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Ch 4 Active learning: engaging people in the learning process

- Bonwell and Eison (1991, p. iii) define active learning as “instructional activities involving students in doing things and thinking about what they are doing.”
- In other words, active learning includes direct interaction with content but also has a metacognitive element that promotes reflection on learning. While we can use active learning approaches with individual learners, many of the techniques emphasize group work and collaboration. In addition to classroom activities, active learning can take place outside the classroom through experiences like internships, service-learning opportunities, and assignments that involve interaction and reflection.
- takes place in venues such as classrooms, workshops, and webinars,
- Constructivists believe that learners construct knowledge, which presupposes active engagement with information in order to create new meanings and understandings
- while social constructivists emphasize the importance of interactions with other people in constructing knowledge.
- According to cognitive scientists, learners actively engage with material as they retrieve information from long-term memory and make connections between new information and existing knowledge.
- Prince (2004) identifies three of the most common approaches to active learning as collaborative learning, cooperative learning, and problem-based learning. Collaborative learning, according to Prince, is any type of learning in which students work together on a project or toward the same learning outcome. Cooperative learning is also collaborative, but the emphasis is on joint incentives and common goals, whereas collaborative learning is sometimes centered on competition. In problem-based learning, the instructor presents students with a challenge or scenario, often drawn from the real world, and students must develop solutions to the problem. Problem-based learning is often self-directed, with the instructor acting as a guide and facilitator rather than an expert with answers.
- Cattaneo (2017) classifies active learning activities as problem-based learning, discovery-based learning, inquiry-based learning, project-based learning, and case-based learning. She finds that each of these approaches is student-centered, but they vary quite widely in their implementation.
- Finally, Graffam (2007) suggests that active learning has three components: intentional engagement, purposeful observation, and critical reflection.

Intentional engagement is hands-on practice, where students perform the tasks or engage the skills they are expected to learn. For instance, LIS students might role play a reference interview, or a library instructor might have a group of undergraduates evaluate a website

In purposeful observation, students watch demonstrations or observe interactions in order to learn skills, tasks, or procedures. Demonstrations are quite common in library instruction, as when library instructors walk students through Boolean searching. Another example is having LIS students watch a reference interview in order to learn techniques for clarifying questions. The difference between demonstration and purposeful observation is that purposeful observation shifts the focus from the instructor, or demonstrator, to the learner, putting responsibility on the learner to pay attention and glean important information. Instructors can facilitate the process by describing each step in a demonstration and debriefing or asking questions after a simulation to draw attention to the important aspects

Finally, critical reflection is a metacognitive act in which students reflect on their learning. This step is crucial because it encourages students to make connections and helps to deepen the learning

- We can implement active learning in both face to face and online classrooms using specific
- methods and techniques such as discussions, think-pair-share, role playing, case studies, and jigsaws, as described in more detail later in this chapter.
- The Case for Active Learning
- Support for active learning abounds, but does this approach really work to engage students and increase learning? Bonwell and Eison (1991) state that students prefer active learning and that students in active learning classrooms are more engaged and motivated than those who are required only to passively listen to a lecture.
- They also maintain that active learning can promote higher-order thinking skills such as analysis, synthesis, and evaluation, while still achieving the same mastery of content as lectures. Overall, their claims seem to be supported.
- Prince (2004) found that collaborative and cooperative learning improved academic performance and led to better learning outcomes.
- Hake (1998) similarly found that active learning led to better test scores and increased problem-solving abilities
- Harris and Bacon (2019) indicate that active learning produces results at least as good as traditional, passive learning, and that it promotes both lower-order and higher-order critical thinking skills.
- Freeman et al. (2014) found active learning to be beneficial, leading to improved exam scores. In fact, they went so far as to say that “if the experiments analyzed here had been conducted as randomized controlled trials of medical interventions, they may have been stopped for benefit—meaning that enrolling patients in the control condition might be discontinued because the treatment being tested was clearly more beneficial”

- The benefits of active learning techniques do not seem to be limited to improved learning outcomes. For example, students in active learning classrooms tend to report more positive attitudes (Freeman et al., 2014), and there is some evidence that active learning reduces student attrition, meaning students are less likely to drop out of courses that utilize active learning techniques (Freeman et al., 2014; Prince, 2004).
- Prince (2004) also found evidence that cooperative learning improved students' interpersonal skills and teamwork. Importantly, some evidence suggests that active learning might be more inclusive and benefit traditionally underrepresented and marginalized students in particular (Berry, 1991; Frederickson, 1998; Lorenzo et al., 2006; Rainey et al., 2019).
- Bernstein (2018) suggests that rather than asking whether active learning works, instructors should consider which techniques work best under which circumstances. He finds that active learning needs to be highly structured and is most effective when students are required to engage, and suggests that instructors new to active learning take an incremental approach to integrating the techniques. In general, however, research suggests that in the best case, active learning leads to better performance, and at the very least, the performance of students in active learning classrooms is equivalent to their peers in more traditional contexts (Thomas, 2009).
- Most instructors teaching today learned through lecture, and it is natural for them to replicate what they know, especially if they have never been introduced to theories and pedagogies that promote other forms of learning.
- Bonwell and Eison (1991) identified a number of other barriers to adoption of active learning techniques. They note that change involves risk and can lead to uncertainty or anxiousness. New techniques rarely succeed perfectly on the first try, and instructors may have little incentive to innovate or try new teaching techniques, especially if they believe that their current approach is effective.
- Further, the lecture is familiar not just to instructors but also to students. Each is familiar with the role they are expected to play in a lecture-based classroom, making it comfortable, if not necessarily engaging.
- common barriers to active learning include (Bonwell & Eison, 1991, p.59):
 Pressure to cover content
 class sizes that are not conducive to active learning
 Time and planning involved in active learning
 Lack of materials or equipment
- Lectures are a very efficient way of transmitting content. Active learning techniques, which require learner participation and often build in time for reflection, take up class time and leave less time to cover content. Librarians are not immune to this concern. In fact, because librarians generally have less time with students than a regular classroom teacher does, they might feel even more pressure to cram as much material as they can into the limited time that they have, resulting in sessions that are overpacked and rushed, as well as lacking in meaningful learning activities.
- The emphasis in active learning is on skills and competencies rather than on content. Through the various activities, students develop problem-solving, critical thinking, and

reflection skills. In addition to learning specific content, students are putting skills into practice and learning how to learn

- With that in mind, instructors may need to reduce the amount of material covered in class in order to make time for such skill building. However, this approach does not mean that the content is not covered at all. Rather, it might be delivered in different ways, often outside of regular classroom time.
- give students homework such as worksheets or other assignments where they practice or apply what they learned in class. However, instructors could have students read texts and watch videos outside of class that cover the same content the instructor might normally have delivered through an in-class lecture, then use class time for practice problems and skill building. = flipped classroom
- One technique is a lecture pause, in which instructors stop the lecture and ask students to write down everything they remember from the lecture up to that point (or the two or three most important things they remember). The activity could end there, or the instructor could have students pair up to compare answers and perhaps fill in gaps in each other's notes. This simple activity engages the students and entails the kind of retrieval practice that increases memory and retention of information
- However, integrating active learning does not have to entail changing an entire workshop, session, or course; instructors can integrate active learning activities slowly over time. New activities will rarely work perfectly the first time through, so it makes sense to integrate a single activity, assess it, and make adjustments as necessary before adding more activities.
- Technology can certainly enhance active learning, and many tools exist to increase student engagement. For example, many elearning platforms include online discussion boards, polling tools, document sharing, and even conferencing tools. However, many activities can be undertaken with few or no materials, such as the lecture pause described earlier that requires only a paper and pencil.
- Generally, these instructors are deeply rooted in traditional modes of teaching and understand instruction as the transmission of knowledge. This perspective can pose special challenges for academic and some school librarians, who are often guests in other teachers' classrooms
- If a librarian is invited to speak in the class of an instructor who does not view active learning as "real" teaching, the librarian might be hesitant to incorporate such techniques even if they support them
- One or two judiciously chosen activities that engage students could demonstrate the effectiveness of active learning, and the librarian could enhance the technique by being transparent in their instruction. By explaining why they incorporated a particular activity, identifying its learning outcomes and the ways in which the activity achieves those outcomes, and by having students reflect on their learning, the librarian can help both the student and a reluctant instructor see how the techniques work.
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- After all, active learning requires learners to engage and participate, and puts more responsibility on them. Students who are used to listening to lectures and taking notes might be confused or put off by active learning activities, at least at first.
- some students believe they learn less in active learning classrooms than they do from lectures, even though the research suggests the opposite (Miller, 2019).
- Active learning often requires students to share thoughts, ideas, and answers in small and large groups, and some learners might be nervous about giving a “wrong” answer or sharing an unpopular idea.
- the interaction with peers might be stressful for some people, especially shy, introverted, and neurodiverse students for whom social interaction can be anxiety-inducing (Cohen et al., 2019; Cooper et al., 2018; Monahan, 2017)
- Learners also tend to feel more comfortable when they are familiar with an activity (Bonwell & Eison, 1991), so introducing an activity by explaining its purpose, how it will be implemented, and what the expectations of students are can help ease fears
- Activities that involve less speaking or presenting, such as lecture pauses, self-assessment activities, and structured small group discussions, are lower risk and lower stress. Higher risk, higher stress activities like role playing and presentations are more often group- or whole-class-based and require more speaking or interaction
- Many of the techniques already mentioned, such as being clear about expectations and using low-stakes activities, can help build trust
- It can be helpful to give students time to get to know each other before assigning group work, and allowing students to choose their own groups so that they can find peers with whom they are comfortable (Cohen et al., 2019).
- allowing learners time to gather their thoughts before expecting them to join a discussion can be helpful. For instance, after asking a question of the class, try waiting a few extra seconds before choosing a volunteer, or give students time to reflect and jot down their thoughts before launching a discussion.
- Harris and Bacon (2019) note that more advanced learners find greater benefit from active learning, leading them to suggest that the activities should be scaffolded, meaning that the class should begin with easier, lower-risk activities while students are still learning basic content, and then gradually move to more complex tasks as learners develop mastery.
- Think Pair Share:
 - In this activity, instructors pose a question or provide another prompt such as a brief scenario. Next, they pause for a minute or two, giving students time to think about their responses. Students might just reflect or might jot down their thoughts. After a few minutes, learners pair up with a peer to share their responses and discuss their thoughts and reactions. Instructors might also encourage students to identify any questions that arose for them. Depending on the size of the class, the instructor might have each student share thoughts with the class or ask for a few volunteers to share ideas from their discussion with the whole group.
- Discussion:

- Discussions can be carried out in large- or small-group formats, although smaller groups are generally more conducive to in-depth discussions and allow for more student participation. During discussions, learners reflect on and respond to readings, questions, or other prompts.
- **Brainstorm/Carousel Brainstorm**
 - Carousel brainstorm. In this version, the teacher identifies different aspects or subtopics of the subject under study, perhaps posted on large sheets around the room.
 - Small groups of learners are assigned to brainstorm a single subtopic. After a few minutes, the groups rotate to a new subtopic and add what they can to the previous group's work. When each group has had a turn at each subtopic, the original group reviews and synthesizes the full class brainstorm of their subtopic and presents the information to the class. Activity 4.3 is an example of a brainstorming activity
- **Concept Mapping**
 - Generally, a learner will begin with a single idea and brainstorm to identify other words and concepts, which they arrange around the original idea, with lines illustrating how the concepts relate. The new words might describe subtopics, broader topics, and related topics. Depending on the original idea, students might identify research questions on the topic, audiences concerned with or impacted by the topics, action steps, and so on.
- **Student Demonstration:**
 - Rather than lecturing or leading the class through a demonstration, we can turn the class over to the students to show one another how to work through a particular task or problem. For instance, a library instructor could ask learners to demonstrate the steps they took to locate a book or article, or to share the criteria they used to evaluate a website
 - This way, the learners take on a teaching role, and the instructor can act as a coach from the sidelines, offering feedback or suggestions if the learner gets stuck.
- **Jigsaw:**
 - The jigsaw activity has students assigned to groups, with each group working on a different aspect of a larger project. Once groups complete their assigned task, the instructor shuffles the students into new groups comprising at least one representative from each of the initial groups. In this new group, learners piece together the work from their original groups to complete the larger project.
 - Once the groups have completed this task, the instructor would create new groups with at least one student from each of the stages. Now, the new groups could compile their research and present a completed life cycle
- **Role Play and Skits:**
 - Role playing requires students to think on their feet and draw on the ideas or knowledge they have acquired to address a problem or issue. This

technique is often associated with professional programs such as nursing, where students might take turns playing the nurse and patient roles to practice doing a patient intake.

