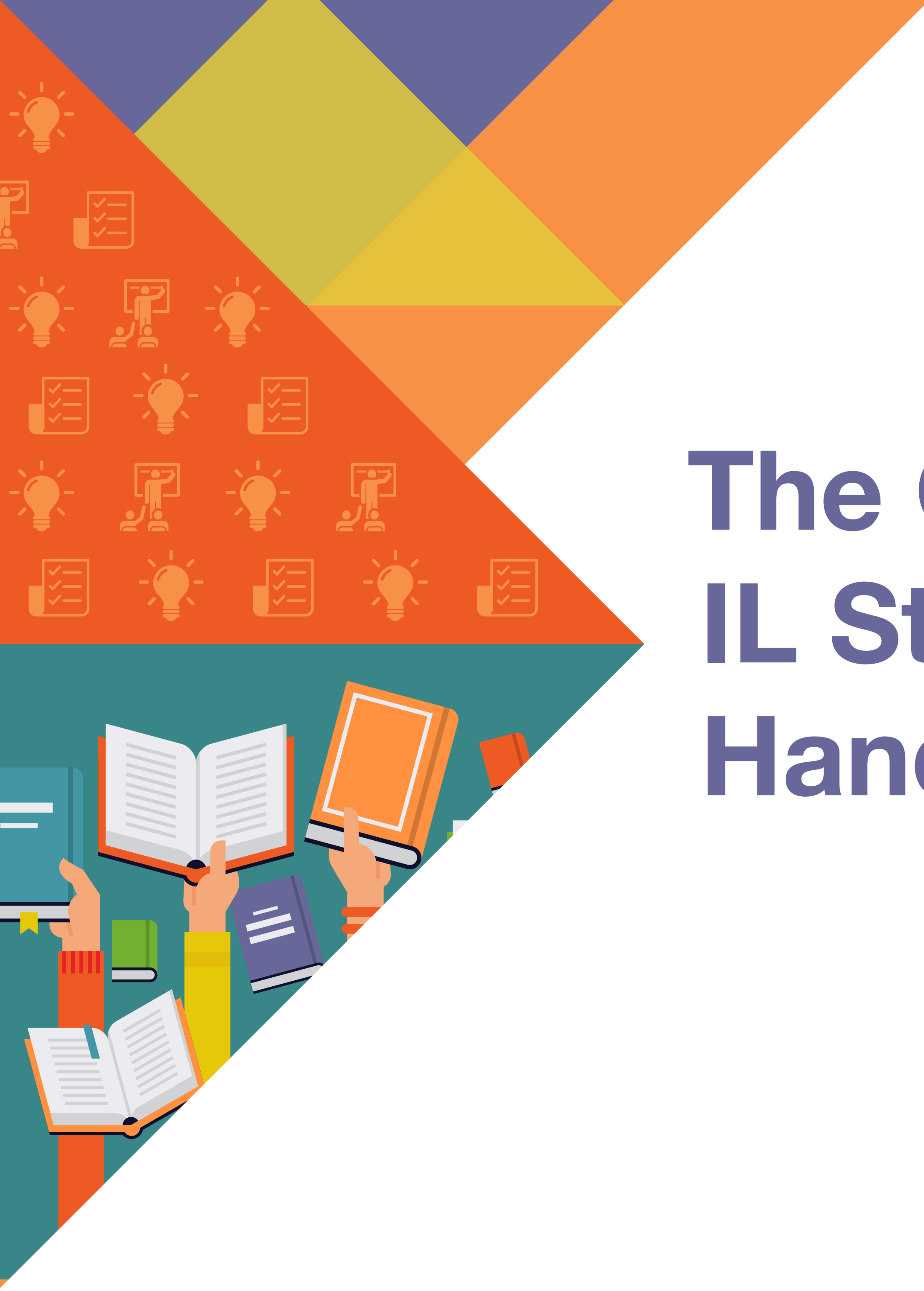

The Credo IL Strategy Handbook

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

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Continuously Improving your IL Program With Assessment Data

