A Noteworthy Next Class: Making Learning Objectives Work for You

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Abstract

The creation of learning objectives is often considered imperative for semester-length courses, yet unimportant or irrelevant for information literacy instruction one-shot sessions. However, the Association of College and Research Libraries *Framework for Information Literacy for Higher Education* calls librarians into action by instructing each library and campus to develop learning outcomes in line with the six frames that make sense for their individual communities. By reviewing the recognized taxonomies and selecting one that resonates with their teaching, librarians can follow the principles of backward design developed by Grant Wiggins and Jay McTighe to create learning objectives that work for their students and for them. The process of creating learning objectives for a one-shot session does not have to be daunting. By following the steps outlined in this article, librarians can create effective and measurable learning objectives that help direct class content and keep a student-centered focus.

Keywords: information literacy instruction, learning objectives, one-shot session, library instruction

Perspectives edited by Stewart Brower

James, A. B. (2020). A noteworthy next class: Making learning objectives work for you. *Communications in Information Literacy, 14*(2), 378–388.

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Learning goals, learning objectives, and learning outcomes are terms that are often used interchangeably in the world of education. However, it's important to note that although these terms are all related, many researchers see significant differences between them. Learning goals relate to the overarching purpose of the curriculum as a whole and they tend to be long-term focused and therefore, less measurable. Learning objectives are less broad and more measurable (Marzano, 2009). Objectives are useful for entire units, sections, and even individual class periods or assignments. Learning outcomes are the evidence that learning occurred. Well-designed courses will have all three of these components: goals, objectives, and outcomes.

When it comes to information literacy instruction, most sessions are one-shot in nature. This means that librarians are generally meeting with a class and group of students one time during a semester. In some instances, that may be the only opportunity for the librarian to interact with those students throughout their academic careers. Creating specific and measurable learning objectives is an excellent way to develop one-shot sessions that are focused on the students and on making strides toward your library's information literacy goals.

Creating learning objectives is most often associated with semester-length courses, so it's not surprising that there is not much in the library literature when it comes to processes and methodologies for creating effective, measurable objectives for information literacy instruction sessions. In fact, in Heidi Buchanan and Beth McDonough's (2014) *The One-Shot Library Instruction Survival Guide*, there is a one-page section called "Hey, What Happened to Learning Objectives?" They argued that you shouldn't "get sucked into spending too much time and energy crafting [learning objectives]" (p. 46). They also mentioned that most courses that you work with will already have their own objectives in place. Although that may be true, you can and should create some basic learning objectives whenever you are planning to teach, no matter the length of the session. That does not mean that you need to have overly complex, lofty semester-length goals in place. In a timely manner, you can create learning objectives that not only help guide your content and check for understanding but also help you grow your own teaching practices. Learning objectives are valuable, and

they benefit your students by keeping the class session focused on the most important things students should know or be able to do by the end of the session. They will also provide you with an automatic option for assessment, either formative or summative, to help you improve your content and pedagogy. Ultimately, learning objectives can contribute to the overall goals of your library's information literacy instruction program.

Methodologies and Taxonomies

In their book, *Understanding by Design*, educators Grant Wiggins and Jay McTighe developed a unique approach and framework for designing curricula called backward design. Rather than starting the process of course development with activities or learning experiences, they suggested designing lessons for understanding which "begins with what we want students to be able to do and proceeds to the evidence we will accept that they have learned it" (Wiggins & McTighe, 1998, p. vi). Backward design has three main steps: identify the desired results, determine the acceptable evidence, and finally, plan your activities and instruction. Backward design can be an effective strategy for creating learning objectives for information literacy instruction. Simply start with the desired results by determining what students should know and/or be able to do by the end of your session. Then, think through how they will prove that the learning occurred, and then refine that information to plan your class time.

Assessment is an important part of an effective learning objective. Several educators have developed frameworks in order to support instructors and help them with the assessment component. Wiggins and McTighe are no exception. Their six facets of understanding are an integral part of the backward design process and provide instructors with a "multifaceted view of what makes up a mature understanding, a six-sided view of the concept" (Wiggins & McTighe, 1998, p. 44). These facets are equal indicators of understanding and are not hierarchical in nature. They show that when we understand something completely, we can:

- Explain

- Interpret

- Apply

- Have perspective

- Empathize

- Have self-knowledge

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about the topic that we are understanding (Wiggins & McTighe, 1998, p. 44). A student might be able to interpret something but be unable to apply the concept in a multitude of contexts. In that case, they do not have a mature understanding of it. In order to fully understand, a "full development of all six kinds of understanding" is necessary (Wiggins& McTighe, 1998, p. 45). *Understanding by Design* offers a detailed explanation of each facet along with examples and an analysis, which includes instructional and assessment implications.

