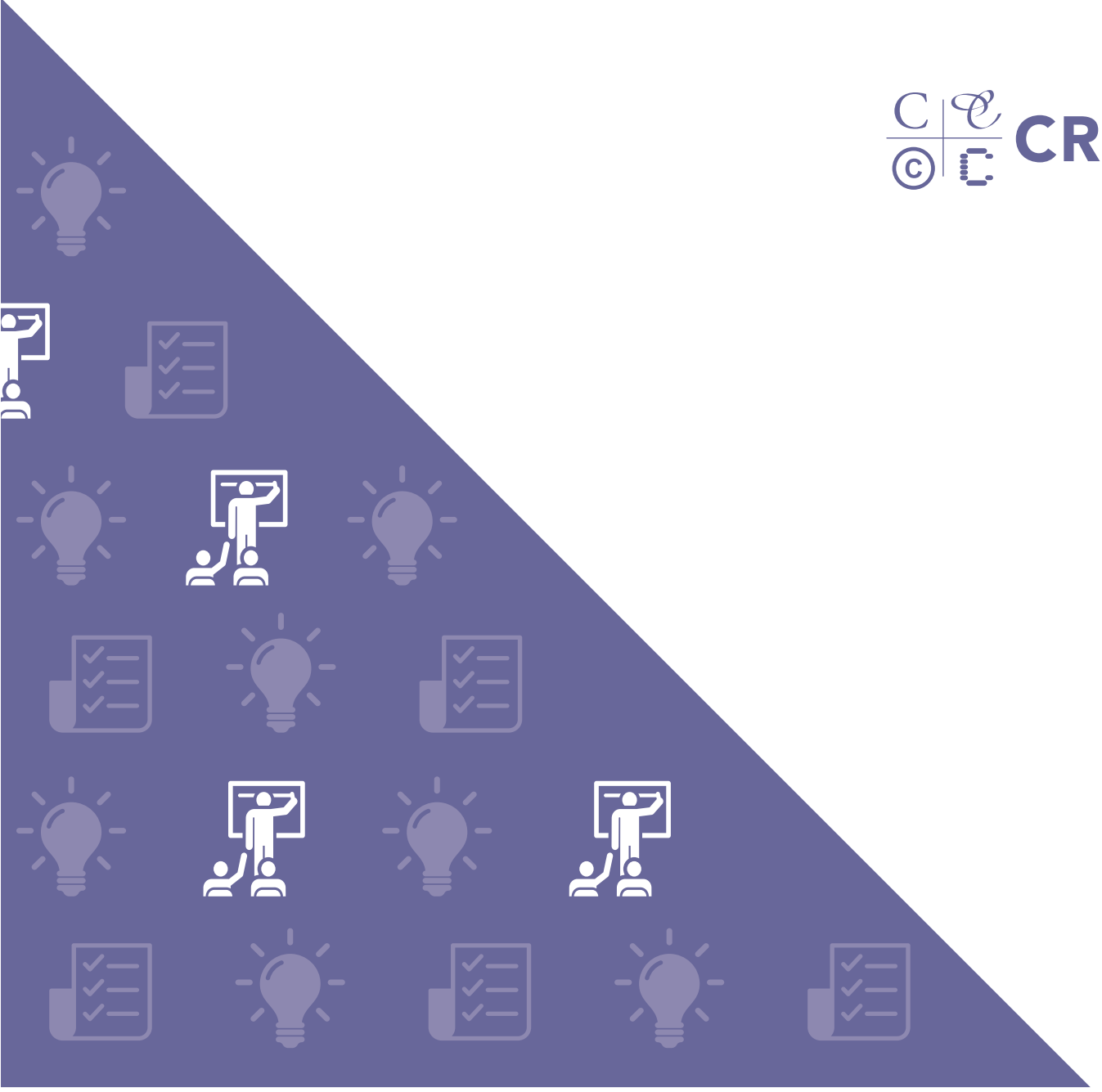

SECTION 2

Setting Your IL Program Up for Success

Designing a Program with Your Community and IL Standards in Mind

Whether your college is getting started and looking for one-shot instruction in general education classes or has a multi-year plan that includes faculty in scaffolded IL instruction, the library should be poised to lead the way, with your staff and resources at the cornerstone to planning and execution.

If it feels daunting, remember that your library has been providing IL instruction all along, as many interactions with students and faculty provide serendipitous exposure to how to use the library and perform research. The creation of a formal IL program can be seen as an extension of current activities. Finding the time to plan a new program is challenging, but a more organized approach to IL can help you teach IL concepts to multiple students at once rather than one by one in the library. And of course, many students won't come to the library of their own volition, so classroom instruction will reach more students as well as save you time.

Get to Know Information Literacy Standards

In 2015, the Association for College and Research Libraries (ACRL) released its "Framework for Information Literacy for Higher Education."[1] The Framework, as it is known, provides a set of guiding premises regarding IL. ACRL doesn't make it binding upon member libraries, though some accrediting bodies require adherence to the structure outlined in the document. The new document replaced ACRL's "Information Literacy Competency Standards for Higher Education," which were published in 2000 and have been rescinded.

The newer document doesn't suggest, let alone mandate, sweeping changes to IL practice. Rather, it suggests different ways of looking at information and students' ideal approaches to thinking about, finding, using, and creating it. Note—the "creating" part is new—the earlier standards didn't formally recognize students as content creators, whereas the Framework does. One impetus for the creation of the document was a recognition that, "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." What a rich opportunity!

The guidance in ACRL's framework can be complemented by the Association of American College's and Universities Information Literacy VALUE Rubric and by the UK and Ireland's Society of College, National and University Libraries (SCONUL) released "The SCONUL Seven Pillars of Information Literacy Core Model For Higher Education" (also known as the Pillars) in 2011. The Pillars can be used as a complement to the Framework, as they enumerate high-level skills information literate students should be capable of. By high-level, we mean the skills mentioned are not specific

1 The Framework draws upon many sources, notably the following:

Meyer, Jan H. F., 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).

Wiggins, Grant, and Jay McTighe. *Understanding by Design*. Alexandria, VA: Association for Supervision and Curriculum Development, 2004. https://www.cpet.ufl.edu/wp-content/uploads/2016/06/Understanding-by-Design-Expanded-2nd-Edition.pdf

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abilities such as how to search a given database, rather they include statements such as,"information literate people will demonstrate an awareness of how they gather, use, manage, synthesise and create information and data…". The Framework, the VALUE rubric, and the Pillars can be instructive in your work, but let's look at them separately, and with more detail on the Framework, as that's the more popular guidelines with institutions' accrediting bodies.