- For instance, a public librarian leading a session on job hunting could have students pair off and answer sample interview questions. Because role playing requires spontaneous thinking and interacting with peers who might or might not be familiar, it can feel a little risky, especially for shy students.
- Skits are a variation on role playing, in which learners develop a brief play illustrating a relevant situation, scenario, or process to act out in front of the class. For instance, after having students role play a job interview in pairs, the instructor could have learners finalize a script and perform for the class, opening up opportunities for wider discussion and more peer feedback.
- Lecture Pause:
 - Using this technique, the instructor will pause every so often during the lecture to allow students to reflect on their learning. During the pause, the instructor might ask students to jot down the key points of the lecture, answer a specific question, or generate their own questions about the material. Students can work individually or pair up to share their reflections and answers
 - Pairing up can be effective, as learners might be able to answer one another's questions, or fill in gaps in each other's recollections of key points
- Peer Instruction:
 - Instructors can find it challenging in such circumstances to present material in a way that is not too advanced for some or too easy (and likely boring) for others. This is common in public libraries where learners self-select into a session, and in academic libraries, where library instruction often is not fully integrated into the curriculum.
 - Peer instruction can be effective for such mixed classrooms. Instructors can pair or group learners who have more experience with the content together with those who have less, allowing the experienced students to do some of the instruction.
 - The students engaging in instruction are deepening their own learning even as they offer instruction. While this approach can be ideal for groups of mixed levels, it is not always necessary for the students doing instruction to be more knowledgeable or advanced. After introducing a new concept or skill, instructors could have students take turns explaining or demonstrating for one another what they have just learned
- Minute Paper:
 - The minute paper is a brief activity that asks students to reflect on their learning by taking roughly one minute to react to the day's lesson. Instructors often guide the reflection by asking students to recall one or two new things they have learned and/or to identify the "muddiest point" of the lesson, or the section they found most confusing or about which they still have questions.
 - Can be done anonymously - more honesty

- If time allows, the instructor can review the papers and address some of the outstanding questions before the class ends.
- Another option is to have students add their name to the paper, and then return the paper with comments and answers to questions. The minute paper takes very little class time and can be done in classes of any size
- Scavenger Hunt:
 - A scavenger hunt can be a great way to introduce people to the layout, services, and materials of the library.
 - Rather than objects, this list could include recording the call number of a certain item, getting a pass signed by a reference librarian, or checking out a book. Participants could work individually or in teams.

Ch. 5 Critical Pedagogy: Challenging Bias and Creating Inclusive Classrooms

- In order to be effective in this role, we must better understand how existing educational, social, and political systems shape our learners' experiences from their earliest moments and continue to influence what and how they learn inside and outside of the classroom through the rest of their lives
- We must recognize how bias has impacted and continues to impact both our learners' and our own experiences, and develop culturally competent and inclusive practices in order to mitigate bias in the classroom and interact effectively with learners from varied cultural backgrounds.
- Critical pedagogy provides a theoretical framework to examine issues of power in the classroom, and to surface and challenge the biases and oppressive structures that can undermine learning and alienate students.
- Next, the chapter presents strategies for mitigating bias, improving our cultural competence, and creating inclusive classrooms where all learners are able to engage with relevant content and effective pedagogies. Chapter 6 extends the discussion of inclusion to address specific issues of accessibility and universal design for learners with disabilities.
- Critical Pedagogy
 - As discussed briefly in Chapter 3, social constructivists in particular recognize that learners' cultures, including shared values, behaviors, and beliefs, shape their knowledge. However, no society is made up of a single, monolithic culture; rather, different communities reflect different values and beliefs, and encourage and discourage different behaviors.
 - Political, social, and educational systems tend to reflect the dominant culture, and over time the values, behaviors, and beliefs associated with that culture become so ingrained as to be invisible. Those living within the dominant culture do not

recognize it as a system but simply see it as “normal,” and anything outside of that system is “other” than normal. Some educational theorists recognized that these differences have a profound impact on education.

- Since the dominant systems are essentially invisible, those in power tend to attribute the challenges faced by marginalized individuals as inherent to the person. In other words, if a child from a poor family struggles to learn to read, teachers will often assume the issue is with the child’s innate ability to learn, rather than recognize that the child might not have had the same preliteracy experiences and current support systems that other children have. Because they do not recognize the root issue, these educational models tend to replicate rather than challenge the existing systems, so learners from the dominant culture continue to succeed while those from marginalized communities continue to struggle, a phenomenon that Bourdieu refers to as cultural reproduction.
- While earlier theorists tended to focus mostly on the impact of economic disparities in education, other writers and educators like bell hooks, Henry Giroux, and Ileana Jiménez have applied feminist, queer, and critical race theory to examine how existing classroom power structures marginalize women, people of color, individuals who identify as LGBTQIA+, and other learners as well.
- Importantly, critical pedagogy does not end with theory but rather focuses on praxis, or translating knowledge into action
- Critical pedagogy sees education as a tool for empowerment, a place where learners develop the knowledge and skills they need to undo oppressive structures and achieve liberation (Freire, 2000; Tewell, 2015)
- in a classroom guided by critical pedagogy, learners engage with problems that are personally meaningful and are active agents in their own education, and through that education gain agency to enact change in the world beyond the classroom (Elmborg, 2006; Freire, 2000; Tewell, 2015).
- Building on the ideas of agency and empowerment, critical information literacy encourages learners to see themselves as part of the “scholarly conversation” and as creators of information, rather than just consumers, and provides them with ways to recognize and challenge dominant powers within the current systems of creating, sharing, and evaluating information.
- Thus, for instructors, critical pedagogy pushes us to surface power dynamics in the classroom and the larger communities in which our learners live, and to reflect on how our own culture and biases color our approach to the classroom. In doing so, it offers a model for a more inclusive teaching practice
- Bias in the Classroom
 - Banaji and Greenwald (2013) show that our unconscious biases are particularly pernicious because we are unaware of the effect they have on our thoughts and actions, resulting in discriminatory judgments and behaviors that are automatic and hard to recognize

- For example, research shows that when given résumés with equivalent qualifications from applicants with stereotypically white names and stereotypically Black names, search committees will favor applicants with stereotypically white names (Bertrand & Mullainathan, 2003) and that orchestras have historically favored men over women in auditions (Goldin & Rouse, 2000). Unconscious bias also affects library services. Shachaf and Horowitz (2006) found differences in librarians' replies to email reference queries based on the patron's perceived ethnicity and religious affiliation, including the time taken to reply, length and quality of answers, and the use of welcoming, professional greetings and conclusions.
- As we grapple with our own biases, it can be helpful to remember that our brains evolved to develop heuristics that allow us to function effectively and safely in our environment. These heuristics often operate at an unconscious level; if you have ever seen a snake and instinctively jumped back even before you could assess whether the snake was venomous, you have experienced an unconscious heuristic that told you snakes are dangerous. Unfortunately, unconscious thoughts and biases influence how we react to people as well, particularly when we perceive those people as "different" from ourselves. If we want to be fair-minded, rational people, it is essential that we identify and reflect on our unconscious biases, including recognizing how our society shapes and influences those biases, in order to mitigate the effect they have on our thoughts and actions (Banaji and Greenwald, 2013)
- Microaggressions:
 - microaggressions, which Sue (2010a) defines as "the everyday verbal, nonverbal, and environmental slights, snubs, or insults, whether intentional or unintentional, which communicate hostile, derogatory, or negative messages to target persons based solely upon their marginalized group membership." Microaggressions may be aimed at women, people of color, individuals who identify (or are perceived) as LGBTQIA+, and people with disabilities, among others.
 - Microaggressions come in many forms, including verbal (e.g., "Where are you from?" which implies a person of color must be a foreigner; telling a woman to smile), nonverbal (e.g., clutching one's purse more tightly or crossing the street around a person of color), or environmental (e.g., Native American mascots) (Sue, 2010b)
 - Princing (2019) notes that when we first meet someone new, we tend to notice what makes them different from us. She recommends we reflect on those thoughts and question any beliefs or stereotypes that may accompany them.
 - Resist the myth of color blindness. Unconscious bias makes it difficult to be truly colorblind. In addition, claims of color blindness obscure structural disadvantages and the very real differences in the experiences of people from marginalized groups (Princing, 2019).
 - Believe the stories of people from marginalized groups. We can learn more about everyday bias by listening to and learning from the stories of

individuals who have firsthand experience with bias. We must take care not to dismiss those stories as exaggerations, misunderstandings, or isolated incidents.

- Do not ask students to speak for their entire racial or culture group. As noted elsewhere in this chapter, learners from the same broad cultural group will not necessarily share all of the same values, beliefs, and understandings, and students may not feel capable of speaking for the experience of others (Reinert Center, n.d.). In addition, singling out learners in this way can make it appear that the instructor sees them as a one-dimensional representative of a particular identity, rather than as an individual bringing varied strengths, interests, and experiences to the classroom.
 - Assume groups you are talking about are represented in the classroom. Treating every classroom interaction as if we were speaking with a member of the group under discussion can remind us to choose our words with care (Reinert Center, n.d.).
 - Remain open to learning about microaggressions and yourself. While it is natural to feel defensive when others point out that we have said something problematic or offensive, we can approach such instances as learning opportunities.
- These biases will affect how learners understand and interact with instructional content, peers, and instructors, and instructors should be attentive to instances where learners commit microaggressions against one another. Microaggressions can be awkward and even challenging to address, especially if they were framed as a compliment (e.g., “You speak English so well”) or reflect commonly accepted stereotypes.
 - Strategies for addressing microaggressions in the classroom include: • Make the “invisible” visible. Create awareness by naming the microaggression with statements such as “I think that’s a stereotype I just heard” (Sue et al., 2019, p. 136).
 - Disarm the microaggression. Statements such as “I don’t agree” or “I don’t see it that way” and actions such as shaking one’s head communicate to the perpetrator and others that the microaggression is not acceptable (Sue et al., 2019, p. 136).
 - Take an educational, nonpunitive approach. Turn microaggressions into teachable moments by asking learners to reflect on their assumptions (Center for Teaching and Learning, n.d., p. 11). Phrases like “it sounds like you think” or “Could there be another way to look at this?” can prompt speakers to identify and question their unconscious biases (Gonzaga et al., 2019). Ferguson (2015) suggests we approach microaggressions in the spirit of “calling in” rather than “calling out.”
 - Redirect. When students are asked to speak for all members of their racial or cultural group, we can redirect the conversation with statements such as “Let’s open this question up to others” (Gonzaga et al., 2019).

- Use “I” statements. The use of “I” statements such as “I felt uncomfortable when you said . . .” communicate impact while minimizing blame (Gonzaga et al., 2019).
- Discuss intent versus impact. Instructors can use statements like “I know you meant to be funny, but you hurt . . .” to help learners recognize the impact of something they said. If learners struggle with the idea that they may have offended or harmed someone despite not intending to cause offense, instructors can use metaphors such as bumping someone in the grocery store or causing a car accident to explain the difference between intent and impact (and the need to make amends).
- Rewind. Sometimes microaggressions happen so quickly, the conversation moves on before they are addressed. Statements like “I’d like to revisit something that was said earlier” allow us to step back and address these microaggressions (Gonzaga et al., 2019)
- Othering:
 - Another manifestation of bias can be “othering,” or treating the history and experiences of white, middle-class, heterosexual, cisgender, able-bodied people as universal or the norm, while presenting the history and experiences of other groups as unusual, exceptional, or only of interest to members of those communities.
 - For example, displaying books by Black authors in February, but not at other times, sends an implicit message that the history of America is the actions and accomplishments of whites and that the accomplishments of others are of limited value or interest. While special displays and programs are an important way to recognize and support events like Black History Month, Women’s History Month, and Pride Month, librarians should also integrate materials by individuals of color, women, and LGBTQIA+ authors into displays year-round.
 - In some cases, the systems that are foundational to libraries treat selected groups as the other. For example, the Dewey Decimal System reserves 200-289 for topics related to Christianity and the Bible, leaving only the 290s for all other religions; Schingler (2015) points out that this reflects an underlying assumption that Christianity not only has more to say on theological topics, what it has to say is more valuable
 - Library of Congress Subject Headings (LCSH) are notoriously problematic in their treatment of women and people of color (Berman, 1969, 1993; Drabinski, 2008; Knowlton, 2005). The presence of subject headings such as “women astronauts” and “African American business enterprises” reveals an assumption that these professions are for white men and that the presence of others is unusual or remarkable, while subject headings that utilize biased terminology, such as “illegal aliens,” send a message about who belongs in America
 - These instances of bias and othering can create barriers to information seeking. Howard and Knowlton (2018) point out that Library of Congress

Classification distributes materials related to African American and LGBTQIA+ issues throughout the collection, making browsing or even grasping the scope of the topic challenging for researchers.