If a hierarchical depiction of understanding sounds familiar to you, it's likely thanks to Bloom's taxonomy. This recognized taxonomy of educational objectives was created by Benjamin Bloom and his associates in the 1950's. Bloom's group developed three taxonomies (cognitive, affective, and psychomotor), but the cognitive domain taxonomy is the one that is referred to most frequently. The cognitive domain taxonomy includes six kinds of learning that are usually presented in a hierarchical triangular structure (in contrast to the six facets of understanding).

These original six levels were revised in 2001 in order to incorporate new knowledge, by educators Lorin Anderson and David Krathwohl in their book, *Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives.* The hierarchy (from highest to lowest) is create, evaluate, analyze, apply, understand, and remember. The revised version of Bloom's is two dimensional and contains a vertical axis with the knowledge dimension (factual knowledge, conceptual knowledge, procedural knowledge, and metacognitive knowledge) and a horizontal axis with the cognitive process dimension (remember, understand, apply, analyze, evaluate, and create). The levels can help you take your list of items that students should know or be able to do by the end of your session and turn them into assessable, written objectives. Each level of Bloom's taxonomy contains lists of sample measurable verbs that are there to help you determine observable knowledge, skill, and abilities.

In 2003, Instructional Consultant and Educator Dee Fink, presented a new taxonomy that challenged and pushed the ideas of Bloom's taxonomy into a new direction. Fink's taxonomy of significant learning goes past the knowledge and even the evaluation levels of Bloom's by looking at more than just content mastery. Fink indicated that individuals within higher education were expressing a need for "important kinds of learning that do not emerge easily from the Bloom taxonomy; for example: learning how to learn, leadership and interpersonal skills, ethics, communication skills, character, tolerance, and the ability to adapt to change"

(Fink, 2013, p. 34). The six categories of significant learning that build upon one another, according to Fink are: foundational knowledge, application, integration, human dimension, caring, and learning how to learn. As Fink constructed this new taxonomy, he was led by a perspective of learning that was defined in terms of change. He was committed to the notion that learning could not occur without some kind of change happening within the learner (Fink, 2013, p. 34). Because Fink's taxonomy of significant learning is not hierarchical, any time one of the categories of learning is improved upon, the students' ability to improve in every other area is enhanced, and so learning with this model is bi-directional, rather than hierarchical (Fallahi & LaMonaca, 2009). Fink's overall message with his taxonomy was to try to get educators to include as many categories or types of significant learning into their courses as possible.

Finally, in 2002, Lee S. Shulman, president of the Carnegie Foundation for the Advancement of Teaching and Learning, developed another taxonomy that would not replace the old ones but would overlay them. Shulman's new taxonomy was meant to help teachers think more clearly about teaching and provide common language and terminology to discuss ideas and challenges. Shulman's taxonomy includes six taxa inside of a "table of learning." The six taxa are circular in nature (similar to Fink's categories of significant learning) and not hierarchical. The six taxa are: engagement and motivation, knowledge and understanding, performance and action, reflection and critique, judgement and design, and commitment and identity.

These additional theories build upon Bloom's taxonomy but provide a more advanced approach to designing and evaluating educational experiences and learning objectives. It is no small task to activate the more complex levels of understanding described by Fink and Shulman in a one-shot information literacy instruction session. There are similarities that can be spotted between each of the approaches. For example, all three taxonomies include some level of knowledge or understanding, some type of action or application, and elements of critical thinking.

An additional element of consideration for librarians is the Association of College and Research Libraries (ACRL, 2015) *Framework for Information Literacy*, which offers flexible options for implementation. The *Framework* contains conceptual understandings about information, research, and scholarship that are based upon the work of Wiggins and McTighe. The *Framework* also contains threshold concepts "which are those ideas in any discipline that are passageways or portals to enlarged understanding or ways of thinking and

practicing" (ACRL, 2015, p. 7). The *Framework* does not provide specific learning objectives for each frame, but leaves it open to each library to design their own objectives or outcomes specific to their campus needs. With backward design methodology, elements of the taxonomies described, and the *Framework* in mind, it is possible to craft effective and measurable learning objectives for one-shot library instruction sessions.