ACRL's Framework for Information Literacy for Higher Education

As mentioned, the Framework concentrates on information and how it should be viewed and used. Each of its six areas of focus, or "Frames," is presented in two sections:
Knowledge Practices (focuses on the nature of knowledge and research) and
Dispositions (how students should work with and think about information).

As you review the Frames, keep in mind:

- As an expert in your field, these may seem like innate or general knowledge, but your students may be encountering these concepts for the first time (see Nobel laureate Daniel Kahnemann's *Thinking Fast and Slow* for a helpful mirror on your beliefs as an expert).
- The Frames may be approached in any order or combination (they're listed alphabetically here and in the original ACRL document).

The Frames can be used as the mental underpinning for your IL strategy as well as instructions for students. For example, you may not need to explicitly express that "research is a conversation," but your approach to helping students can be based around that idea.

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"

This frame emphasizes that information should be evaluated based upon whether the person who created it has relevant expertise and if it is a good match for the question at hand.

Knowledge Practices
Students should learn to recognize different types of expertise and develop ways of determining which type of expert has created a given resource; that reliable information may come in any format; and there is a community of experts they are becoming a part of.

Dispositions
Students who recognize that authority is constructed and contextual should be open-minded in their determination of who is an expert. They must be skeptical about the information they find while keeping an eye on their own biases regarding that information or the expert's stance.

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Information Creation as a Process

"Information in any format is produced 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"

Valid information can come in any format and, as they become more expert, learners begin to recognize that different formats signify different things. ACRL mentions pre-prints vs. final articles as one example of format differences students will begin to find meaningful.

Knowledge Practices

Students should learn to assess the fit between a resource's format and its intended use, and determine which format is best for information they are producing themselves.

Dispositions

Students who recognize information creation as a process recognize their information need may be satisfied by material in many formats, and value the process of matching their need with various items.

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"

Today's students are used to free information, but they should be aware of how the value of information has manifested. Charging for access and intellectual property laws are two examples.

Knowledge Practices

The knowledge practices discussed in this frame include using citations to give credit to creators; recognizing some creators and users are marginalized and lack access to the academic information dissemination system; and a recognition by students that their own information can be commoditized, especially online, and they should be cautious regarding what they post.

Dispositions

Learners must recognize information others produce has value, and respect the time and effort that went into producing it. They must also learn they can be producers as well as users of information, and this position is a privilege.

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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"

Students may be surprised to learn that even a mature field of study has unanswered questions—and there are questions may not ever be answered, but remain ongoing objects of study and perhaps disagreement. Continuous research adds to the field of study.

Knowledge Practices

The practices related to this frame are closely related to the process of writing a research paper. ACRL explains that students must be able to take organized, methodical steps—noting a gap in information, finding material to fill the gap or answer a question, synthesize the information gathered, and draw reasonable conclusions based on the material found.

Dispositions

Students should view research as an open-ended process and approach it with curiosity and persistence. At the same time, they should recognize they are novices and ask for help where necessary.

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"

Knowledge in a field develops over time and over time, competing voices may emerge. Becoming familiar with past and present research in a given discipline will allow novice researchers to enter the scholarly conversation.

Knowledge Practices

Students should acknowledge other researchers' parts in a scholarly conversation by citing their work when it is used, contribute to the conversation themselves at the appropriate level, and acknowledge the contributions of various materials and authors to the field while recognizing no one item has all the answers.

Dispositions

Learners should recognize they are entering an ongoing conversation, and seek the sub-conversations in their research area, understanding the responsibility that comes with entering this arena, and be ready to learn more before judging a particular contribution to the field.

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Searching as Strategic Exploration

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

Like research itself, the narrower task of searching is iterative. There is a spectrum to the practice, with experts using more advanced search strategies and a wider set of resources than novices.

Knowledge Practices
Students should learn to scope or define a search task appropriately to meet their information need. They should also learn how to move from scoping to constructing and refining their search strategy and efficiently managing the results of the search.

Dispositions
ACRL notes that students who are learning how to do effective searching should exhibit flexibility and creativity in their approach. As part of this outlook, they should recognize the value of browsing and of performing targeted searches. Students should also be persistent when trying to find materials that match their information need and ask for help when necessary.

Related Credo Resource: The ACRL Framework is a lot to absorb. For practical guidance on using it, see a recent webinar with Dave Harmeyer, Associate Dean of the University Libraries at Azusa Pacific University and Janice J. Baskin, a retired professor of English and communications at the same institution (join our free InfoLit Learning Community to view the webinar). Harmeyer and Baskin, authors of *Implementing the Information Literacy Framework: A Practical Guide for Librarians* (Rowman & Littlefield, 2018), describe how best to use the ACRL Framework when collaborating with classroom faculty.

AAC&U VALUE Rubric

The Association of American Colleges and Universities guidance on IL, known as the AAC&U Information Literacy VALUE Rubric, is a set of rubrics produced by AAC&U that address ideal outcomes throughout an institution. There are five IL abilities listed:

1. **Determine the extent of information needed**
2. **Access the needed information**
3. **Evaluate information and its sources critically**
4. **Use information effectively to accomplish a specific purpose**
5. **Access and use information ethically and legally**

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The rubric includes four steps for each ability: Benchmark, Milestone 1, Milestone 2, and Capstone. For example, a student at the first level, or Benchmark, for "**Determine the extent of information needed**" is "*Has difficulty defining the scope of the research question or thesis. Has difficulty determining key concepts. Types of information (sources) selected do not relate to concepts or answer research question.*" An advanced student, meanwhile, will have achieved the Capstone level of this ability, which the rubric describes as "*Effectively defines the scope of the research question or thesis. Effectively determines key concepts. Types of information (sources) selected directly relate to concepts or answer research question.*"

The SCONUL Seven Pillars of Information Literacy Core Model for Higher Education

SCONUL's Pillars concentrate more on what learners should know about research rather than what they should believe about the nature of knowledge. For example, the first Pillar states that students should be "*Able to identify a personal need for information*," whereas the first Frame is "*Authority is constructed and contextual.*" Still, examining each Pillar shows some overlap between SCONUL's guidance and ACRL Frames in that they both describe how students should think about research.