- For example, a search for “queer” in the ERICthesaurus returns “the term(s) you entered could not be found” with no suggestions for next steps (ERICuses the subject heading “homosexuality”). In comparison, a search for “queer” in the thesaurus for PubMedtakes one to the preferred subject heading, “sexual and gender minorities,” along with notes about how the term is applied and related/narrower terms
- For example, when creating lessons, we can plan search examples that reflect the diversity of our community and learners’ interests. As appropriate, we can surface and acknowledge problematic practices, and engage students in a dialogue about the impact of those practices and how they might be changed. Integrating diversity into curricular content is addressed in more detail later in this chapter.
- Deficit-Based Thinking:
 - Learners, by their very nature, come to our libraries and classrooms with gaps in their knowledge and skills. Oftentimes, instructors seek out research that will help them identify these gaps in order to develop relevant content.
 - While this research can provide valuable guidance for instructors, it is sometimes framed solely in terms of what learners are lacking and can lead us to focus exclusively on students’ weaknesses, an approach termed deficit-based thinking
 - For example, research on returning adult learners may show that they lack up-to-date research and citation skills, framing this as a problem that will hinder academic success. An asset-based approach recognizes that adult learners, by virtue of having spent time in the workforce, bring valuable life experience that can enrich classroom discussions, along with strong collaborative and interpersonal skills developed in the workplace.
 - In addition, adult learners tend to have clear educational and career goals and are highly motivated to develop the knowledge and skills they need to succeed in higher education. As another example, Kocevar-Weidinger et al. (2019) show that despite the stereotype that first-year college students lack research skills, they actually have extensive everyday research experience that can serve as a starting point for academic information literacy instruction
 - Sometimes things characterized as weaknesses or deficits are in fact strengths if we recast our narrative. For instance, research on first-generation students may focus on the challenges they encounter because their families are unable to advise them on how to navigate the academic and social aspects of college. Research also shows that first-generation undergraduate students are less likely to use campus support services (Longwell-Grice et al., 2016; Portnoi & Kwong, 2011). An asset-based approach recognizes that families of first-generation students are often very supportive of their students’ academic endeavors and, if given information about support services on campus, will recommend their students take advantage of such services.

Thus, while they lack firsthand knowledge of higher education, family members can be a conduit to connecting first-generation students to campus resources.

- Cultural Competency:
 - Cultural competency is the ability to work effectively with people from varied cultural backgrounds. Cultural competency is an essential skill for librarians; it prepares us to recognize barriers to information use, to work with colleagues and patrons of diverse backgrounds, and to develop culturally responsive services and programs (Cooke et al., 2017; Kim & Sin, 2006; Morris, 2007; Overall, 2009). Instructors who are culturally competent understand how culture influences teaching and learning, and are able to engage learners from diverse backgrounds in the classroom
 - librarians can create more culturally inclusive classrooms by:
 - Speaking slowly and clearly, especially when working with learners from different cultures and language backgrounds.
 - Avoiding slang, idioms, and sarcasm, none of which translates well across cultures, and using humor judiciously.
 - Avoiding library jargon, which is likely to be unfamiliar to international students and recent immigrants, as well as to novice learners in general. • Respecting cross-cultural rules for personal space and touching.
 - Making expectations for participation explicit
 - Whether or not to make eye contact as a sign of respect and the appropriate finger with which to point also differ by culture.
 - Villagran (2018) suggests librarians use the Cultural Intelligence (CQ) model as a framework for reflection and professional development. This model, shown in Figure 5.1, has four components: drive, knowledge, strategy, and action (Cultural Intelligence Center, n.d.).
 - Drive: This component reflects our interest, persistence, and confidence in learning about other cultures and working in culturally diverse environments. For example, librarians might be motivated to learn about other cultures in order to improve their ability to design and deliver inclusive services for members of their community.
 - Knowledge: This component is our understanding of cultural similarities and differences. Instruction librarians who want to improve their cross-cultural knowledge might seek out readings and professional development opportunities on how culture impacts teaching and learning.
 - Strategy: This component reflects the metacognitive element of cultural competence; it is our ability to plan for and reflect on multicultural encounters. Culturally competent instruction librarians recognize their learners will come from varied backgrounds, develop strategies to create inclusive instruction, and reflect on their teaching experiences in order to identify areas for improvement.
 - Action: This component is our ability to use appropriate behaviors during multicultural interactions. Instruction librarians can translate cultural

competence into action through their instructional design and delivery and through their interactions with individual learners.

- Melissa, heard that international students from Asia would answer questions such as “Do you understand?” with “yes” out of politeness, whether or not they understood the material being taught. Concerned that she might not be teaching international students effectively (drive), Melissa sought out articles about library services for international students and talked with a colleague with expertise in the area (knowledge). This research helped her better understand cultural differences in teaching and learning, and confirmed the need to modify the instructional strategies she used in the classroom and at the reference desk (strategy). As a result, Melissa became conscientious about speaking slowly, avoiding slang and library jargon, using open-ended questions that could not be answered with “yes,” providing written handouts, and using a pencil or her entire hand to point, instead of the index finger (action).
- Drive - Knowledge - strategy - action - back around to Drive
- The Center for Teaching and Learning (2019) at Columbia University identifies four types of classroom environments:
 - Explicitly Marginalizing: The instructor or other students say or do things, such as committing microaggressions or repeating stereotypes, that exclude learners and perspectives from marginalized backgrounds.
 - Implicitly Marginalizing: The instructor excludes some learners through subtle actions such as calling primarily on male students or using examples solely from the predominant culture.
 - Implicitly Centralizing: The instructor will discuss issues of marginalization and diversity if a student raises the topic, but such conversations are not planned or presented as essential.
 - Explicitly Centralizing: The instructor intentionally integrates marginalized perspectives into course content, raises issues of diversity and inclusion, and takes action to foster sensitivity, such as establishing norms for discussion and group work.
- One conclusion we might take away from this research is the need for critical self-reflection on the part of instructors. In addition, the research suggests that instructors must make a concerted effort to create an inclusive classroom environment. Some strategies we can use include:
 - Express interest in students. Welcoming participants as they enter the room and learning their names helps participants feel recognized (if you are worried about remembering names, you can have them create a table tent or name tag). In addition, instructors should come out from behind podiums, which can be perceived as distancing, to engage with participants. Reflective activities such as minute papers also offer opportunities to respond to individuals and demonstrate interest in their learning (Center for Teaching and Learning, n.d.; Bunner, 2017).
 - Establish ground rules for discussions. Establishing guidelines for civil, constructive interaction is becoming more common in credit courses; oftentimes, instructors engage students in creating these guidelines in order to foster a sense

of ownership. The time constraints of library workshops may not allow for lengthy or collaborative agreements; however, librarians can establish simple ground rules, such as respecting the opinions of others and valuing diverse perspectives, at the beginning of sessions (Watts, 2017).

- Foster student-to-student relationships. Instructional strategies that foster interaction such as think-pair-share, small group work, and class discussions promote positive classroom relationships.
 - Make expectations explicit. As mentioned earlier, cultural background can influence classroom behaviors such as participation styles and how, or whether, to ask questions. Instructors should make their expectations explicit with comments such as “I hope you will ask a lot of questions as we go along,” or “Right now we are going to work independently, but later we’ll share our work with others.”
 - Express high expectations for all students. Instructors should use an encouraging, positive tone, while also setting high expectations for all learners. Gay (2002) and Weinstein et al. (2003) point out that stereotypes based on race and/or gender can cause instructors to lower expectations for certain groups of students. Weinstein et al. (2003) offer the example of a non-native speaker of English who was offended when a teacher told him his English was “good,” rather than suggesting he continue to practice. He felt the former was patronizing and did not help him improve his language skills.
 - Address microaggressions and other forms of bias. As discussed earlier, instructors should be mindful of stereotypes and take care not to perpetuate them, and to practice intervention strategies that can be used when microaggressions occur in the classroom.
 - Ask for feedback. Instructors can use course evaluations and classroom observations to gather feedback on how well they foster an inclusive classroom environment
- All learners have a right to instructional offerings that address their needs and interests. At the program level, we should offer workshops and other instructional resources on a wide variety of topics that are suitable for patrons of varied ages and ability levels. We should take care to schedule classes and programs at varied times to ensure access for the widest number of people. For example, a traditional storytime program on a weekday morning will serve families with a stay-at-home parent as well as families where parents work the late shift or on weekends, while a pajama storytime held in the evening will serve families where parents and other caregivers work during the day
 - Some strategies librarians can use to integrate diversity and inclusion into instructional content:
 - Use diverse examples. For instance, a librarian teaching a workshop on Overdrive can conduct sample searches featuring authors of diverse identities. An academic librarian or archivist teaching students to locate primary documents from World War II might highlight sites with materials from the Tuskegee Army or the all Japanese-American 442nd Central Postal Directory. Hinchliffe (2016) notes that

librarians can call attention to issues of human rights through the examples used in class.

- Choose metaphors and analogies carefully. While metaphors and analogies can help learners build on prior knowledge and make concepts more concrete, they are often embedded in cultural knowledge or experiences that not everyone will share. Similarly, pop culture references may exclude learners based on their age or cultural background, although in some cases librarians can pause to offer a brief explanation.
- Discuss how issues of race, class, and gender impact the material being covered. Gorski and Swalwell (2015, p. 36) argue, “at the heart of a curriculum that is meaningfully multicultural lie principles of equity and social justice—purposeful attention to issues like racism, homophobia, sexism, and economic inequality.” Gay (2002) suggests that instructors address topics such as racism, historical atrocities, and structures of power, and contextualize issues within race, class, and gender. While librarians may initially feel uncomfortable discussing challenging topics in the classroom, Bunner (2017, p. 43) found that ignoring issues of race is more problematic for students of color than imperfect Critical conversations.
- Model how participants can seek out marginalized voices and perspectives. In addition to incorporating a wide range of perspectives into our own teaching, we can encourage others to adopt a wider perspective and demonstrate resources and search strategies to uncover marginalized voices.
- Pedagogy is our approach to teaching. It reflects our understanding of the learning process, our goals for the classroom environment and student learning, and, subsequently, the activities one plans for the classroom. Instructors who practice inclusive pedagogy recognize that students have varied preferences for and comfort levels with different learning activities such as lecture, whole-class discussion, and small group work, and offer varied ways for learners to engage in the classroom
- Instructors might seek to balance activities that reflect an individual approach such as lecture, independent practice, and reflective writing, with activities that reflect an integrated approach such as discussion, case studies, and collaborative work.
- Instructor-centered activities are those in which the instructor has a strong role in directing course content and the process of student learning, such as lecture and demonstration. In student-centered activities, students direct and shape their own learning; examples of student-centered activities include small group work, case-based and problem-based learning, and practice exercises that allow students to explore their own interests.
- For example, workshop participants might be reluctant to engage in a discussion with others they do not know well, especially if the topic is sensitive. A think-pair-share, which offers time for individual reflection and ordering one’s thoughts, or a small group discussion, where one shares ideas with just a few others, may feel safer for participants and can be used as a lead-in to a whole-class discussion or activity
- In Pedagogy of the Oppressed, Freire (2000) discusses the emancipatory aspects of education, or how education can be structured so as to empower marginalized and

oppressed communities to liberate themselves from systems of oppression. Crucial to Freire's approach is that the learners are the agents of their own liberation. Instructors can facilitate this process by recognizing and mitigating bias and through the inclusive strategies outlined in this chapter, but ultimately, learners should be empowered to act on their own behalf.

- Chapter 2 outlines steps we could take in the context of critical information literacy, such as helping students recognize how prevailing publishing practices and notions of authority favor some voices and marginalize others, and encouraging them to seek out those voices that have been marginalized to include their perspectives.