In recent years, educational inputs (what material to teach) have taken a backseat to outcomes (what students know and can do). Assessment has accordingly become a buzzword among educational stakeholders from politicians to accrediting agencies, because in order to figure out what students can do, you have to assess them. The AAC&U, for example, lists the following as some of the benchmarks against which its VALUE Institute members are measured:

- Robust and actionable assessment evidence that can be used by students, faculty, programs, institutions, states and consortia to enhance student learning achievement, as well as reporting for accountability and accreditation;
- An assessment tool that faculty scorers report as valid and useful metrics for evaluating specified learning outcomes[1]

A thoughtful approach to the examination of what students know may be due to this pressure to measure everything. If done well, assessment can be as much about finding out how well a given set of lessons delivers the desired outcomes as it is determining who passes the class. Assessment can also prepare students for careers (happy news for parents, employers, and college career services!) by testing how well students can perform when solving problems in situations that mimic real life, a movement called "authentic assessment."

The results of assessments may identify gaps in how information literacy is taught throughout an institution , thus spurring curricular changes. The emphasis on assessment by accreditors happily means that information literacy is now an outcome often listed in institutional-level documents such as university strategic plans. However, assessments may show the plan hasn't trickled to micro levels, such as in some departments or classes[2]. If this is the case where you work, list the classes that lack IL instruction and need it. Use the information in the previous chapter, **Creating a Dynamic, Interactive Curriculum Across Disciplines**, to set up a curriculum ensuring your accreditor sees its requirements fulfilled at all levels of the institution.

Authentic assessment takes time as it aims to measure student knowledge. This approach can include in-depth assignments taking place over multiple weeks, a whole semester, or even multiple semesters. Qi Wu et al offers an interesting case of authentic assessment in which students at teaching-focused and research-intensive universities were evaluated to better understand their perception of assessment environments.[3] Although not as popular lately, mini assessments, such as in-class quizzes, are useful to test discrete skills students need to know and allow you to quickly pivot curriculum plans. Another type of assessment, journey mapping, examines the user experience in order to understand how to best help students. The end result of journey mapping is a customer story, a type of narrative data that can help you improve your services or plan new ones.

1 https://www.aacu.org/VALUEInstitutemoreinfo

2 Janet Pinkley and Debra Hoffmann. "Opportunities in Disguise": The Continuing Evolution of an Authentic Information Literacy Assessment. Codex: The Journal of the Louisiana Chapter of the ACRL. Vol. 5 (1), 2017.

3 Qi Wu et al. "Formative assessment: missing in action in both research-intensive and teaching focused universities?" Assessment & Evaluation in Higher Education. Volume 43, Issue 7, Jan. 2018.

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This chapter will look at types of assessments and how the quantitative and qualitative insights gained through them can be implemented to improve your work. First, we'll look at quizzes, assessment approaches to can implement immediately, and then to more in-depth assignments, and finally journey mapping.

Context Matters

When you assess a student's level of IL knowledge, you're not just measuring what they've learned from the class in which the assessment took place. A student progressing through an institution where IL has been scaffolded across courses and into each year, may bring multiple semesters of IL knowledge to an assessment. Being aware of what students have previously learned will add clarity to your results. For example, when an assessment of students' IL knowledge was conducted at the California State University, Channel Islands, they found the highest IL scores were among students in a class that didn't offer IL. While the finding was initially discouraging, they found the class in question included students who had previously taken more IL instruction than other students who were part of the study. See here for more details about the CSU's assessment study.