Below are the seven pillars. Since U.S. accrediting bodies focus on the Framework, the Pillars are presented here as background knowledge rather than a checklist for your new IL program. Note that they offer a ready-made plan for moving through a research project as well as one for structuring an information literacy class.

Pillar: Identify
Able to identify a personal need for information

Pillar: Scope
Can assess current knowledge and identify gaps

Pillar: Plan
Can construct strategies for locating information and data

Pillar: Gather
Can locate and access the information and data they need

Pillar: Evaluate
Can review the research process and compare and evaluate information and data

Pillar: Manage
Can organize information professionally and ethically

Pillar: Present
Can apply the knowledge gained: presenting the results of their research, synthesising new and old information and data to create new knowledge and disseminating it in a variety of ways.

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A Word on Design

An effective IL program targets areas of student need, instead of blanketing everyone with the same information and matches the principles of design thinking, a movement that says the design process begins with identifying desired outcomes. With your IL program, the desired outcome is to fill gaps in student IL knowledge. Design thinking was pioneered by Rolf Faste, a professor of industrial design at Syracuse University and later, professor of mechanical engineering and director of the Stanford Joint Program in Design. Stanford University is still a leader in the movement, and its design school currently offers a crash course in understanding design thinking.

The best source for studying design thinking approach as it relates to education, is Grant Wiggins and Jay McTighe's *Understanding by Design*. The book itself is well worth a read, but the following are some major points from it to keep in mind as you create an IL program.

Wiggins and McTighe explain that the central concept to keep in mind when designing a curriculum is, " **how do we make it more likely—by our design—that more students really understand what they are asked to learn?**" (Their work delves into the idea of knowledge versus understanding—think of tiling a floor using only black and white tiles, they suggest—knowledge is the tiles, but understanding is the patterns that can be formed using them.) They note, the purpose of a curriculum, is to facilitate student understanding of a topic, suggesting a process of "backward design" to create this understanding in your classes and materials.

Backwards Design

Backwards design refers to starting with a goal. When applied to education, it means the designer must first clearly state what students who complete this curriculum should understand at the end, and how to assess that understanding. It might seem obvious, but Wiggins and McTighe emphasize a truth that sometimes gets lost in curriculum design—concentrating on what students need to learn is the important thing, rather than thinking about what instructors or librarians want to teach, which resources we would like to use, or which activities we would like to have students perform.

A few common issues illustrate how students can lack understanding, even when performing well. For example, in a Credo webinar on faculty and librarian collaboration in IL instruction[2], librarian Dave Harmeyer and English professor Janice Baskin noted that even when students adeptly create citations, they often don't know why they are creating them. Instructors concentrate on the penalties for not citing sources and other academic integrity issues, but often fail to address why it's important to give others credit. Similarly, students may know they should use scholarly sources in their research papers, but when asked why, the only reason they can come up with is, "the professor says so."

2 This webinar is available to members of Credo's free InfoLit Learning Community. To join, please visit http://mktg.credoreference.com/infolit-learning-community-webinars and click on the orange "Register Now" button.

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As well as showing a lack of understanding from the students, the examples above show teachers concentrating too much on activities and box-checking. They don't discuss—or perhaps even understand themselves—the reasons behind the things they ask students to do. A focus on activities as ends is one of "twin sins of design" outlined by Wiggins and McTighe. Teachers must encourage students to think about the meaning of an activity rather than just complete the activity. The other "sin" is a focus on breadth of coverage to the exclusion of understanding. The authors liken this to a whirlwind tour of a country that aims to take in every sight, with no cultural understanding planned or gained. To avoid these and other pitfalls, curricula should be designed according to the following three steps:

1. **Identify desired results**
   What should students understand after they complete IL instruction?
2. **Determine acceptable evidence**
   How will you know that they have gained this understanding?
3. **Plan learning experiences and instruction**
   Which activities and lessons will impart an understanding from which future learning might build?

Before we look at these steps in more detail, it's important to take stock of your current surroundings, as this is the context in which your IL program will unfold.

Design Thinking Best Practice: Have Some Empathy

Empathy for learners should be front of mind as you design your program of instruction. In this case, it means empathy for students who are learning how to use the library or to use library resources in the classroom. Depending on your faculty population, you may also consider empathy for faculty who aren't adept at research and/or technology use.

Think back to when you were a novice library user yourself, and consider this lesson imparted in Daniel Kahnemann's *Thinking Fast and Slow*. Experts believe that much of what they know is innate, even though they had to learn it at one time, and therefore find novices unintelligent because they lack this so-called general knowledge. Try to remember which parts of using a library you had to learn (likely all of it). What was difficult to understand? What was scary? Can you identify an "aha moment" you had that you could facilitate in your own teaching? At each step of creating your information literacy program, view your work from the perspective of an anxious novice user, one whose grade depends upon mastering the use of a forbidding institution—the library—to find materials that might seem purposely hidden. Better yet, have some novice users test-drive your lessons as you create them. This can help you save time and help you develop lessons from the eyes of inexperienced user.

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Look Around You

What Are You Already Doing?

Before planning any increase to IL efforts, make sure to take note of and effectively promote any existing IL services. For example, if you have a personal librarian program in which librarians are dedicated to helping students in certain subject areas, remind students about that assistance. If you offer drop-in assistance at the end-of-semester paper crunch, make sure students know about that resource. Remind faculty about your services as well. For help with marketing your current efforts, see this handbook's section "Library Marketing 101." After you've promoted your current offerings as well as possible, but student IL knowledge is still lacking, it's time for some careful, detailed planning to ramp up your IL work (or start it). A plan is not only necessary for checking administrative boxes, it creates a less-stressful ride. It's true that even the best planned projects can hit snags along the way, but documenting your actual path next to your intended one can help you see the points at which things went awry, where you would do things differently next semester, or where you need help from your colleagues or others.

How is Your Institution's IL Friendliness?

An effective, efficient IL program requires an assessment of your institutional culture regarding information literacy. Whether you have a program or are planning one, it is important to start by understanding the culture in which your work will unfold.