6. Accessibility and Universal Design for Learning: Serving Students with Disabilities

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- The Census Bureau (Taylor, 2018) reports that 27.2 percent of Americans have a disability, including 17.1 percent of children, 30.3 percent of adults aged 18-64, and 58.5 percent of adults aged 65 and older. These statistics reflect individuals living with permanent disabilities and chronic conditions; additionally, patrons experience temporary disabilities, such as a broken bone or recovery from illness or surgery. Thus, instruction librarians should assume that a substantial number of potential learners have, or will develop, a disability.
- Librarians can adopt a more inclusive model using the ethos of universal design, a framework for making spaces and services usable by the widest array of individuals.
- the chapter examines specific disabilities, their effect on learning, and strategies instructors can use to support learners. Finally, it introduces more comprehensive strategies for ensuring accessibility through attention to four areas: pedagogy, physical space design, instructional delivery, and instructional materials
- The Americans with Disabilities Act of 1990 (ADA) prohibits discrimination on the basis of disability and requires that institutions make their facilities, services, and programs accessible to individuals with disabilities. Educational institutions must also comply with Section 504 of the Rehabilitation Act of 1973, which mandates that institutions receiving federal funds provide all students with equitable access to educational programs and activities. Both the ADA and Section 504 require equal access to online information, including institutional web pages (Bradbard & Peters, 2010)
- Both K-12 schools and colleges and universities have established processes for identifying students with disabilities and arranging for accommodations.
- In the K-12 educational system, accommodations for students with disabilities are handled at the school level. Although the exact process will differ from district to district, generally speaking the school system is responsible for identifying students with

potential disabilities, testing students, and working with parents and teachers to develop appropriate accommodations.

- In many cases, teachers play a role in recognizing a potential problem and arranging for testing. Once in place, an accommodation plan will follow a student from grade to grade. School administrators must notify teachers if a student has an accommodation plan, and teachers are responsible for implementing the required accommodations in the classroom.
- Once they enroll in college, students are responsible for requesting accommodations at both the institutional and course level. Typically, students provide documentation of their disability to a central office for students with disabilities, and a staff member determines what accommodations will be offered. The staff member gives the student a letter outlining the accommodations, and each semester students approach individual faculty members to make arrangements for those accommodations within the course.
- And school and academic librarians should be aware that even when students are registered for accommodations, teachers and faculty may not convey this information to librarians teaching workshops and course-related instruction.
- The National Disability Authority (2020) explains: Universal Design is the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability. An environment (or any building, product, or service in that environment) should be designed to meet the needs of all people who wish to use it. This is not a special requirement, for the benefit of only a minority of the population. It is a fundamental condition of good design. If an environment is accessible, usable, convenient and a pleasure to use, everyone benefits. By considering the diverse needs and abilities of all throughout the design process, universal design creates products, services and environments that meet peoples' needs. Simply put, universal design is good design.
- Universal Design has seven principles for creating equitable and accessible environments (Center for Universal Design, 1997):
 - 1. Equitable Use: The design is useful and marketable to people with diverse abilities.
 - 2. Flexibility in Use: The design accommodates a wide range of individual preferences and abilities.
 - 3. Simple and Intuitive Use: Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
 - 4. Perceptible Information: The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
 - 5. Tolerance for Error: The design minimizes hazards and the adverse consequences of accidental or unintended actions.
 - 6. Low Physical Effort: The design can be used efficiently and comfortably and with a minimum of fatigue.

- 7. Size and Space for Approach and Use: Appropriate size and space [are] provided for approach, reach, manipulation, and use regardless of the user's body size, posture, or mobility
- Curb cuts are an excellent example of universal design. They make sidewalks and buildings accessible for people using wheelchairs and other mobility aids, and are also used by delivery people, bikers and skateboarders, and caregivers pushing strollers. Kitchen appliances with large, soft touch buttons are another example of universal design; they can be used by people with arthritis or other fine motor disabilities as well as able-bodied individuals. Ex. Doors that open with a touch of a button
- I use speechify as a product of universal design. The product reads pages to me however could be improved by giving more access to different types of PDF pages.
- this section of the chapter provides a brief introduction to specific disabilities and how they may affect a patron's ability to access instructional spaces and materials as well as the learning process. While knowledge of specific disabilities can assist librarians in implementing universal design practices, it is important to avoid making assumptions about an individual's abilities or preferred accommodations.
- Librarians should take their cues from patrons or explicitly ask what accommodations or support strategies would be most helpful, rather than imposing accommodations or insisting learners use specific strategies or supports
- At the same time, some individuals and communities see identity-first language, such as "disabled people" or "autistic," to be both accurate and empowering (Liebowitz, 2015; Kimura, 2018, p. 427). Pionke (2018, p. 245) recommends the term "functionally diverse" because it implies a spectrum of abilities, rather than the binary of disabled/able-bodied, and recognizes the diversity of ways people function in the world.
- In all cases, librarians should avoid terminology that is patronizing, such as "special"; that evokes pity, such as "afflicted with" or "suffering from"; or that places individuals on a pedestal, such as "courageous" or "inspirational" (Disability Resources & Educational Services, 2020)
- Visual disabilities encompass a range of conditions, from low or partial vision to blindness. Common conditions such as nearsightedness and farsightedness also qualify as visual disabilities (Berman, n.d.), as does color blindness. A visual disability may affect the learner's ability to see information on a whiteboard or slides, view information in print or on a computer monitor, or read and interpret color-coded charts and tables.
- Hearing disabilities also encompass a range of conditions from mild hearing loss, common as we age and often mitigated through the use of hearing aids, to deafness. Patrons may have difficulty hearing the instructor's presentation or student contributions, engaging in conversations in small group work, or hearing the narration in instructional videos and tutorials
- Physical disabilities can affect gross motor skills, such as walking or standing, or fine motor skills, such as writing, using a computer mouse, and manipulating small objects. Patrons who use mobility aids such as wheelchairs and walkers will need

wide, clear aisles and flexible seating arrangements in classrooms. In addition, instructors should be attentive to activities that require moving around the classroom or library or standing for long periods of time, and provide flexible options for participation.

- Instructors can ease processes that require fine motor skills such as note taking by providing outlines, handouts, and copies of slides, and highlight labor-saving devices such as citation management software and shortcut keys (Chodock & Dolinger, 2009).
- Attention-deficit/hyperactivity disorders result in a pattern of inattentiveness, hyperactivity-impulsivity, or both (National Institutes of Health, 2016). Individuals may be easily distracted, be disorganized or forgetful, have poor awareness of the passage of time or difficulty with long-term planning, exhibit restless and repetitive movements, be overly talkative, and/or be prone to interrupting or blurting out answers (Smith & Strick, 2010, p. 44-45).
- Instructors should take care to minimize distractions in the classroom and present only one activity or piece of information at a time. Agendas, outlines, handouts, and copies of slides can help learners stay focused, organize content, and fill in information gaps caused by momentary distractions. In school and academic settings, where students may have difficulty planning and completing complex assignments, librarians can break down the steps of research assignments and introduce assignment calculators that allocate sufficient time for each task
- Learning disabilities are not intellectual disabilities; individuals with learning disabilities have normal to gifted intelligence.
- Learning disabilities can result in decreased reading speed, poor auditory or reading comprehension, and/or difficulty writing, among other problems. Learners may have difficulty remembering instructions or working as quickly as their peers. Instructors can support individuals with learning disabilities by providing agendas, outlines, and note-taking guides; giving written instructions for activities and assignments; breaking large assignments into smaller steps; and emphasizing learning and quality of ideas over speed or the mechanics of writing.
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- The Association of Specialized Government and Cooperative Library Agencies (n.d.) recommends that librarians working with learners with intellectual disabilities use graphical representation on signage; give concrete, step-by-step directions; and demonstrate tasks, rather than describing what to do.
- Because patrons with intellectual disabilities read at varied levels, audiovisual materials are valuable resources for information and programming. For example, instead of a book club, libraries can host film discussion programs.
- Both note the importance of respecting individuals' autonomy and recommend librarians resist the urge to step in and take over for a struggling participant. Rather, librarians can ask guiding questions, give advice, and demonstrate techniques (Brady et al., 2014, p. 337), while allowing participants to do the hands-on work of their own project
- Chronic physical and mental illnesses also encompass a wide range of conditions from autoimmune disorders to diabetes, and depression or anxiety to post-traumatic

stress disorder. With both physical and mental illnesses, symptoms can wax and wane; individuals may be in good health for an extended period of time and then experience a flare-up of their condition.

- Symptoms of chronic illness can be debilitating, and medications may cause side effects, such as drowsiness or difficulty concentrating, that affect learning
- Librarians can also advertise the availability of online learning objects such as videos and tutorials that patrons can access from home and at their convenience. In order to be mindful of patrons with mental health issues, librarians can avoid potentially disturbing search examples or, when necessary, provide advance warning of potentially disturbing content.
- Autism spectrum disorder (ASD) is a developmental disorder “characterized by repetitive and characteristic patterns of behavior and difficulties with social communication and interaction” (National Institutes of Health, 2018). Many in the autism community refer to themselves as “neurodiverse,” a term that recognizes the unique experiences and strengths that accompany ASD (individuals without ASD are referred to as “neurotypical”).
- activities, and establishing predictable routines when possible (for example, in school libraries where classes visit the library weekly) are all helpful strategies. Difficulty with social interaction is common (Kuder & Accardo, 2018, p. 723), and individuals may find it challenging to interact with peers and instructors. Following the Universal Design model and giving learners varied ways to engage with classroom materials and activities will create a more accessible classroom. Librarians can also stress varied ways to contact librarians with follow-up questions, such as via chat and e-mail.
- As a first step in creating a more equitable classroom, librarians can examine and enhance their pedagogy, or the ways they design and teach classes. As discussed in Chapter 5, inclusive pedagogical practices mirror many other best practices in instructional design and create a more engaging, memorable learning experience for learners of all ages and backgrounds, including learners with disabilities.
- Universal Design for Learning (UDL). Created by the Center for Applied Special Technology (CAST), UDL is a three-part framework that recommends instructors vary how they engage and motivate students, present information, and allow students to demonstrate what they have learned (CAST, 2018). The three principles of UDL are Multiple Means of Engagement, Multiple Means of Representation, and Multiple Means of Action and Expression.
- The principle of Multiple Means of Engagement suggests that instructors provide “flexible options for generating and sustaining motivation, the why of learning” (Hall et al., 2012, p. 2)
- Instructors should share their instructional goals, emphasize relevant content, and use real-world examples. For example, a school or academic librarian teaching course-related instruction might begin by asking learners to share their research topics and any challenges they have encountered, then use that information to suggest appropriate databases and search strategies that address students’ needs (even when the librarian has preplanned the resources and strategies they would like to teach,

a discussion of student needs gives the librarian an opportunity to frame that content in ways that resonate with students)

- Learners vary in terms of what they find motivating and engaging, from those who are comfortable with risk taking to those who want more guidance and support, and those who thrive on competition to those who prefer collaboration.
- The Multiple Means of Engagement principle also emphasizes the importance of student agency and encourages instructors to give students choices about their own learning. In credit courses, instructors can allow learners to make assignment-related choices, such as identifying a topic of personal interest or selecting between a research paper or presentation.
- The principle of Multiple Means of Representation suggests that instructors use “flexible ways to present what we teach” (Hall et al., 2012, p. 2). Instructors should provide information in multiple modalities, for example by accompanying a verbal explanation with a textual and/or graphic representation and highlighting the availability of varied media in the library’s collection, including print materials at varied reading levels, online resources, audiobooks, and video resources. Additional strategies include using concrete, relevant, and diverse examples to illustrate concepts; highlighting main ideas, patterns, and relationships; scaffolding new knowledge and skills in small steps; and providing learning supports such as graphic organizers and glossaries.
- Universal Design for Learning (UDL)
- The principle of Multiple Means of Action and Expression suggests that instructors provide flexible options for how students learn and express what they know (Hall et al., 2012, p. 2). As noted earlier, instructors should use a variety of learning activities within instructional sessions, including lecture and discussion, as well as individual, pair, and small group work.
- Activities such as collaborative notes, polling, and games can also add variety to sessions and provide students with flexible ways to engage in learning. When asking for feedback, librarians can offer learners the option to write a brief textual reflection, capture their thoughts in bullet points, or draw a picture to convey their thoughts.
- School and academic librarians can work with classroom teachers to incorporate alternatives to the research paper, such as multimedia projects (Robinson, 2017), infographics, and presentations. Activity 6.2 is an opportunity to apply UDL’s three principles to an instruction session
- Classrooms should be conveniently located with clearly labeled accessible routes, level floors, and wide aisles. Entrances should be wide enough to accommodate wheelchairs and scooters, and doors should be lightweight with large, easy-to-grasp handles or electronic door openers. Instructors can offer preferred seating near the front of the classroom for learners with visual or auditory disabilities, while students with learning disabilities may prefer to sit in the rear of the room or along the sides, where there are fewer distractions. If learners have interpreters or aides, they will need a seat as well.