Quizzes and Skill Assessments

In *Test Better, Teach Better*,[4] W. James Popham, Emeritus Professor in the UCLA Graduate School of Education and Information Studies, explains that assessment is designed to solve this problem—most of what teachers want to know about students is invisible. A student has to take a test, do an assignment or project, take part in a discussion, etc. in order for the teacher to gauge what knowledge has been imparted. However, any one assessment only measures how well the student knows the material on that particular quiz, assignment, etc. Popham's explains the purpose of assessment in the below "map":

Student's overt test performance >> Teacher makes a test-based inference about >> student's covert knowledge

One way the teacher can make a reliable inference about students' covert knowledge is to have them take multiple tests over time. While one test may not tell much, multiple snapshots of student knowledge add up to a more reliable measurement of how well the student is doing.

Pre-tests

Giving students a pre-test at the start of a semester or a unit is another great way to tailor learning toward actual needs. **(Credo's Instruct product offers a pre-test to customer libraries.)** In an ideal world, the results of the pre-test would be used to create custom courses for individual students. This is seldom an option, but it is still possible to adapt learning to individual differences by having students take more or fewer modules in the same course. This approach is described in a 2017 paper by Johannes et al, researchers at Germany's Leibniz Institute.[5]

4 Test better, teach better http://www.ascd.org/publications/books/102088/chapters/The-Links-Between-Testing-and-Teaching.aspx

5 Johannes Peter, Nikolas Leichner, Anne-Kathrin Mayer & Günter Krampen (2017) Making information literacy instruction more efficient by providing individual feedback, Studies in Higher Education, 42:6, 1110-1125, DOI: 10.1080/03075079.2015.1079607

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The paper by Johannes et al describes an information literacy class in which psychology students' individual needs were addressed. After taking a pre-test, students were assigned online materials to read and were required to attend a single in-person seminar. Students were given recommendations about what portions of the course reading would fill the knowledge gaps revealed by their performance on the pre-test, though they could ultimately choose themselves which chapters to read. How recommendations were made were as follows:

The test items were assigned to the chapters of the online materials [...] Each chapter was assigned at least five items. When deriving recommendations, all items related to one chapter were averaged. If a participant achieved less than 66% of the maximum score, the recommendation was given to complete the relevant chapter. Chapters in which the participants were not deficient [...] were marked as optional. Drawing the line at 66% seemed appropriate, as there are always several equally effective ways to find information.

Students accessed the reading on the course LMS, making it possible to track who had read what. During the seminar, attendees worked on research that was important to their current classes, with the professor available to help if needed. The Leibniz study used flipped learning—it's worth noting this is an effective approach in classes with varying ability levels. Students who already understand what peer review is, for example, can be told the relevant video or other item you assign on a topic is optional for them, but they'll still need to participate in the class discussion that follows. (Of course, it's best not to let the class know who's in which group, for privacy reasons—nobody wants to be known as being in a group that's behind.)

The research by Johannes et al shows that students react well to personalized recommendations with what to read outside of class. If your data shows most students are at the same level, but a few students either need extra help or conversely, more challenging material, recommend items for those students to read that meet their specific needs.

Short assessments

If you're looking for ways to help you form your next instruction steps, try giving students short assessments about midway through your one-shot or individual class. These planned assessments should focus on what was just covered to keep students alert and help you adjust course if necessary. These frequent "formative assessments' were recommended by Karen Doster-Greenleaf, Instruction and Reference Librarian at the Dunwoody campus of Georgia State University Library in her presentation at the 2018 Georgia International Conference on Information Literacy. See Doster-Greenleaf's slides from the conference for various ideas on short assessments that can work in time-crunched IL classes, and even more ideas in the Authentic Assessment Toolbox created by psychology professor Jon Mueller of North Central College in Naperville, IL.

Credo Instruct gives customers a handy set of formative assessments to use at their disposal. The multimedia learning materials are interspersed with quizzes that can help librarians and professors gauge student understanding of topics such as the research process, the anatomy of a research paper, and academic integrity. The learning materials can also help students measure their own progress in a low-intensity way.