Where does your institution stand in relation to IL friendliness? At Credo, we hear from librarians with a range of institutional backup with regard to IL work. At one end of the spectrum there are librarians with virtually no support—their library has been left to figure out IL without input or buy-in from classroom faculty or the administration. Librarians at these institutions may benefit from flexibility in what they can teach and how they teach it, but that freedom is usually outweighed by a lack of formal access to classrooms and syllabi, and possibly a lack of funding. At the other end of the spectrum are those working in institutions that expect the library's IL program to fit into a wider plan encompassing multiple departments, levels, and goals. Most librarians fall somewhere in the middle.

You probably know your institution's stance toward IL, but do some detective work to nail down the details. You may be surprised at what you find, and unearth IL champions along the way. Try to find out some of the following:

- Is IL mentioned in your institution's strategic goals? Was the library invited to the table when those goals were being written?
- Outside of formal, written documents, does your administration show that it finds IL an important part of education? Does your institution's leadership mention IL (even obliquely) and/or the library in speeches about what students can gain from an education at the school?
- Is there financial and other support for librarians' professional development? Are gains in library staff IL knowledge encouraged, supported (financially and otherwise), and acknowledged? Pay raises, promotions, and tenure decisions that take IL teaching into account are of course ideal, but even a verbal acknowledgment from administrative leadership that professional development in the area of IL is valued goes a long way.

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- Is IL a part of your students' experience outside the library? In which disciplines or classes, or with which faculty? Are faculty members encouraged by their deans or others to take advantage of the IL instruction available for their classrooms?
- Has your library had an IL program before? What happened to it? What kind of support (if any) did it get, and what can you expect in comparison?

If IL is mentioned in your institution's strategic goals, this is a big advantage as it likely means other departments are also pursuing, or expected to pursue, IL education. Approach other student-support departments in your institution—the tutoring center, for example—and find out what they're doing. If you don't have much capacity for IL, or you're trying to ramp up your efforts slowly, offer to assist with existing IL-related work in those departments. Ask these departments to let students know the library has IL experts. Consider hanging flyers about library services in those departments so students can start to associate the library as a place to go for IL-related assignments along with other IL resources. Remember to document these efforts so that the library has evidence of what it is doing to meet the IL goals set out in the institution's strategic plan. This can be done before you have a formal plan in place for in-library or in-classroom IL.

Plan and Record Your Work Using Checklists

Atul Gawande's 2009 *The Checklist Manifesto: How to Get Things Right* (Metropolitan Books) offers invaluable advice to anyone undertaking an endeavor involving more than one step. Gawande, a surgeon, describes how the simple use of a checklist that everyone involved in a project must adhere to dramatically improves outcomes. The book describes improvements in surgery, construction work, aviation, and more. Gawande also outlines the relevant information in a *New Yorker* article, "The Checklist[3]."

Use a master checklist to plan each step of your IL program. Include steps such as "interview professors," "decide on learning outcomes," and "assess how the program is working." Each of these lists can have its own sub-list—If you are interviewing professors for example, you could include tasks such as "find three science professors to interview," "set up coffee date with professor x," "contact the student professor x mentioned over coffee," etc. Adhere to your checklists, adding to and editing them when necessary. They will ensure no task gets forgotten and create a valuable record of your work.

Even if IL is not specifically mentioned in the institution's formal goals don't get discouraged. When the institution's plan is up for revision, make sure your voice is heard. In the meantime, try to get institutional recognition for your IL planning. At departmental meetings, be prepared to talk about how the library is planning an IL program and that faculty and

3 https://www.newyorker.com/magazine/2007/12/10/the-checklist

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administrative input is welcome. (For stats that can bolster your elevator speech, see this handbook's "Library Marketing 101" section). It should quickly become apparent who will be behind your cause; these early supporters can host your first classes and will likely offer helpful preparation tips and feedback. For those that don't see the value of an IL program, don't focus on them for now—that will come later.

Attendance at faculty meetings can also help you to ascertain which faculty members are already offering IL instruction in their classes. Find out which methods these faculty members are having success with, if any. Faculty may have something to teach librarians here, as they often have the training in instruction methods we lack. Which effective teaching methods and activities are they using? (Remember, their methods of instruction should increase student understanding, not just train them to complete certain tasks.) Can these successful strategies be adapted to work in other classes? Would they be willing to collaborate during an IL session, allowing you to do a library resources mini-lesson?

Even if the above options are out, it's helpful to know which professors are IL friendly and have already started IL work with their students. If your science students, for example, are already getting a solid in-class grounding in searching PLOS, you'll only need to briefly mention it in your work with them before concentrating on other resources and issues. (Make sure that the grounding is genuinely solid, though; the faculty member may believe that mentioning a resource is enough, leaving students at a loss for how to use it.)

Overcoming IL Language Barriers

While you're looking around your institution for examples of IL, don't forget that some of it may not be called IL. Library jargon isn't universal, and there may be examples of professors using IL concepts but in other terms. This phenomenon was tackled in a recent paper by Deborah A. Murphy[4] in which she explains that, "librarians are an essential part of the diverse community of campus stakeholders focused on student success. Establishing a mutually understood and shared foundation of concepts is critical if we wish to collaborate successfully with these stakeholders on assessment projects and ultimately integrating Information Literacy into campus learning outcomes and student success goals."

Murphy's paper offers a case study of a program aimed to foster undergraduate success at the University of California, Santa Cruz. Beginning in 2011, the program became assessment-driven and aimed to expose students to common IL language throughout the school. A problem emerged when librarians and faculty began working on a related plan of action together, however, the terms librarians and faculty used to discuss information literacy were very different. The project team worked around this by agreeing upon a set of shared IL terms, which they made available as a glossary. This resource is worth sharing with your own faculty as you discuss IL, as you may unwittingly be using different terminology.

4 Murphy, D. A. (2017). Dream of a common language: Developing a shared understanding of Information Literacy concepts. UC Santa Cruz: University Library. Retrieved from https://escholarship.org/uc/item/8fd4662m

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Look Back

In order to avoid reinventing the wheel, find out what IL efforts, if any, your library offered in the past. This is where staff with long institutional knowledge can be invaluable. What did the previous program offer? Why was it abandoned, and are those factors still an issue? If the program exists, but at a reduced size, what was the reason for downsizing? What and what wasn't successful? Make sure to account for changes in the institution and in student needs when you're assessing what to keep and what to leave behind from the previous version. If the old program operated so long ago that it didn't include digital literacy, for example, it obviously can't be revived without an overhaul. Differences in your population will require changes to a previously existing program as well. For example, if your students now mainly come from a community college rather than straight from high school, you'll have to adjust the program accordingly. Or if your institution has recently started to offer health technology programs, like many other institutions, you'll have to account for health students and their curricular needs in your planning.