- Classrooms with flexible seating, such as lightweight, movable tables and chairs, will accommodate the widest variety of learners. If furniture is moved during a session, the room should be returned to its original configuration to ensure easy access for the next group of learners.
- Librarians can install adaptive software and/or make use of options for magnifying and reading text that are now included in many operating systems and applications. Whether offering adaptive software or utilizing built-in options, librarians should take time to learn how to use these technologies, rather than relying on patrons to figure it out on their own
- Adjustable lighting will allow instructors to vary illumination according to learner needs. In all cases, whiteboards and the instructor's face should be well lit. Display screens should be large enough that content is easily readable; many libraries now equip classrooms with multiple displays so that information can be accessible and easily viewed from any seat. Librarians should seek to minimize environmental noises that distract or make it difficult to hear the instructor.
- Disabilities Act of 1990 and individuals familiar with accessible design to ensure new spaces meet both legal requirements and the ethos of accessibility (Stochl, 2020). Kowalski and Woodruff (2018) include a chapter on designing library facilities that are accessible to and inclusive of a wide range of learners
- You should always face the audience when speaking. This benefits not only those who are hard of hearing but also students with learning disabilities and attention deficit disorders who may need a visual cue that you are speaking. One place many librarians forget this practice is when writing on the whiteboard; although it may feel awkward initially, it is essential to remember to pause, turn to write on the whiteboard, then turn back to the audience to resume speaking. Avoid placing hands, pencils, and other obstructions in front of your face, or standing in front of windows, as backlighting and glare will make it difficult to see your face. In large spaces, instructors should use a microphone to ensure everyone can easily hear instructions and lecture content.
- When writing on the whiteboard, use dark ink and print clearly. Letters or images should be large enough to be seen clearly from anywhere in the room. If the room is large and more than one whiteboard is available, you can repeat information in two locations (right/left or front/back). If you are using multimedia materials, turn on closed captions. If closed captions are not available, select alternative materials that are accessible
- Instructional materials such as handouts, slides, online guides, and videos should be designed for accessibility at the time of creation. Not only does this create a more inclusive classroom by serving learners who chose not to self-disclose a disability, it prevents the need for later revisions, which can be time-consuming and expensive.
- In some cases, instruction librarians may want to use materials created by others. While it is tempting to assume our colleagues would be mindful of accessibility practices, this is often not the case. Clossen and Proce (2017, p. 814-18) reviewed videos and multimedia tutorials from academic library websites and found that 48 percent of videos and 60 percent of tutorials lacked accessibility features.

Librarians should carefully evaluate any materials created by others to ensure they follow accessibility guidelines.

- Brady et al (2014, p. 337) recommend librarians provide images or video tours of spaces, writing “a video tour would allow people with disabilities to view the space and assess for themselves how well it would work for them.”

10. Selecting Instructional Strategies and Creating Lesson Plans

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- Scaffolding acknowledges the role that prior experience and prerequisite knowledge play in learning and can be understood through the lens of Vygotsky’s Zone of Proximal Development (ZPD), discussed in Chapter 3.
 - According to Vygotsky’s theory, there are three zones of development. The first zone represents tasks and activities that learners can accomplish on their own without help.
 - The third zone represents tasks and activities which the learner cannot yet accomplish, even with guidance.
 - The second area, the ZPD, represents the area of optimal learning. This area represents the tasks and activities that learners can accomplish with some guidance from instructors or more experienced peers. Students should find the work in this zone appropriately challenging; it is not so easy as to be boring nor so hard as to be overwhelming.
 - In the ZPD, students are drawing on prior learning and adding new information in order to move to a different level of knowledge
- Scaffolding learning means to consciously present information in a sequence so that students are introduced to, and have time to become competent with, foundational knowledge or simpler skills before progressing to more complex information and skills. Beyond just sequencing material appropriately, scaffolding involves providing support to learners as they progress through the various stages.
- As the students gain in competence, the supports are gradually removed, and the students assume more responsibility for their learning (Larkin, 2002). Ellis and Larkin (1998) suggest a framework of four steps for scaffolded learning:
 - 1. The teacher demonstrates a skill. For instance, an instructor might demonstrate how to conduct a search in the library catalog or download an ebook on an app.
 - 2. The class practices the skill as a large group. In a session on searching, the instructor might lead the search and ask students for suggestions of search terms or limiters to narrow results.
 - 3. Students continue their practice. Working in pairs or small groups, students practice the skills, offering each other help and feedback.

- 4. Individual students practice the skill on their own. At this point, students should be ready to search for and find materials for their projects.
- instructors can also offer scaffolding by breaking larger projects or assignments into smaller pieces and offering feedback at each step. For instance, rather than just assigning a research paper due at the end of the semester, the instructor could have students identify their paper topic early in the semester and help them refine their focus by providing feedback if the topic is too broad or narrow. Next, the teacher might ask students to submit an annotated bibliography of the sources they intend to use, again providing feedback if the sources are not appropriate or need to be supplemented. Finally, the teacher might ask for an outline of the paper to see how students are structuring their argument.
- In this way, learners should have more confidence and skill by the time they write the full paper because they have had support and feedback along the way
- We often hear advice for varying strategies tied to the idea of learning styles, or the belief that individuals have a preferred mode of learning or acquiring new information. Based on the theory that some students learn best through text, others through audio, and so on, instructors have been advised to present information in multiple formats to match these learning styles. The concept has been extremely influential, but multiple reviews have demonstrated a lack of scientific evidence to support the theory of learning styles (Coffield et al., 2004; Kaufmann, 2018), leading one research team to conclude “there is no adequate evidence base to justify incorporating learning styles assessments into general educational practice. Thus, limited education resources would better be devoted to adopting other educational practices” (Pashler et al., 2008, p. 105).
- Instructional Strategies and Learning Activities
- The number of learning activities available to us is enormous, from the more instructor-centered approaches like lecture and demonstration to the more active and student-centered approaches like discussion and inquiry learning.
- Because teachers are in control of the material in a lecture, they can be sure that the information is being communicated accurately, which can be especially important for learners who are new to a topic (Harrington & Zakrajsek, 2017). When done well, lectures can be engaging and even inspiring. So, how can we use lectures effectively in our teaching?
- We should not lecture simply because it is the easiest or most comfortable method but because it makes sense for our learning outcomes, material, and audience. We can also share the reason for our decision with learners, which can help them understand our choices and expectations. Lectures can be good scaffolding tools to establish background knowledge, either by reviewing previous content or providing an overview of a new topic.
- We should be careful to use clear language and to either avoid jargon or define jargon when we introduce it. Some instructors, especially newer ones, find it helpful to script their full lecture, but virtually anyone would benefit from having a solid outline and some brief notes. We should also decide if we will integrate any supporting materials.

- Undoubtedly, all of us have had the experience of sitting through classes where instructors read their notes or PowerPoint slides to us, delivered the entire lecture in a monotone, and never stepped away from the podium or whiteboard. Regardless of how good the content of such lectures might be, most of us have a hard time paying attention in those situations. How do we make our lectures dynamic and engaging?
- We should avoid standing behind a desk or podium throughout a lecture but rather move around the classroom as we talk. This movement adds some energy to the lecture and helps us engage students beyond the first row of seats
- a lecture will take more than 10 to 15 minutes to deliver, we should plan to “chunk” the lecture, or break it down into smaller parts. Brookfield suggests breaking lectures into 12- to 15-minute chunks and using “bridging activities” between them (2006, p. 105). Bridging activities could include a short pause to allow students to take notes, questions to prompt reflection or discussion, or a short demonstration or illustration of a point. Some instructors will also use cartoons or jokes to break up their lectures, although these should be linked to the content
- Some researchers suggest keeping online lecture videos to under 10 minutes, as student attention seems to peak around six minutes and fall off drastically after 10 minutes (Gou, 2013). Research on instructional videos, which tend to demonstrate specific tasks or skills such as how to request an interlibrary loan, suggests an optimal length of 30 seconds to two minutes (Bowles-Terry et al., 2010).
- Harrington and Zakrajsek (2017) provide a number of approaches to increase learner engagement with lectures. Some of these examples might be familiar. Demonstration lectures, which involve walking the class through a process or task while explaining the steps, are popular in library classrooms. Visually enhanced lectures are supported by visual tools, such as slides, images, infographics, or brief videos
- Storytelling can enliven lectures (Harrington & Zakrajsek, 2017), and presenters of some of the most popular TED Talks recommend weaving stories into your presentation to capture listeners’ attention (Gallo, 2014). Stories can make information come to life and elucidate a point more convincingly than a direct statement can
- Of course, you want learners to remember a story because of the information it conveys, not just because it was entertaining. To be effective, the story must relate to the lesson and should expand on a point, illustrate a skill or process, or elucidate connections within the material.
- Lecture Pause: We can suggest that students jot down notes about what they have learned or provide them with a question about the material for reflection. We can let students work individually or ask them to share their thoughts with a peer. Either way, this technique requires only a couple of minutes and can be used even in very large classes. If we have already chunked our lecture, we will have natural breaking points to insert a pause
- If questions are posed to the entire class, only a few students might have a chance to answer, especially if the class is large. To give more learners a chance to join the discussion, we can break students into pairs or small groups and give them a few minutes to talk amongst themselves before having a few people share with the

entire class. Another technique is to provide students with graphic organizers or partial outlines of the lecture (discussed in more depth later in the chapter) to encourage them to take notes

- Demonstrations are very common in information settings, where instructors use them to illustrate a wide range of skills and activities, such as how to create effective search strings, search specific databases, use technology tools, or request an interlibrary loan. Such demonstrations might be delivered live in the classroom or recorded as a screencast video. In either case, we must be careful to narrate each step in the process. We must remember that for many of our learners, this information is new and potentially confusing.
- Demonstrations are often grouped together with lectures as teacher-centered activities but, like lectures, they can be made interactive. We can use polls to determine how familiar our audience members are with the process we are about to demonstrate; ask for their input on aspects of the demonstration, such as having them suggest topics to search; and invite learners to demonstrate some of the steps for the class
- Discussions are a popular way of integrating active learning, but they take some planning and skill to manage effectively. All of us have probably been part of class discussions that seemed strained or have flopped. All too often, instructors ask discussion questions only to be met with silence and blank stares. At other times, the class might engage in some discussion, and it might even be lively, but, ultimately, only a handful of students will have contributed to the conversation.
- In fact, often only about five to eight people will make up more than three-quarters of the class discussion, regardless of the size of the class (Howard, 2019). And even when a robust discussion does occur, at least some students are likely to leave the class without having taken notes, unsure of what aspects of the discussion were important or what the main takeaways were
- For instance, many instructors will begin class by introducing themselves, going over the agenda, and discussing learning outcomes. While this is important content, it means that the instructor does most of the talking for the first part of the class, replicating the model of civil attention. Imagine, instead, if the instructor opened the class with a question, so that students were immediately drawn into an active role.
- Instructors should tell learners why their participation is important. If your teaching philosophy draws on constructivist and social-constructivist theories, you could share that with students, letting them know that you believe participation will help them construct new knowledge and deepen their learning. You could also share research demonstrating that active learning, including discussion, leads to better learning outcomes (Howard, 2019). These steps help learners understand that your use of discussion was a conscious decision based in best practice, not a sign of laziness or a way of evading your responsibility as a teacher
- They recommend aligning discussion activities with the intended outcome. For instance, a “fishbowl discussion,” in which one group of students engages in a discussion while another group observes, takes notes, and then summarizes the main points, can help promote active listening, while activities like think-pair-share can increase participation by ensuring each student talks with at least one peer.