Application

I serve as the director of instruction and information literacy at Baylor University. Part of my job involves developing effective strategies for providing information literacy instruction to our students. I also provide professional development opportunities for other teaching librarians across campus. My work in these areas have led me to develop a system for creating effective learning objectives for information literacy instruction sessions utilizing these various approaches in conjunction with the *Framework*. This system is based on one similar to Michael and Libarkin's (2016) process used in designing semester-length STEM courses. It's important to remember that because of the nature of the one-shot session, there won't always be objectives that are measurable at a summative level. However, it is possible to create a single learning objective for a one-shot session with options for formative assessment, or checks for comprehension, during the class session that can help measure student understanding and set the direction of the rest of the class time.

Step One: Identifying Desired Results

Using the principles of backward design, start by identifying your desired results. If this is a class that you have taught in the past, you should put away (literally and figuratively) all prior course materials and begin with a blank slate. Brainstorm a list of all the things that students should know or be able to do by the end of your session. How much you have on your list is not important during this stage. If you have a long list, it will be pared down later in the process. If your list is short, remember that even one learning objective is okay for a one-shot session. This list does not need to be in any specified format or structure. It should simply be a rough description of everything that students should walk away from your session knowing or being able to do.

As an example, say you are preparing to teach information literacy to a basic first-year writing course. If your library does not have a pre-defined curriculum, you can begin to develop learning objectives using this process. Some examples of items that might be on your list are how to get research help, search strategies, getting started with research,

selecting a topic, accessing library databases, citation management, etc. Once a complete list has been generated that contains everything that someone who is in the session should know or be able to do by the end, then you can move onto the second step in the process.

Step Two: Finding Themes

The next stage of this process involves looking closely at each item on the list and categorizing the items thematically, based upon the *Framework*'s six frames:

- Authority is Constructed and Contextual

- Information Creation as a Process

- Information Has Value

- Research as Inquiry

- Scholarship as Conversation

- Searching as Strategic Exploration

Using the example above of the first-year writing course, one could categorize each listed item under the most closely related frame. For example, search strategies could be categorized under "Searching as Strategic Exploration." Getting started with research could fall under "Information Creation as a Process" or "Research as Inquiry," depending on the planned approach. Selecting a topic could fall under "Scholarship as Conversation" or "Research as Inquiry," and citation management could fall under "Authority is Constructed and Contextual." You will notice that there are some items (how to get research help and accessing library databases) on the original list that did not make it onto the thematic list. Not every item will make sense categorized within the *Framework*. There may be items on your list like "students should know how to find their subject specialist librarian" or "students should be aware of the option for interlibrary loan when they can't find materials that they need to access." Those items don't fit into the *Framework*, but they are still important to the content that goes into your session. This means that those items won't necessarily be included in the overall learning objectives for your class, but they can still be included in your content. Your learning objectives will guide your overall approach to the content but will not be all inclusive.

Categorizing your list thematically, or according to the six frames, helps visualize the heaviest areas of focus in your session. It also helps reveal if there is a lack of focus and

content is too widespread. In a typical one-shot information literacy instruction session, focusing on one to three frames is ideal. If too many frames are represented in the final learning objectives, it becomes unrealistic to accomplish successfully. Ideally, you'll want to select the one or two most heavily concentrated frames and draft your learning objectives from those. Multiple items may be listed within each frame. You will have the option to see which items may be related and combine them or narrow them down significantly. For example, if there are too many items within the "Searching as Strategic Exploration" frame, identify related items and combine them. If the items cannot be combined, then you'll need to make decisions about which items are the most important based upon the focus of the class and any instructor interviews that may have been completed during the sign-up process.

This process may leave you frustrated, feeling that you are leaving out things that are important for students to know or be able to do when they leave. But, when it comes to a one- to two-hour session, the key takeaway is that less is more. When you present too much information, it can be overwhelming and cause students to shut down. Remember that one of the main reasons for developing learning objectives is to create classes that are student-centered and not teacher-centered. Focusing on quality over quantity is a more effective approach. Buchanan and McDonough (2014) pointed out:

> Too often library instruction is teacher-centered, with content that is focused on tools and processes rather than basic understandings that are essential for students to grasp in order to be successful with research. Less is more; use your limited time wisely, design your instruction around concepts (as outlined by the *Framework*) that student might find troublesome. (p. 47)

Also, keep in mind that there are other options for sharing important information with students, outside of class time, such as creating research guides or flipping the classroom to include related pre-session work. Extending your learning objectives into the design and content of your research guides and/or pre-session work is vital in order to keep the work student-focused and consistent.