How Are Your Students' IL Skills?

In recent decades, there has been a paradigm shift in education. It is now considered crucial to show what students have learned, and library science literature reveals an emphasis on "outcomes" rather than "outputs" (see, for example, Martha Kyrillidou's 2002 paper in the *Journal of Academic Librarianship*, "From Input and Output Measures to Quality and Outcome Measures, or, From the User in the Life of the Library to the Library in the Life of the User").[5] The outputs are still used—students are still widely expected to do research papers, for example—but there is an emphasis on the learning gained through the process rather than solely on the quality of the paper itself. These days, important outcomes include being media literate and being able to discern what is disinformation (widely called "fake news"). The "outcomes vs. outputs" paradigm is similar to Wiggins and McTighe's emphasis on understanding rather than absorbing masses of content or doing fun but academically pointless activities.

The outcomes your students are capable of will guide which outcomes you plan to teach in your new program, because there's no need to teach something students already understand. Unless your population commonly comes to you from local institutions with solid IL programs, this won't be a worry. Most students need all of the IL instruction they can get, and need to have the same concepts reinforced and built upon over time. Still, even if you can't forego large chunks of material, you may gain enough from a pre-planning assessment to tweak your teaching so it emphasizes some concepts more than others. You can also shape your curriculum to take into account particular local needs, such as the need to concentrate on a particular outcome your administration emphasizes as necessary but wasn't previously a strong focus of your work.

5 https://www.sciencedirect.com/science/article/abs/pii/S0099133301002993

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If you have limited time, you can use the Pre-tests provided in Credo's Instruct to assess where students stand. These online resources are available to our subscribers and are usually used as part of individual classes by a professor or librarian, but can also be used to gain a bigger picture of information literacy in your institution. For example, all incoming freshmen could be given the tests to help you plan first-year lessons, or you could ask students at all levels of a given major to take the assessments to see which IL concepts are missing and necessary for students in that major. Additional guidance on setting up assessments is available from Syracuse University[6] and Mercy College[7].

It's often difficult to gain access to classes or students. When you're setting up assessments, try a professor who you know is already a fan of the library; it will usually be easy to convince them to give up some class time in order to help create a great IL experience for the institution. Try to push the envelope a little. Faculty members who are library friendly will likely impart more IL concepts in their classes, and familiarize their students with the library more than professors who favor standalone classroom learning. Leaning on your champions may create a skewed picture of IL in the school as a whole, so try to engage some of those professors who are reluctant, using the statistics presented in this Greater Western Alliance study to convince them to give you classroom/student access. In short, the study shows that students who receive IL instruction have a higher average GPA and successfully complete more credit hours annually than students who don't receive such instruction.

If you can't get any class time, try informally inviting a faculty member to coffee so you can pick their brain. It's best to try a few professors who teach different subjects and different student groups, but meet with them individually, so it doesn't feel like a formal meeting. If you haven't had a formal IL program before, your coffee companions may at first be unfamiliar with the kind of questions you're asking, so go easy on the library jargon. Frame the questions to concentrate on student work rather than teaching practices so the person doesn't get defensive. When you meet with your faculty for coffee, try these questions to find high-level trends and needs:

- **What are your students' strengths in terms of finding and using information?**
- **What kinds of skills do your students need help with?**
- **What's your goal for the students by the end of the semester?**
- **Is there a particular type of project that you'd like to get our help with? (This is your chance to mention discipline-specific resources at the library.)**

6 https://surface.syr.edu/istpub/11/

7 https://www.tandfonline.com/doi/abs/10.1080/10691316.2013.829363

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Where you find faculty members receptive to the importance of IL, ask if you can see a range of examples of student work (not just the good stuff!) in order to gain a better perspective on what the students at your school know and what they need from IL instruction and the library. Reading papers and other student work should give you a gut feeling for how to start creating your curriculum, but for a more structured approach, compare the work to the "steps" in AAC&U's Information Literacy VALUE Rubric. Ideally, you'll be able to tailor instruction toward the differing levels of IL knowledge you find among various student cohorts and majors. If you find that students in the same classes and majors vary widely in their grasp of IL knowledge, this could be an opportunity to try a flipped-learning model. Assign video tutorials from Credo's Learning Tools or other IL instruction to be watched outside the class to try to bring students to the same baseline.

Don't forget to include various student constituencies in your survey of IL knowledge. It's important to take into account the needs of all students like online students or students taking evening classes.

Creating a Dynamic, Interactive Curriculum Across Disciplines

Keep Marketing in Mind When Writing Your Curriculum

Even as you work on developing a curriculum, marketing your work should be included in your planning (for much more on marketing, see this handbook's section "Library Marketing 101"). The curriculum you develop and the resulting gains in students' abilities will form a major part of your library's public image. Everyone you speak to when developing the curriculum needs to know how important this will be in the lives of students and in the success of the institution. If you run into a professor, be ready with information on how IL proficiency can help save class time. Students you encounter should hear about likely gains in their GPA from IL knowledge. Administrators can be told about the accreditation advantages of an IL program.

You'll still have to market the program when it's ready, of course, but laying a foundation of positivity toward IL along the way will help enormously. It also helps to think of marketing as you make program-content decisions. When you're considering an activity for inclusion in your course, imagine "selling" it to students and faculty using details about how it will help them. If it's not easy to describe why a program is right for a given need, consider moving that activity to a different part of the course or abandoning it for a better option. Since there are multiple ways to approach a given IL need, find the one that resonates with your audience while imparting valuable skills.

Start Your Design Thinking!

From reading this handbook's previous chapter, "Designing a Program with Your Community and IL Standards in Mind," you now know the basics of design thinking, which recommends a "backwards" approach to setting up a curriculum. First decide upon the outcomes you want participating students to be capable of and the assessment methods you'll use to find evidence of the outcomes. Lastly, decide which learning experiences will allow students to ace the assessments. Grant Wiggins and Jay McTighe, authors of *Understanding by Design*, emphasize that the outcomes you choose should require students to gain deep knowledge of the area they're studying. Let's look at the steps of design thinking as they apply to writing a curriculum (for a sample of how outcomes, assessments, and learning come together into a tangible curriculum plan, see the table on page 44).