- Closed-ended questions, which require only a yes-or-no answer, and fact-based questions with a single correct answer, such as who won the presidential election in 2008, do not lend themselves well to discussion
- Fruitful discussion questions fall into a range of areas, including (Eberly Center, n.d.):
 - Challenge: Reflect on or interrogate assumptions, conclusions, or interpretations. ◦Example: "What makes this article a good choice for your paper?"
 - Diagnostic: Probe the motives or causes behind actions, incidents, or declarations. ◦Example: "Why might certain members of the community have wanted to ban this book?"
 - Action: Ask for a conclusion or solution. ◦Example: "What steps could we take to improve our online security?"
 - Cause-and-effect: Probe the relationship between ideas or events. ◦Example: "How might the repeal of net neutrality impact online access?"
 - Hypothetical: Reflect on an imagined scenario. ◦Example: "How might social media change if people had to pay to use platforms like Facebook and Twitter?"
 - Summary: Synthesize ideas or main points. ◦Example: "What are some of the main takeaways from today's discussion?"
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- However, we also need to understand that some silence is expected and can even be productive. Learners often need a few moments to gather their thoughts before they volunteer to speak, and good discussion questions are meant to be thought provoking, so we should anticipate some time for students to process the question. Unfortunately, many instructors are uncomfortable with silence, often misinterpreting it as a lack of engagement or understanding and rushing to rephrase the question or provide the answer themselves.
- Such actions actually discourage discussion, suggesting that the instructor is not really interested in hearing from students and signaling that if students just wait, the instructor will give them the answer.
- Announcing the pause might also relieve anxiety for those students who need the time to think. Even just a few extra seconds of waiting after posing a question can increase the overall number of students who participate.
- Finally, we can find alternative ways for students to participate beyond having to share their own thoughts in front of a large group. For instance, we could end a think-pair-share activity by asking the class, "Whose partner had a great answer or interesting idea?" This question invites learners to share their partner's idea rather than their own, which might be easier and feel less risky for some students.
- Another option is to allow students to participate in online discussions. Some learners prefer online discussion because it gives them more time to organize their thoughts and craft their answers, and it removes the public-speaking aspect.
- One of the book authors creates an online discussion board she calls "continued conversations" for her face-to-face classes. At the beginning of the semester, she lets students know that the discussion board is optional, but any posts will count toward their participation grade. For many learners, these options will be first steps, and, as they gain confidence, they will be able to participate more easily in regular in-class discussions

- The flip side to quiet learners who are reluctant to participate are those who volunteer immediately to answer questions, interrupt others, or otherwise dominate the discussion. While these students might be well meaning and eager, they reduce opportunities for others to participate.
- One strategy for dealing with dominant talkers is to avoid immediately calling on the first people to raise their hands, but use the conscious pause described earlier to give more people a chance to volunteer. If some students have already talked quite a bit, we can thank them for their contributions but say that we would like to hear from some other voices as well.
- We can establish a guideline that once a person participates, that person cannot speak again until two other voices have been heard, or we can give each student three chips at the beginning of class and ask that they deposit one in a jar each time they speak (Herman & Nilson, 2018)
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- Some students are resistant to discussions because they do not see value in them (Herman & Nilson, 2018; McKeachie & Svinicki, 2006). They might resent time spent listening to their peers when they believe the teacher has the knowledge and the “right” answers, and they might also view the discussion as a test to see if they can guess the answer the instructor wants, rather than seeing it as a true exchange of ideas
- we can demonstrate the value of discussion and surface the learning that takes place by periodically summarizing the discussion and identifying the key takeaways. These summaries help make the learning visible and give the instructor an opportunity to fill in any gaps, correct inaccuracies, and answer lingering questions.
- A flipped classroom is one in which content is delivered outside of class time so that the instruction session can focus on hands-on practice and activities to apply the learning. This model “flips” the traditional classroom approach in which instructors deliver content during class, often through lecture and demonstration, and students apply the learning outside of class through assignments and projects.
- Learners gain background knowledge or “first-exposure” information (Walvoord & Anderson, 2010, p. 81) before class begins so class time can be spent on higher-order thinking skills and processes, such as evaluating, synthesizing, and creating. Further, because application is happening in the classroom, the instructor is available at the point of practice, where students are more likely to have questions, and where instructors can provide immediate feedback and guidance
- Often, instructors will use video lectures and readings to deliver content before the class meeting. Of course, for the classroom activities to work effectively, students must have completed the pre-work.
- incorporating exercises or other assignments into the pre-work to hold learners accountable. For instance, instructors could assign a brief questionnaire about the lecture and reading or ask students to write down the main points. In addition to holding students accountable, these checks can work as assessments, showing the instructors if there are misunderstandings or gaps in knowledge so they can be addressed before launching into activities

- The flipped model depends on learners completing some out-of-class work prior to the session, but academic and public librarians delivering one-shot sessions might find it challenging to assign pre-work, and learners in these sessions might not feel obligated to complete the assignments.
- Faculty will include library tutorials or readings as an assignment and might offer students credit for completing the work. Datig and Ruswick (2013) assigned tutorials they had already developed for asynchronous and self-paced learning as pre-work for face-to-face sessions, thus getting more use from those materials. They found the flipped classroom more engaging for both the learners and the librarians, who had been experiencing “lecture fatigue.”
- Public librarians in Georgia implemented a flipped-classroom model for some of their programs, providing content through videos and other formats ahead of sessions (Logan & Hadzhieva (2018), while those at the Twinsburg Public Library in Ohio (2020) promote flipped English as a Second or Other Language courses, where learners watch videos and complete tutorials outside of class time. The Skokie Public Library in Illinois created a Massively Open Online Course (MOOC) on HTML and web design for its patrons using a flipped classroom model (Coan, 2016). Pre-work should be clearly described in the promotional or registration materials for a workshop and made easily available.
- In problem-based learning the instructor presents a messy, fuzzy, or ill-defined problem which the class works to solve, often in small groups. Rather than listening to lectures or following step-by-step experiments or demonstrations, learners must use their knowledge, engage in research, and test ideas to develop a solution or answer to the problem (Kretchmar, 2019). To be effective, the problems presented to students need to be complex, should not have a single right answer or a single path to a solution, and should be based in the real world. For instance, a library instructor could ask students how to combat the spread of disinformation or “fake news” on social media.
- The instructor is on hand to offer guidance as needed but typically will not provide direct answers to questions, instead coaching students to think through the problem and find the answer for themselves.
- we could begin a class by posing a question, such as “How do we know which information to trust online?” We could then give students different news stories or resources and ask them to work together to decide if they would trust a certain source and why. As students report on their work, we can develop a list of criteria that will largely mirror the one we would have presented; however, with this approach, learners will have discovered those criteria on their own
- Games are a fun way to engage learners, and they can be used at any age level and in any setting. Games generally incorporate an element of competition, either between individuals or groups or with single learners challenging themselves, but a game’s purpose is to impart information or develop skills.
- Instructors can adapt popular game shows for the classroom. For instance, in library Jeopardy, instructors present library terms, services, or concepts, and students volunteer answers—in the form of a question, of course.

- Peer instruction gives students a chance to share their knowledge and expertise with one another, and learners are often particularly engaged by their peers. Peer instruction is not only engaging, it can lead to deeper learning by requiring students to put concepts in their own words and reinforce skills through practice. During peer instruction, the instructor should stay engaged and offer feedback or redirect if the peer instructors are providing inaccurate information.
- think-pair-share is one of the most popular active learning techniques and can be used in classes of all sizes, with all different ages. Because it incorporates time for learners to gather their thoughts before responding and requires students to interact only with one other person, think-pair-share is relatively low risk even for introverted or anxious students. Depending on the size of the class, the instructor might have each student share their thoughts with the class or ask for a few volunteers to sum up their discussion for the whole group
- Polls are a relatively simple and quick way to add some interaction to the class. Poll questions can be content-based questions of fact, or they could be scaled questions asking learners their level of familiarity with a concept or confidence in a task. Polls can be done by a show of hands or with polling software
- The process of putting concepts into writing requires learners to reflect on what they have learned, recall bits of information, and translate the ideas into their own words, all of which help reinforce and deepen learning.
- Some writing reflections require only one to two minutes of class time, making it easy to adopt them even in short workshops and one-shot sessions.
- In library classrooms, we will encounter learners with a wide range of literacy, language, and writing abilities. English language learners, younger patrons, and patrons with low literacy, among others, might find writing exercises particularly challenging.
- We can emphasize the low-stakes nature of the activity by explaining that the purpose is not to critique learners' writing but to give them an opportunity to reflect.
- We might even say that writing "does not count," or that we will not be paying attention to grammar or spelling. Often, librarians are not giving learners grades on their activities anyway, and this helps to keep the exercises low stakes. When appropriate, we might also offer learners different options for reflection, such as drawing a picture or providing a demonstration of a task, rather than writing out the steps.
- Pre-writing is a form of brainstorming or capturing ideas before delving more deeply into a lesson. For instance, instructors might ask students to brainstorm paper topics or keywords and synonyms for their topics before beginning a lesson on searching. Learners could jot ideas down on paper, organize their thoughts into a concept map or list, or use a graphic organizer
- The minute paper is meant to be very brief, typically just two or three questions.
- Common minute-paper questions include: What are one or two new things you learned from this lesson? Can you describe one or two ways you can use what you learned? What remains unclear from the lesson? What questions do you have about today's lesson?

- Graphic organizers and lecture outlines are a form of guided notetaking; they provide students with a framework for the lesson, drawing their attention to important points. As their name implies, graphic organizers are generally visual tools, such as figures or infographics, with space for learners to take notes or label parts of the figure.
- For example, during an orientation, librarians could provide patrons with a blank map of the library and encourage them to label the spaces on the map as they move through the tour. As another example, Chapter 3 provided you with a blank table to track learning theories, including the names of the theorists and the key points of each theory. Similarly, instructors can provide learners with a partial outline of a lecture, leaving spaces for students to fill in the missing information
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- According to the constructivist and social constructivist learning theories introduced in Chapter 3, human beings create meaning and new knowledge in part through their interactions with other people. Group work provides learners with opportunities for peer interaction to facilitate that process. Small groups can give everyone a chance to participate, even in larger classes, and many learners will find it less intimidating to talk and share ideas in a smaller group.
- Several best practices apply specifically to group work. First, we need to be clear about the purpose, expectations, and tasks involved. Without clear directions, groups will be unsure of how to engage and are likely to end the activity feeling they have not been productive. Before starting any group activity, we should lay out the goals and provide directions, including any guiding questions or specific tasks. We should also be clear about the outcomes and any deliverables. Are groups expected to produce something tangible, like a concept map? Should the group take notes and be prepared to discuss its activities with the class? Providing a handout or displaying a slide with the directions can help the group stay on track
- Since group work tends to be more self-directed than other strategies, some instructors are unsure of their role and might disengage from the class. Even while groups work independently, we should be active in the classroom. Circulating throughout the room helps ensure groups stay on task and provides opportunities to respond to questions or concerns.
- Circulating through the room and checking on progress also give us a chance to gauge the time and decide when to wrap up the activity.
- Guided discussions: Provide learners with a question, scenario, case study, or similar prompt, and have them discuss their answers in small groups.
- Jigsaw: Break the class into groups and give each group an aspect of a topic to research or discuss. These groups develop expertise on their aspect of the topic. After a set amount of time, shuffle the groups so each new group has one representative from each original group. As students share their research from the original group, the new group will develop a full picture of the topic.
- Break students into small groups and ask them to sit in a circle. Each student gets two to three minutes to speak without interruption in response to a question or prompt. Once everyone in the group has had a turn, the group can have a more general

discussion on the topic. Students should try to build on their peers' responses, rather than offering only their own ideas.

- Discussions can be structured to examine different perspectives on a question or the merits of different strategies. For instance, we could ask groups to debate the merits of using primary versus secondary sources when researching a historical topic or create a list of the pros and cons of different online browsers
- Even in a problem-based classroom exercise, instructors often use lecture to provide background information or demonstrate methods students might use to research the problem and develop solutions. In other words, we can mix and match instructional strategies in any classroom. Brookfield asserts that we should think of strategies such as lecture, discussion, and other active learning techniques as “symbiotic” (2006, p. 98). We simply want to make conscious decisions about which strategies we are using and consider why those strategies are appropriate
- Our instructional design decisions should culminate in a written lesson plan or detailed outline of the session. Some instructors might question whether a written plan is necessary, but putting the plan into writing ensures that we are addressing all the necessary details and thinking carefully through each decision. It also creates a record of the lesson, which can aid us in reflecting on the session later and implementing lessons consistently over time. Also, a written plan can be shared with colleagues, which can also ensure consistency when multiple people are teaching the same lesson
- The bulk of the plan outlines the content, instructional strategies, and assessments for the lesson. The lesson plan should provide a step-by-step overview of each section or “chunk” of the session, with a brief explanation of what will take place during that section, including the instructional strategies and any assessments that will be employed. The plan should include enough detail that a colleague could envision or re-create the lesson but should not be a word-for-word transcript. Include only the major points of lecture content or the basic directions for an activity.
- To be safe, you might allot more time than you initially think you need for each segment but have additional examples or backup activities that you can use if you have extra time at the end of the session. Conversely, you can note activities or examples to cut if you run out of time.