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After students have completed the assessments, have a conversation with them (and gather whatever they completed for later, deeper perusal and, if applicable, grading). From the conversation assessment you'll be able to discern what was difficult for them, provide more instruction on that topics and direct them to relevant material to read or watch outside class as flipped learning. If they found some of the material easy, you can cut back on future coverage of it (though don't forget you'll still need to review the easy material later to scaffold upon them successfully). If students found some of that day's learning surprising or especially interesting, consider drawing upon that topic or the teaching method you used in future classes and even when addressing other learning outcomes with the same students.

In-depth Assessments

In the previous section, we discussed short, formative assessments that can be used to shape teaching and learning during relatively brief interactions. Authentic assessment requires students to be able to tackle lengthy projects completed over weeks or one or more semesters—just like in the work world. Outside of authentic assessment reasons, research papers and similar, multi-step assignments are expected at the institutional and accrediting body levels.

Final exams and other "end of term" assessments are "summative," meaning they provide a summary of how well the student has mastered the learning outcome being assessed (assuming the assessment is effective). The best examples contain multiple parts taught over the semester, coming together to form a picture of that portion of the student's education. On a granular level, the teacher can take formative lessons from the summative body of work.

Let's look at an example of a summative assessment. A student is taking a humanities course and must produce a 20-page research paper at the end of the class. Ideally, sections of the research paper would be due every few weeks throughout the course. Below are some ideas about how to conduct your assessments:

- Ask the student to pick a topic and formulate a research question. This can be a formative step in that after the student selects a topic and creates a question, you can help the student pick reading materials, videos, and offer constructive critiques to improve the question. If the research question is fine as is, consider asking that student to pair with another student in the class who could use some help. If all of the participants need help, try a mini-lesson on how to formulate a research question.
- Credo offers a couple great videos on this subject, Credo's "How to Narrow Your Topic" and "Thesis Statements" videos.
- The next activity could be for students to find, in a hands-on class session, scholarly articles they will consider using for the paper. The data from this assessment will be informal—the librarian will offer students help and feedback as necessary, and suggest extra reading or multimedia on search techniques to students who need it. The librarian may suggest a trip to the library or tutoring center for extra help.
- Other activities can include lessons and assignments building up to the finished term paper. These can look at how students organize their paper, edit, cite their sources, etc.
- The final, summative, assessment is the completed research paper itself.

How students do overall is another data point of course, but from the library's point of view it is more helpful for guiding future instruction than helping the students who earned the grades. How a given class does overall should help you make changes for your next class which concepts to concentrate more or less on and which to move to a different point in the semester or to a different point in a student's college career.

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Summative data must be compared to institutional IL goals, if any, and to accreditation requirements. Where there are holes, use the data to create a plan for more comprehensive IL instruction. Do second year students, for example, show acceptable general education research skills but struggle to do discipline-specific work? If this is the case, consider partnering with professors in the relevant discipline to create a curriculum. If they can't make time for you, talk to students who are advanced in that major about what they wished they knew IL-wise early on in their study. If your summative assessments show significant gaps, consider a program targeting the students in question like a second year experience program. Since retention could become an issue if these students aren't given enough assistance, include your data in a request for funding for this dedicated program.

Journey Mapping—What is It?

"Journey mapping" is a practice that has emerged from the field of customer success, a new name reflecting what librarians have been about all along with, helping customers do their best work using your products and/or services. Also called CX, customer success is related to user experience, or UX, another "it" term that came to prominence some years back.

To learn how to explicitly look at your work from a business point of view, try this recent webinar featuring Jeannie Walters, Chief Customer Experience Investigator and Founder, 360 Connext. 360 Connext is a consulting firm that specializes in evaluating and improving what it calls "the customer journey." If you replace the companies and customers with libraries and patrons in the webinar, you'll see these ideas, while corporate, can easily cross over to our field, and assessment of the patron journey through our offerings can be enlightening to what is working well and what needs to be be changed.