Develop Desired Outcomes

Outcomes should be determined in terms of knowledge to be gained rather than specific skills. For example, an outcome could be, "Students will understand that authority is constructed and contextual," which is one of ACRL's frames. When you write an outcome, it should state a big, abstract idea, requiring investigation by students before they grasp it.

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Start with a look around you. Are you already offering learning experiences that match the outcomes you've decided upon? Some of your lessons may already check the right boxes. Ask yourself, does this lesson work toward imparting a learning outcome that is important for my students? Am I using an assessment that really uncovers whether the student is capable of the outcome involved? If your answers are yes, there's no need to reinvent a module of your work just for the sake of it. Keep what you can, but recognize where lessons fall short—where you can't tell if students understand because there are no assessments or those in place measure the wrong thing, or where there are no lessons that work toward an outcome you've prioritized.

A focus on outcomes means examining stories as well as data, and thus creating a comprehensive picture of what students understand, know, and can do after taking a course. Let's look at students who are in their last terms at community college as an example. After taking several IL classes, they may be capable of getting high grades on research papers, an indication of progress. It shows valuable information—they're able to follow through on commitments, find and synthesize information, and structure a paper according to academic requirements.

Looking at the bigger assessment story is also important. Can students move the skills they learned writing a research paper to another project, and to the workplace? (Wiggins and McTighe quote educator David Perkins[8] as explaining that, "understanding shows its face when people can think and act flexibly around what they know. In contrast, when a learner cannot go beyond rote and routine thought and action, this signals lack of understanding.") How many students at our hypothetical community college move on to four-year schools? How does that figure compare to before the school started an IL program? Do faculty members report that students better understand the research process? Can faculty include more advanced topics in their classes, or assign more advanced research assignments since students were exposed to IL concepts?

Identify or Develop Assessments

One size doesn't fit all when it comes to IL programs. What worked at one institution may need tweaking to be successful at another, because the students, faculty, and courses aren't the same. Within a school, students at different levels have different needs. For example, if your upper-level students have benefited from numerous one-shot IL sessions throughout their time at your institution, they might be familiar with some IL concepts and skills. Cohorts vary as well—it isn't safe to say that the students in this year's Freshman class, for example, have the same needs as previous year's Freshman class. This is why pre-learning assessment is important for setting a benchmark for your work.

The assessments referred to as part of Wiggins and McTighe's paradigm, are post-learning critiques of how much students have absorbed. These must be carefully developed with learning outcomes in mind and investigate real understanding rather than the ability to complete individual tasks. The assessment will measure the appropriate level of understanding of the population taking the test or doing the assignment. While outcomes are broad, assessments are targeted.

8 "What Is Understanding?" in Martha Stone Wiske, Ed., Teaching for Understanding, 1998, p. 42.

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Wiggins and McTighe advocate "authentic" assessments, with the term referring to various ways of making the assessment real-world; rote learning has no role here. Fundamentally, authentic assessment tests students' ability to understand and function in situations they may face outside of school, and requires them to apply what they learned to novel situations.

For some of your learning outcomes, try Credo's quizzes to test student understanding. For example, if students are being assessed on their understanding of the importance of academic honesty, the "Academic Integrity" quiz included in Credo Instruct offers one way to measure success. Ideally, you should gauge understanding of a given topic at more than one stage and by more than one assessment type; to achieve multiple levels of understanding and to different student strengths. Some students do best when allowed to express lengthy thoughts, as in an essay; others do well in more high-pressure assessments, such as quizzes. To give everyone a chance, and best match assessments with the subject at hand, consider using various methods over time.

Students should be clear on why they are being assessed—not just to check a box on the syllabus, but to ensure they understand important elements of a general education or of their major. They should also know which items are being assessed during a given test or assignment. Keeping this knowledge a mystery isn't productive because students need to be partners in their education. This doesn't mean that every exam should be open book, rather students should know the purpose of the exam and the range of material it will cover.

If you have to build your own assessments, consider guidance from *Instruction by Design*, in which Wiggins and McTighe recommend thinking like an assessor. To do this, ask yourself, *what will show that students have gained the desired understanding? What evidence will count?* For various IL-outcomes-based research assignments, see Project CORA (Community of Research Assignments), as well as "Writing Information Literacy Assessment Plans: A Guide to Best Practice," by Megan Oakleaf of Syracuse University. To adapt Project CORA and Oakleaf's recommendations for local needs, try an assignment charrette, a method of getting quick feedback on an item you're planning to use with students and gain ideas from what others have developed. See the National Institute for Learning Outcomes Assessment's information on charrettes and consider similar meetings aimed at brainstorming assessments other than assignments.

Next let's look at how outcomes and assessments come together to inspire lessons building toward lasting, in-depth understanding. Starting at the beginning, we'll look at how to create a curriculum for orientation, then in first-year programs, and finally for discipline-specific classes.

Curriculum Ideas from Orientation Day to Discipline-Specific Work

Orientation

Orientation has traditionally been viewed as a casual event, but think of it as the first opportunity to impart your IL curriculum. Catching students when they're brand new is a chance to get your message across when it's most needed.

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Below are two ideas we've already discussed:

1. **Successful marketing involves letting people know what's in it for them**
2. **Every learning experience should start with an outcome**

The following may be the outcome that guides your creation of a curriculum for orientation:

> *Students will have novice-level knowledge of what this library has for them and will know whom to approach for more information.*

Your orientation should reassure students that "the library is here for you," an important takeaway as many students, especially those who are the first in their families to go to college, find the library intimidating. Combating library anxiety is essential to IL efforts—even if students are going to limit themselves to the library's online resources, they have to see the library as a safe place to find answers to their questions instead of something walled-off and scary. To learn more about how to help students feel the library is their ally, please see a webinar on the topic by April Sheppard of Arkansas State University in which she discusses making the library a more welcoming place for faculty. Many of the tactics discussed by Sheppard are perfect for students as well.