19. Marketing Library Instruction

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- With these exceptions aside, because our sessions depend on audience interest and invitation, instruction librarians must engage in marketing and communication to raise awareness of and generate interest in their sessions. This chapter provides

a brief overview of marketing and outreach techniques suitable for instruction programs

- Some information professionals have negative associations with the word “marketing,” but in the library and information science field, marketing is not about selling people a product or service they may not want or need. Instead, it is an informational activity meant to raise patrons’ awareness about the services the library offers, like instruction sessions, and to help patrons understand the value they will find in those sessions.
- No matter how well designed, useful, and relevant our instruction sessions are, people will not attend if they are not aware of them. Unfortunately, most people feel only “somewhat well informed” about the resources and services their libraries offer and wish that the library communicated better so that they could be more aware (Pew Research Center, 2013)
- Similarly, ACRL (2017) describes the library teacher as an advocate who “promotes and advances information literacy.” The Public Library Association (n.d.) offers a list of resources for marketing, while the American Association of School Librarians (AASL) addresses marketing with advocacy and public relations, defining marketing as “a planned and sustained process to assess the customer’s needs and then to select materials and services to meet those needs” (AASL, n.d.)
- How do we make people more aware of our instruction services? We can accomplish this through a clear and coherent marketing strategy. A coherent marketing strategy will involve concise and engaging messages targeted to a specific audience and delivered through one or more relevant formats. Developing a comprehensive marketing plan is a complex undertaking and outside the scope of this chapter. However, a basic marketing strategy can be boiled down to four steps: identifying the audience, determining audience interest and needs, crafting the message, and selecting a medium to disseminate the message
- In the field of business, this process of “dividing potential customers into groups based on shared characteristics” (Ruckno, 2019) is known as market segmentation, and its aim is to align messaging with the specific needs or interests of each community.
- Potential markets can be subdivided in countless ways, including by gender, age, education level, and geographic location. In some cases, businesses might develop different products for different customer groups, but in other cases they market the same product to different groups using different messages and mediums
- In general, we should group learners who share similar characteristics that will impact their instruction needs and interests. In school and academic libraries, our primary service communities are students and instructors, but each of those groups can be further segmented. For instance, we can group students by grade level; major or broad academic interest; extracurricular pursuits; first-generation, international, or disability status; and so on. Public libraries also have a wide range of possible market segments, including by age, socioeconomic status, languages spoken at home, and hobbies.
- Understanding members of our audience is crucial to developing a message that captures their attention and piques their curiosity. Especially in an age when they

are constantly inundated with advertisements and social media messages, people are likely to ignore or tune out information that is not relevant to them.

- In some cases, we will market different resources and services to each group, and in some cases, we will promote the same services and resources but describe them differently. Even when audience interests overlap, each group will have different motivations for its interests or will prioritize those interests differently, so that the same message will not work for all groups
- We can even adjust the language that we use with different audiences. While we always want to remain professional, shorter, more informal messages might resonate more with a younger audience. The point is to craft a message appropriate to the targeted group
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- Just as different groups have different areas of interest, they also have different preferred methods and sources for receiving information, and we should find appropriate mediums for getting our message out to each group. In most cases, we will want to find more than one way to share our message, regardless of audience, but the question is which formats or outlets will work best?
- In most cases, we will want to find more than one way to share our message, regardless of audience, but the question is which formats or outlets will work best? As we research our audience needs, we should also inquire about which outlets they use to find out about community events. Do some users rely on social media? Which platforms do they prefer? Which patrons subscribe to the library newsletter or the local community paper? Which patrons are likely to see flyers at the student union or the local yoga studio? And who can we meet by moving out of the library and into spaces like residence halls, low-income housing, and farmers' markets? The sections below explore how to use various outlets and media effectively, but the first step is to match different outlets with each audience.
- We also must consider how to use each medium effectively. With most text-based materials, including flyers, direct email messages, web blurbs, or notices in newsletters, we should minimize the time and effort needed to digest the information by keeping the text brief while still adapting it for the intended audience.
- With most text-based materials, including flyers, direct email messages, web blurbs, or notices in newsletters, we should minimize the time and effort needed to digest the information by keeping the text brief while still adapting it for the intended audience. For instance, for a voluntary workshop, we might include the title of the session, a line or two about what attendees will learn and how it will benefit them, the basic logistics such as time and place, and whether registration is necessary.
- If the articles include a few positive quotes from attendees, all the better. Keep in mind that we can use images and graphics to enhance our textual materials.
- Unlike most written materials, social media offers an opportunity for interaction with our learners, and we should incorporate those opportunities into our messaging. For instance, we could invite learners to share something they enjoyed about a recent workshop they attended or invite them to submit pictures of themselves putting

the skills they learned into practice. Creative use of hashtags can make our messages discoverable.

- Unlike most written materials, social media offers an opportunity for interaction with our learners, and we should incorporate those opportunities into our messaging. For instance, we could invite learners to share something they enjoyed about a recent workshop they attended or invite them to submit pictures of themselves putting the skills they learned into practice. Creative use of hashtags can make our messages discoverable.
- Each person is intersectional, or made up of numerous, overlapping identities, and as such, each individual is a member of multiple groups. For instance, one person might be a father of young children and a nontraditional student returning to college for a degree. Another might be an African American woman and a veteran working as a nurse. Each part of a person's identity could influence different instructional interests and needs. Further, not every single member of a group will necessarily share all of the interests and needs of the larger group. While we can use market segmentation for broad generalities and guidance, we have to be sure not to make assumptions about any person based on actual or perceived membership in a group.
- we should consider the overall look and feel of the range of materials we create in order to achieve a coherent approach. For instance, we might select a color palette and font style to use consistently across all of our messaging, or we might develop a signature graphic or logo that identifies the library instruction program (Graesser & Sundell-Thomas, 2020). This kind of branding makes our materials recognizable and provides a familiar and consistent feel.
- As with any materials we create, we want to be sure that our marketing materials are accessible to our audience. As we develop materials in different formats, we should ensure to provide readable text, use color and white space effectively, add alt text for images, and include closed captions for videos
- we can reach potential learners in a more interpersonal way through in-person and word-of-mouth marketing. To begin with, every instruction librarian should prepare an elevator speech, or a brief speech of about 30 seconds describing the instruction program. Ideally, the speech should explain who benefits from the program and what those benefits are.
 - The Association for Library Service to Children (2015) offers a simple template: I help [target audience] [verb phrase] so that [proven/expected positive outcome for the target audience].
- For instance, a school or academic librarian might say, "I help students learn to evaluate information so that they use better resources in their papers and earn better grades." An archivist might say, "I help researchers locate and interpret historical resources so that they can create the books and films that help us understand history." With an elevator speech ready, we can market our instruction services to potential learners and other stakeholders whenever and wherever we might encounter them.
- We should also consider taking our message out of the library and into our patrons' spaces. People often ignore emails, social media posts, and flyers when they are constantly inundated with information. However, when we meet them in-person,

not only can we ensure they receive our message, we can answer any questions they might have and make the information even more personalized.

- These librarians might also request a few minutes at a faculty meeting to share information about the instruction program. Public librarians might visit community centers, housing developments, and elder and youth service organizations. And all librarians
- should make an effort to attend community meetings and events, including school sporting events, city council meetings, rallies, and so forth. Armed with printed marketing materials and an elevator speech, we can share information about our instruction program while showing support for our community.
- We can also tap into word-of-mouth marketing by encouraging some of our most satisfied users to talk about our services (Graesser & Sundell-Thomas, 2020). Our patrons and potential learners expect positive messages about the library to come from librarians, but such messages coming from their peers or trusted colleagues might pique their interest in a new way.
- A faculty member who had a good experience with an in-class session can discuss that experience with her colleagues in a way that speaks to their needs as instructors more directly and specifically than someone outside of the department.
- Stories from students who felt more confident writing a paper after library instruction, or public library patrons who found a job after attending a job hunting workshop can be more impactful than any message a librarian can deliver.
- Depending on our setting and intended audience, we could even ask patrons to record a short video for the library website or write a brief article for the newsletter. See Activity 19.5 for an exercise on in-person marketing and outreach.

20. Coordinating Instructional Programs

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- When starting out, most instruction librarians will focus on developing and delivering their own individual instruction sessions. At some point, however, many of us will be asked to participate in planning and assessing a broader curriculum, and some might find ourselves in charge of our institution's instructional program.
- The Stages of Backward Design
 - Identify Desired Results - What are the learning goals of the library instruction program? -What should students know, understand, or be able to do by the end of the program?
 - Determine Acceptable Evidence - How will we know if learning goals have been achieved? - What activities will students engage in to demonstrate knowledge and ability?

- Plan Learning Experiences and Instruction - How will we engage students with the curriculum? - What courses, sessions, and activities align with the program learning goals?
- the three stages of Backward Design are (illustrated in Figure 20.1):
 - 1. Identify desired results
 - 2. Determine acceptable evidence
 - 3. Plan learning experiences and instruction
- . For instance, learning outcomes related to Boolean, proximity, and subject searching in individual sessions imply that, ultimately, learners should be able to apply and combine search commands to develop effective search strings
- While program-level outcomes will be broader than those at the session level, they should still be clear, specific, and measurable, as we will need to assess the learning at the program level just as we would at the session level. As always, the outcomes should be appropriate to our audience and setting.
- , the Association of College & Research Libraries' (ACRL) Framework for Information Literacy for Higher Education(2016) describes the information literacy competencies an individual might expect to have upon finishing an undergraduate degree program, while the American Association of School Librarians' (AASL) National School Library Standards(2018) are meant to apply throughout K-12 education. When drawing on standards like these to create program learning outcomes, we need to consider our audience and the scope of our program. Are we describing outcomes for students in a certain year of high school or college, or at the end of their entire high school or college degree program? We would not expect students to achieve the same learning outcomes at the end of their first year of college as we will expect of them when they are seniors, but in both cases we can begin with the ACRL Framework To determine what learners should know and be able to do
- According to Backward Design, at this stage we identify activities or assignments through which learners could demonstrate their learning. As described in Chapter 9, we can find or develop activities that align with our learning outcomes, have students complete those activities, and then collect and analyze the results for evidence of learning
- In order to assess at the program level, we collect and analyze data across sessions and over longer periods of time, such as a semester or year, to get a picture of learner achievement across the program
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- When planning our instruction program, we should consider scaffolding, or sequencing sessions, so that learners are exposed to more complex information to build their skills and knowledge over time. Just as we would do within a session, we should examine our program to understand where certain skills are introduced, how they can be built on or reinforced, and whether there is a clear path for students to fully achieve the program-level goals. One way to conduct this type of review is through curriculum mapping.
- Instructors can then use the appropriate table cell to indicate if a specific outcome is addressed in that course. These maps might also identify the level of

learning happening in each session. Typically, the maps identify learning levels as “introduced,” “reinforced,” or “mastered,” depending on the expectations for student ability at the end of that session, although any terminology could be used.

- Once completed, these maps provide a visual overview of how current instruction sessions align with program goals, whether a clear path to attainment of learning goals exists, and where the gaps are.
- For librarians, gathering evidence for assessment can be more challenging at the program level than at the session level. Unlike teachers in a degree program, librarians typically are not in a position to assign the types of activities like capstone projects or portfolios that require students to synthesize and apply skills and knowledge they have developed over the course of a program
- Otherwise, we will probably have to draw on and aggregate work produced in our individual sessions to assess at the program level. We can use our curriculum map to locate instruction sessions that address specific outcomes at a mastery level, and then identify the activities or assignments from that session that align with the outcome.
- In general, when we complete the assessment, we want to see the bulk of students meeting expectations, with some smaller percentage exceeding or not meeting, so that if we plotted the scores out on a graph, we would see a normal curve. Within our own programs, we can establish benchmarks or a minimum percentage of students we want to see meeting or exceeding expectations.
- In addition to assessing whether learners are achieving program-level learning outcomes, we can use our review of activities to assess the efficacy of our various instruction sessions. We can gather activities from a specific session or series of sessions over a certain time period and review the activities to determine whether that session or series is effective.
 - For instance, a public library that consistently offers a series of technology workshops could gather activities from those sessions for a six-month period and review them to determine if the classes are meeting their goals.
- If gaps are found, the program manager might make recommendations for revisions to the session. As explained in Chapter 9, assessment activities should be iterative, meaning that we return and reassess on a regular basis. When revisions are made to a course or session, iterative assessment helps us understand if those revisions were effective.
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- To an extent, some of the techniques for individual evaluation described earlier in Chapter 13 can be aggregated as part of a program review. For instance, we could compile survey results from all of our workshops over the course of a semester or year to get a picture of learners’ perceptions of our instruction program as a whole. Similarly, we could look across the short-text responses from multiple sessions for patterns and themes. With regard to standards, librarians could look across lessons in a unit or series to see how well their programs address the full standards, and whether content and skills are appropriately scaffolded across sessions.