Step Three: Writing Your Objectives

Now that the items have been categorized into frames, and either refined, removed, or combined, you should have a good idea of the topics that you will be focusing on during the session. As you begin this process, it's important to remember that for a one-shot session

having even one learning objective is significant. Due to time constraints, it is advisable to create anywhere from one to three learning objectives for a single class session. As you write the objectives you will want to be thinking about ways in which you can determine if students have achieved them. Keep your objectives simple, centered on a measurable action and realistic given your timeframe.

In terms of the structure of your objectives, you will want to keep things basic for a one-time meeting with a class. If you can meet with a class more than once or if you're able to teach a semester-long course, then you can dive into creating long-term goals and more detailed objectives. In preparation for a one-shot session, your learning objectives should start off with some variation of the phrase "At the end of this session, students will be able to." This will set up the sentence to include a measurable action verb, which will need to be added into the formula next. The verb needs to be something that students will either know or be able to do at the end of the session, and it will come from your narrowed down, finalized thematic list. The verb selection is important. You will want to ensure that it's something that could be assessed, if desired. For example, you should avoid using verbs like "believe," "knowledge of," or "familiar with" because they are vague and ambiguous (Kurt, 2019). This is where you'll want to decide if you plan to follow Wiggins and McTighe's six facets of understanding, Bloom's revised taxonomy, Fink's taxonomy of significant learning, Shulman's taxonomy, or another recognized taxonomy to make sense of your objectives and use them to grow your teaching practice and your library's instruction program through assessment.

Bloom's taxonomy includes many sample measurable verbs for each knowledge dimension, which some individuals find helpful. If you plan to use Bloom's, you'll want to review the item from your thematic list and decide if what students are learning or doing is considered factual knowledge, conceptual knowledge, procedural knowledge, or metacognitive knowledge. Bloom's revised taxonomy includes detailed descriptions of each of those knowledge dimensions. If you plan to use Fink's taxonomy of significant learning then you'll want to decide which of the six categories your objective addresses (foundational knowledge, application, integration, human dimension, caring, and learning how to learn). The same approach goes for the other taxonomies and methodologies described in the first section of this article. You will need to determine which of those strategies resonate with you and use it as your basis for objective building and assessment of student understanding.

After your initial phrase of "At the end of this session, students will be able to," you will

need to insert the measurable action verb that aligns with whichever knowledge dimension, level, or category makes the most sense. For example, if one of the most important items on your thematic list was that students would learn search strategies and you chose to work within Bloom's revised taxonomy, you might start with "At the end of this session students will be able to construct." The verb "construct" falls in the "apply" category within Bloom's cognitive process dimension and indicates an application of a skill students should now be able to perform.

The final piece of the objective building process involves concluding the sentence with the specifics of what the students will be doing when they demonstrate that they've achieved the objective. This is where you will stress what they will walk away from your session knowing or being able to do. In the example above, the objective could be concluded with something like "effective searches in library databases." The full objective would read: "At the end of this session students will be able to construct effective searches in library databases." There are many other ways that you could conclude the objective; this is just one example.

This sample objective is well-written because it includes the leading phrase, the measurable verb that aligns with the selected taxonomic level, and it concludes with what students will know or do after the session. It is measurable because there are many ways that you could assess whether students have achieved the objective. For example, you could do a quick formative assessment asking students to report on how many relevant sources they found from their searches.

Discussion and Conclusion

Learning objectives are often dismissed when it comes to curriculum development for information literacy instruction one-shot sessions. However, the *Framework* holds librarians to a new standard that involves designing learning outcomes specific to their libraries and campuses. Within the *Framework*, librarians are called to action and are expected to interpret and implement the frames and create objectives that align with those frames.

By first reviewing and then selecting a taxonomy that resonates with your teaching, you can use the backward design process to write meaningful learning objectives that will significantly impact the quality and focus of your information literacy instruction sessions. The process of writing learning objectives does not have to be daunting or overly time consuming. With just a little bit of extra thought and intention, learning objectives can help

your sessions become student-focused and assessable. Creating learning objectives can truly "work for you" by transforming your teaching practices. By using this process, you will create more meaningful learning experiences and enable your students to become more effective and efficient researchers.

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