Your orientation should also speak to what the library has to offer the new students (please don't only talk about what they're not allowed to do in the library!). Depending on the slot you're offered during orientation, you can do anything from a short talk to a longer presentation with videos or a tour. Whatever you do risks being forgotten in the storm of information flying toward new students, so leave them with something concrete they can find later—for example, a branded library giveaway like a bookmark listing services and contact information. if you're looking for a fun activity to introduce new students to the library and library resources, see our FYE guide or ACRL's Sandbox.

In the FYE Classroom

The above-mentioned guidance on developing an effective first-year experience program, The Credo FYE Guide: Practices for Enhancing Instruction, may come in handy when deciding upon an IL curriculum after orientation. All first years need an introduction to their library, but some first year students may need extra help. Look at the populations your school serves who need focused attention—if you have a lot of transfer students, for example, think of what they might need. International students and English-language learners are other groups to seek out, especially if they seem unfamiliar with American-style libraries.

Like in orientation, and in all student experiences, learning in the first year must be aligned with previously developed outcomes. As discussed, outcomes should be general, abstract, and refer to complex learning on the part of the student. While working toward greater student understanding, assigning precise, measurable learning outcomes means students at different levels, with different learning styles can work toward the same goal and have their progress measured with the same yardstick. Students who are at a remedial level when they enter college, for example, may need each skill taught separately, whereas those who are already somewhat familiar with first year-level IL skills can focus on higher-level research tasks or even take IL in a "flipped" way and work in class on more-advanced items.

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Which outcomes should you choose? This depends upon the school, its population, and outside forces like what its accreditors need to see. The school's administration may have set its own outcomes as part of the institution's strategic goals. Find out all you can about what is expected of your program by forces outside the library (if they don't work toward real understanding of IL, try to get a seat at the table when the plan is being updated). Those externally imposed standards and outcomes are your starting point, but they don't have to be your entire curriculum. Add to the outcomes to best serve your students, based upon the tips above from Wiggins and McTighe, from the Credo FYE Guide, and from other supporting literature. One helpful document is this course outline from Western Carolina University that discusses many of the elements making up first-year programs.

Using Credo's Learning Tools in Your Curriculum

The videos, tutorials, and assessments that comprise Credo's Learning Tools address students' basic foundational information literacy needs and are therefore ideal for first-year classrooms. Freshmen who need remedial assistance will value the chance to practice their information literacy skills privately and at their own convenience. Depending upon the time made available to you, there are various options for introducing these and other learning materials you develop for freshmen students:

- Use the **Learning Tools** in class as part of a lecture or hands-on instruction.
- **"Flip" instruction**, assigning students the lecture portion of the class as homework, leaving more time for active learning time in class. Students enjoy online learning, but research has shown that "students report higher levels of engagement and learning at institutions where faculty members use active and collaborative learning techniques"[9].
- Make the **Learning Tools** available for students to access independently outside of class.

Some features ideal for first years include:

Tutorials:

- Why IL Matters
- Information has Value
- Types of Sources
- Background Research Tips
- Source Types
- Choosing and Using Keywords
- Evaluating Information
- Synthesizing Information

Videos:

- The Research Process
- Evaluating Sources
- How to Narrow Your Topic
- Writing Help
- Anatomy of a Research Paper

9 Paul D. Umbach and Matthew R. Wawrzynski. "Faculty do Matter: The Role of College Faculty in Student Learning and Engagement." Research in Higher Education, Vol. 46, No. 2, March 2005 (2005) DOI: 10.1007/s11162-004-1598-1. https://link.springer.com/article/10.1007/s11162-004-1598-1

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There are many benefits for librarians who use these materials. They allow librarians to spend time reinforcing the basics rather than teaching them for the first time. Librarians are able to engage students in more active learning, going deeper into information literacy content and tackling more complex and nuanced concepts. Authentic assessment becomes more possible as librarians and faculty can spend more time working on assignments in class and applying what they've learned in a discipline-relevant context. Best of all, librarians who assign multimedia to teach the basics have more time to build relationships with students by supporting them through meaningful instruction and activities relevant to their class.

In addition to high-impact activities, librarians who use Credo's Learning Tools can use the time saved to work more directly with instructors to integrate information literacy into their assignments and curriculum. With more time, and more active engagement with students, there's a bigger opportunity to show the library's strategic value and become more involved in the design of assignments, and possibly even courses.

To create a comprehensive IL education, try the various free online IL textbooks that are available. While you know your students best and will build the best curriculum for them, some sources to consider are the SUNY OpenTextbooks work *The Information Literacy User's Guide* and Michael Caulfield's narrower *Literacy for Student Fact Checkers*. An excellent but not free source is William Badke's *Research Strategies: Finding Your Way Through the Information Fog*, now in its sixth edition. For a free taste of Badke's work, try his LibGuide "Scholarly Inquiry and Research Methods."

After First Year

Once students enter their sophomore year and thereafter, they are studying their major(s) in depth and require IL assistance tailored toward their needs and the norms of the subject in question. Ideally, librarians are part of the institution's curriculum planning committee and will be able to partner with instructors to create curricula reflecting IL outcomes. Building relationships with faculty is a great way to make students library users. You might even get to the point where the professor automatically thinks of IL and library outcomes for students along with discipline-specific needs when creating a curriculum, or automatically visits the library when it's time to plan for the next semester.

If this is not the situation, meet with faculty who request IL instruction in their classroom in order to discuss the class syllabus and the outcomes the professor has in mind. When your IL program is more robust, you can see where the "holes" are—classes that should be getting IL instruction and whose faculty need to be approached "cold" by you—see this handbooks' "Library Marketing 101" on reaching non-users of the library.

Even if they ask you to visit their classroom, some faculty members will have fixed ideas about what they want taught in an IL session, and might think a one-shot session is enough. If this is the case, try to encourage a broader approach other than "here's what databases the library has" can benefit them and their students. Be ready with discipline-specific outcomes, assessments, and learning ideas that could work within the syllabus and the discipline in question. If possible, show what you could do in a second or subsequent session if you were allowed the time. Discuss, using real numbers, how other classes at the institution have benefited from this approach. Discuss, too, how you're going to scaffold the

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instruction—in the beginning of the class (or using material students must watch or read ahead of time) you'll go over the basics of relevant material students have learned in previous years. For example, if you're teaching an advanced biology course that discusses how to find open-access science material, you could remind students about their learning from previous years. Various disciplines have their own "culture," which is relevant in this case because a familiarity with OA materials like preprints and alternative forms of peer review is essential to students of biology.