What kind of journey are you looking for when you assess your patrons' path through your information literacy program? Walters believes a successful customer journey involves customer engagement, which leads to success. The most effective engagement, she says, is the kind that involves the customer being proactive, but also serves the company. An analogy would be a savvy student in one of your IL session that helps you become a better teacher. To create this kind of activity, Walters recommends "stepping into your customers' shoes and understanding the experience they are actually having, which is not necessarily the one you envisioned or want for them." Keep in mind their real life, she suggests. "This is not their job. They don't want pressure. They want to feel success in the beginning."

In Walters' webinar, she advises having a plan of action for proactively checking in with customers in the first 90 days, as early days are crucial. This is like First Year Experience programs, connecting and establishing relationships with students when they first arrive on campus. Call customers that you know had issues in their first 90 days and find out what they would have needed to make things run better. In library terms, this means reaching out to struggling or failing students. Because of privacy concerns, you likely won't be able to find out by yourself who is failing, but if students self identify as failing or even just struggling, ask them not only what they need but what they feel is missing from their initial library and school experience.

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Walters also recommends creating a journey map. This is distinct from mapping your processes, she notes. A journey map shows the customer's *actual* path through your offerings, while a process map shows your desired path for them. The steps on a journey map are high level. They include steps such as "satisfaction," "loyalty," and the ultimate, "advocacy," the happy situation where your customer becomes a champion part of your company or library's marketing team (we've all met those students and professors who become library ambassadors). A journey map should use "I" statements, to indicate the map is describing library experiences from the customer's perspective. Don't just go on instincts, says Walters. Seek customer perspectives, but don't force yourself to collect data on things you already know.

As always, when gathering data, respect how customers want to be communicated with.

Journey Mapping in the Library

Another webinar, with Alicia Lillich of the National Library of Medicine, describes the practical steps of creating maps of your patrons' experiences in the physical and virtual library. Lillich recommends the Oracle-produced website https://designingcx.com/, which offers a free customer experience journey-mapping toolkit. Lillich recommends the following steps to creating your map. The notes produced at each of these stages can go on Post-it notes that are laid side-by-side as you begin a draft map that you will later refine. The map will help you see areas of improvement, for example, where there are redundancies in your work or where things take too long. Best of all, says Lillich, the process of creating a journey map instills a user-centered focus.

Note: Where Lillich used "customer," we will substitute "student."

1. **Select a student to map**
   You can speak to a particular student or group of students, but Lillich recommends the creation of personas, representative users whose experiences are documented by your journey-mapping team. Personas should represent the major needs of your most important users (see usability.gov for more information). At each stage of mapping described below, add any data you have available—for example, you may have completed quantitative and/or qualitative surveys about your population. Don't discount anecdotal data, says Lillich, who mentions that some libraries have only discovered major problems when they read about them in social media comments.

2. **Document, step-by-step what students encounter** when they use your library.

3. **Identify "touch points" and "pain points."** These are what the customer sees or interacts with (referred to as "on-stage touchpoints") and what happens behind the scenes to facilitate these encounters and interactions ("off-stage touchpoints"). For example, on-stage touchpoints may include getting help from an embedded IL librarian and getting library assistance about how to search a database. Off-stage touchpoints are the work the library puts into creating IL LibGuides and informing professors of IL resources and services that are available through the library. Pain points are touch points that create an issue—times when a student interacts with the library in a way that causes annoyance for them or may even make them leave the physical library or stop using your online services.

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4. **Add information about the students' attitudes and how their needs and goals are affected by their experiences with your service.**
   There are several important questions to ask at this point. Why does the student feel this way? Can you identify specific steps that led to this moment? How did your staff and services contribute to this moment?

5. **Identify problems and opportunities and prioritize them.** "Focus on the moments that matter," says Lillich, advising librarians to first create a "low-resolution view" of your target students' experience and then fill in the details.

6. **Create a neat, visually appealing version of the map your team has brainstormed as you've worked through the above steps.** Your map should include a prioritized set of points at which your products and services can be improved or areas in which you need a new aspect to your service.