The below table, showing how to apply backwards design to an ACRL Frame, is adapted from *Learning by Design*. It brings outcomes and assessments together and follows them by possible learning experiences. Note that the various understandings, essential questions, etc. do not have to be made explicit to students, as the template outlines a pedagogical planning exercise, not a syllabus.

This is just one example of a curriculum plan you could develop. To adapt the template to your situation, remember that outcomes are general and can work from arrival on campus to graduation, whereas assessments and lessons should be tailored toward a student's current level. For example, the suggestions on teaching students about the politics surrounding information creation could be adapted for first-year use by leaning less on the machinations of peer review and more on how to figure out who owns a website and how that might influence the material posted there. (One source that can show who owns a site is ICANN WHOIS, https://whois.icann.org/en).

Applying Backwards Design to an ACRL Frame

Backwards design asks curriculum writers to aim for deep knowledge on the part of those taking the lessons. In terms of information literacy, deep knowledge means that students should be capable of high-level outcomes such as those mentioned in the ACRL Framework for Information Literacy for Higher Education. For example, "identify the contribution that particular articles, books, and other scholarly pieces make to disciplinary knowledge." Particular skills related to that "Knowledge Practice," as ACRL terms it, include finding articles and books and figuring out which part(s) make a significant contribution to their field, and articulating what that contribution is. These skills are definitely things to cover in your program, but the knowledge demonstrated by these skills should be your primary concern.

An additional template by Wiggins and McTighe's for designing a curriculum is available both in their book and on various education websites, including that of Vanderbilt University's Learning Center, a site that also includes a video of Wiggins discussing his work.

This template is just one example of how a standard can help develop a curriculum—broad enough to use in various subjects and at various levels. Remember, that even where you are required to adhere to a given standard or guideline, this is a minimum requirement. Your work can go further than a standard or incorporate elements that are at the same level but are unaddressed by the standard writers.

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The Ideas in *Understanding by Design* Applied to one of ACRL's Information Literacy Frames

Stage 1: Desired Results

Established Goals: Identify the contribution of particular articles, books, and other scholarly pieces make to disciplinary knowledge.

Understandings
Students will understand disciplinary knowledge changes over time, some publications expand disciplinary knowledge more than others, and publication is an important activity for academics.

Essential Questions
- In what ways does disciplinary knowledge change over time?
- Who causes the change?
- How is it caused?
- Who decides if a given publication is field-altering? How is new knowledge spread?
- Are there gatekeepers who control knowledge change and dissemination?

(For help in developing questions related to the sometimes-problematic nature of information creation, see Eamon Tewell's "The Practice and Promise of Critical Information Literacy."[10])

Students will know or be able to...
Students will be able to find and recognize material relevant to their field. They will have knowledge of the kinds of publications most relevant to the discipline (e.g., conference proceedings and journal preprints are formats that science students need to be familiar with). They will know which titles and authors should be monitored for discipline-expanding material.

Stage 2: Assessment Evidence

Performance Tasks
Students must find recent items that are relevant to their field on the open web and in the library's books and databases. They will be tasked with skimming the material to find significant new information or previously known research that is examined from a new perspective. This can involve lateral reading "around" an item to discover what is being said about how groundbreaking and reliable it, the item the source appears in, or the author is. They will write annotations for five of these items, describing the content and stating how it advances the discipline.

Other Evidence
Students will be expected to contribute to class discussions with examples of recent, discipline-altering research and other writings. Advanced knowledge will be demonstrated by ideas concerning next steps and/or new perspectives on existing discussions in the field. (For a look at assessment methods being used in academic libraries today, see Allison Erlinger's 2018 "Outcomes Assessment in Undergraduate Information Literacy Instruction: A Systematic Review."[11])

10 Tewell, Eamon C. The Practice and Promise of Critical Information Literacy: Academic Librarians' Involvement in Critical Library Instruction. *College & Research Libraries*, [S.l.], v. 79, n. 1, p. 10, Jan. 2018. ISSN 2150-6701. https://crl.acrl.org/index.php/crl/article/view/16616/18453

11 Erlinger, Allison. Outcomes Assessment in Undergraduate Information Literacy Instruction: A Systematic Review. *College & Research Libraries*, [S.l.], v. 79, n. 4, p. 442, May 2018. ISSN 2150-6701. https://crl.acrl.org/index.php/crl/article/view/16600/18666

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Stage 3: Learning Plan

The following activities should be spread over a semester. Remember this is a content plan, not a syllabus, so you will have to integrate these ideas into your other learning objectives and into the schedule.

- Have students take the Credo tutorial "Types of Sources" and give them a tour of the library and web options for finding material in the discipline at hand.
  - » Bring students to the area holding the print works available in the discipline and introduce any subject-specialist librarians by name
  - » Give students a "tour" of the discipline's digital presence at the library, including databases, LibGuides, and relevant institutional repositories
  - » Discuss which open access materials can be of use to them and how they can be found

- Have students take the Credo tutorial "Scholarship as Conversation" and discuss how they are learning to be part of a community of practice that has its own communication norms (for more on this, see William Badke and Robert Farrell's "Situating Information Literacy in the Disciplines[12]").
  - » Review email listservs that practitioners use where students might find announcements of new papers and ideas and later, jobs
  - » Explain what monographs, scholarly articles, conference proceedings, and trade magazines are and which ones to monitor
  - » Show students the Credo video "Peer Review," and discuss some of the politics and controversies surrounding the process
  - » Give students the social media handles of prominent researchers, presenters, and institutions in the discipline; by following these people and groups, students will get daily information on news, concerns, and publications in the field. Make sure to include more than "the usual suspects" in your list; all students need to see people like them thriving in academia

- Show students the Credo video "Evaluating Sources" and discuss how to skim and otherwise quickly evaluate materials. See Swarthmore College's "Staying Afloat: Some Scattered Suggestions on Reading in College".
- Have students take the Credo tutorial "Annotated Bibliography" and watch the Credo video "Writing Help."

12 Farrell, Robert and William Badke. 2015. "Situating Information Literacy in the Disciplines: A Practical and Systematic Approach for Academic Librarians." *Reference Services Review*, 43 (2): 319-340. https://academicworks.cuny.edu/cgi/viewcontent.cgi?article=1079&context=le_pubs