- Most libraries and information centers will track attendance at instruction sessions. Especially in cases where learners choose to attend sessions, such as public library workshops, we might want to track attendance by time of day, day of the week, and session topic to get a sense of the distribution of attendance, which can help us plan for future workshops.
- In school and academic settings, where librarians might be dependent on faculty invitations to provide instruction, we can track requests by department, which can help us plan outreach. If we create online learning objects such as videos, tutorials, and library guides, we can use web analytics to track usage of these resources. It is important to note that while these numbers can help us evaluate the impact and reach of our programs, they do not measure quality or learner satisfaction
- Program managers will often have responsibility for overseeing the administrative and logistical details of the instruction program. The specific areas of responsibility will vary by institution but will generally include managing staff, including setting schedules, establishing policies and procedures, and communicating with stakeholders.
- As a department head with direct reports, the program manager will likely be responsible for hiring new instruction librarians. Even if the library director makes the final hiring decision and negotiates the offer, the instruction program manager will be involved in writing the job description, reviewing applications, and setting up and conducting interviews.
- The challenge in writing job descriptions is to delineate between essential knowledge and skills that a person should bring to the position on day one, and the knowledge and skills that we might prefer them to have on day one but could be developed on the job
- Either way, a presentation gives the hiring manager and staff a glimpse of the applicant's teaching style and how it is put into practice, and as such is a good supplement to more standard interview questions. Some employers, especially in school settings, might also ask to see a portfolio of the applicant's work, including sample lesson plans and class activities.
- Once a hire is made, the program manager will orient the new staff to the department, including reviewing policies and procedures, and lead them through any training program, which might include shadowing experienced instruction librarians and assisting in instruction sessions.
- For instance, if new employees have limited experience teaching online, they might set a goal to attend training and familiarize themselves with relevant software
- Program managers will likely also either conduct annual reviews with instruction staff or contribute to reviews done by higher-level administrators. Reviews should be both positive and constructive. We should acknowledge what our staff is doing well, but we also need to address any challenges or areas for growth openly and honestly.
- The aim with constructive feedback is not to just point out areas for improvement but also to identify strategies for improvement, such as training and professional development, shadowing a more experienced teacher, and opportunities for self-reflection.

- We should also review each staff member's goals from the previous year, discuss achievements, and set goals for the upcoming year.
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- On a day-to-day basis, the program manager might administer logistics such as schedules and facilities. In some institutions, especially those which use a liaison model, in which librarians are assigned to directly support specific academic departments, liaison librarians might receive instruction requests from departmental faculty directly and manage their own schedules.
- In other cases, a program manager might receive all instruction requests and be responsible for assigning staff coverage and requesting classroom space as necessary.
- Scheduling might seem like a straightforward process, but it involves more than just ensuring a librarian is assigned to every session. In addition to actual time spent in the session, we also have to calculate the time needed to prepare for a session, also known as "prep time."
- If a session is completely new, instructors might need even more than two hours, as they will have to prepare the entire session, from identifying the learning outcomes to developing assessments and learning activities. If an instructor is visiting a class at the request of a faculty member, we might also build in time for them to talk about goals for the session
- Assuming that most library instructors will need about two hours of prep time for each hour in class, we can estimate how many hour-long instruction sessions per week our staff can handle. We can also try to manage the schedule so that sessions are balanced across staff in order to avoid burnout.
- In fact, most instructors will want to plan their sessions days or even weeks in advance, and then take time to review the materials briefly just before the session
- Even when we do not have direct control over our classroom space, or lack the budget to renovate our space, we can take steps to make the classroom comfortable and accessible for our learners and our instructors. For instance, we might be able to move some furniture to make wider aisles or to provide space at workstations for wheelchairs, arrange seating at the front of the room for learners with visual or hearing disabilities, and adjust the lighting in the room, the volume of any audio materials, or the text size of screen displays as necessary (Thurber & Bandy, 2018).
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- Program managers could be in charge of managing classroom space as well as the schedule. Some libraries have their own instruction space or another area that is often used for educational programs like a makerspace. Part of scheduling involves ensuring that the sessions do not overlap and that the appropriate groups have access to the space as needed. If the library has its own classroom, the program manager might be consulted about layout and equipment needs for that space.
- Ideally, as discussed in Chapter 6, we should develop a space with attention to universal design principles, including adequate space within the classroom for wheelchairs and other assistive devices, flexible furniture, adjustable lighting, and appropriate assistive technology.

- An instruction program mission statement should align with the mission and goals of the larger library and its parent organization. Within that framework, the instruction mission statement should identify and describe the primary audience(s) for instruction and the library's goals in serving that audience, including the learning outcomes. For instance, a high school library would describe the student body as its primary audience, perhaps followed by teachers, administrators, and, possibly, parents. Goals for a high school library instruction program would probably include enabling students to fulfill academic requirements related to information literacy required for graduation and developing the information literacy skills students will need for success in college, work, and personal life
- Instruction policies might provide a more detailed overview of our intended audience and goals than what is found in the mission statement. By detailing the services offered, the policies will also describe how the instruction program will achieve its goals. Policies might describe the range of skills and knowledge areas covered by the instruction program. Further, these policies will likely outline the types of instruction offered, which could include in-person instruction both in class and at the reference desk or through research appointments; online (synchronously, asynchronously, or both); and through the development of learning objects like research guides and tutorials.
- For example, the Healey Library (n.d.) policy at the University of Massachusetts Boston notes that “ effective library instruction takes time to prepare and is in great demand” and asks that faculty submit requests for library instruction sessions at least two weeks in advance. If the library partners with other institutional or external organizations to deliver instruction, such as a public library working with local schools or academic libraries partnering with a career counseling center, the policy might provide an overview of those projects
- Stakeholders can be anyone who has a direct or indirect interest, or stake, in the library and, for our purposes, in the instruction program. Stakeholders would include learners, of course. If the learners are students in a school or college, others who could be considered stakeholders could be teachers, school or campus administrators, and even parents. Additional stakeholders include anyone with a financial interest in the library, including taxpayers, as well as those who provide budgetary oversight like city councilors, campus administrators, and boards of trustees
- Once we have identified stakeholders, we can determine what information would be of interest to them. For instance, teachers and faculty might be interested in how well students in their departments are achieving information literacy outcomes, while campus administrators and school boards might be interested in how well the full student body is achieving program-level outcomes.
- In a public library, city councilors and others might be as interested in learners' satisfaction with current program offerings as they are with achievement of learning outcomes.
- In our role as program administrator, we should analyze the program-level assessment and evaluation data to cull the information relevant to each stakeholder audience and find ways to package and share that information. As described in Chapter 19,

we should be sure that we adapt the information to our audience. Students might be satisfied with a few tweets that share major findings from a program assessment, while campus administrators will probably prefer a brief report with charts and graphs to illustrate the data.

- The responsibilities described thus far in this chapter could be considered mostly managerial. That is, they are focused on the administrative tasks necessary for the day-to-day running of the information literacy program. While managerial tasks are crucial, by themselves they lack a broader vision or plan for the program. Another role for instruction program managers is as a leader who helps set a vision for the program.
- Unlike a mission statement, which typically describes what the program intends to accomplish currently, a vision is forward-looking, and a vision statement describes what the program hopes to accomplish in the future, building on its strengths and resources (Comstock, 2020).
 - What is the mission and value of our program? Why should staff and stakeholders care about it? How do we want our program to be viewed by the community? As a leader, rather than just a manager, we should consider these questions and then work with our staff and our community to answer them
- Furthermore, we have to work with our staff to cultivate support and enthusiasm for the vision. Why should the staff care about this vision? Why should they work toward it? How do their individual positions and efforts contribute to the program vision, and how does the program vision contribute to the mission and vision of our larger community and campus?
- As a leader, we have to help our staff see the answer to these questions. We also have to be responsive to our staff's ideas and inputs. Remember that instruction staff are on the front lines of the service, delivering sessions, interacting with learners, and gathering assessment and evaluation data. They will have important insights about what is working and what is not, what learners and other stakeholders think about our current services and what they would like to see, and how well our resources and facilities support our instructional programming.
- As program managers, we will likely oversee the day-to-day management of the program as well as provide a larger vision for what the program could accomplish in the future.

Ch. 8 Establishing Learning Goals and Outcomes

- Backward Design Backward Design is a three-stage approach to instructional design that shifts the focus of the design process from content and teaching to outcomes and learning (Wiggins & McTighe, 2005).
 - The three stages of Backward Design, shown in Figure 8.1 as well, are:
 - 1. Identify desired results

- 2. Determine acceptable evidence
 - 3. Plan learning experiences and instruction
- Identify Desired Results: What are the learning goals of the session? What should students know, understand, or be able to do by the end of the session?
- Determine Acceptable Evidence: How will we know if learning goals have been achieved? What activities will students engage in to demonstrate knowledge and ability?
- Plan Learning Experiences and Instruction: How will we engage students with the material? What instructional and learning activities align with the learning goals?
- Before thinking about how we will teach, or even what we will teach, the Backward Design approach asks us to determine the intended results of the session by writing learning outcomes. Learning outcomes, sometimes called learning goals or learning objectives, “identify what a student should be able to demonstrate or represent or produce as a result of what and how they have learned ... that is, they translate learning into actions, behaviors, and other texts from which observers can draw inferences about the breadth and depth of student learning” (Maki, 2010, p. 89). As part of course planning, we should explicitly define what students will know, understand, or be able to do at the end of the session, workshop, or course. Table 8.1 gives a few examples of learning outcomes related to library content areas
- According to Wiggins and McTighe (2005), we should begin to think about the specific content of the session and how that content will be delivered only after we have identified the learning outcomes and how those outcomes will be assessed.
- Wiggins and McTighe refer to the three-stage approach as “Backward” Design because they ask instructors to begin their planning with the end of the lesson by identifying the results or outcomes of the instruction session
- What knowledge or understandings will learners have gained through the session? What skills will they develop?
- We can think of the process like taking a drive. If we have a destination in mind, we can plan our trip carefully to take the shortest route, avoid the traffic, or pass our favorite lunch spot. If we have additional goals, like arriving by a certain time or seeing certain sights, we can factor those goals into our planning as well. Arriving at our intended destination is evidence that we achieved our main goal, and we can also consider how well we met other goals along the way. Did we arrive on time? Did we pass the sights we intended to see? The clearer we are about what we want to accomplish, the better our planning can be. We could certainly go for a drive without a destination in mind, and the ride might even be enjoyable, but it will be harder to know if we accomplished anything because we did not have a clear goal. A number of case studies suggest that Backward Design is an effective approach (Shah et al., 2018; Shaker & Nathan, 2018) and might lead to improved learning (Hosseini et al., 2019; Yurtseven & Altun, 2017)
- For instructors, learning goals provide us with the destination which helps us plan our road map. When learning goals are explicitly stated and shared, they help set learners’ expectations. Students will enter the session understanding what they are expected to learn. If learners are attending by choice, those outcomes can help them decide if the session is relevant and at an appropriate level for them. In addition, if

learners understand what they were meant to learn in a session, they can engage in self-assessment by reflecting on their learning and monitoring whether they achieved the outcomes.

- Well-written learning outcomes have several elements. They should:
 - Clearly identify what a student will know, understand, or be able to do by the end of a session.
 - Be appropriate to the audience and time frame of the lesson.
 - Be measurable.
- The main purpose of learning outcomes is to describe what learners will gain by engaging with the instruction. Remember that we are describing what learners should understand and be able to do after the session is over, so it can help to think about the long-term needs and personal goals of our learners, rather than just the short-term goals of an assignment or task.
- Learning outcomes should be written with active verbs that describe with precision what a learner will know or be able to do by the end of the session. Often, outcomes are written as bulleted phrases that follow an opening statement, such as “By the end of this session (or course, workshop, tutorial, etc.) learners will be able to ...” Each phrase following that statement begins with an active verb such as “examine,” “analyze,” “discuss,” or “create.” Within this construction, “the verb generally describes the intended cognitive process, and the noun generally describes the knowledge students are expected to acquire or construct” (Anderson & Krathwohl, 2001).
- Bloom’s Taxonomy Frameworks and models can guide us in developing clear and specific learning outcomes. The most frequently used general framework is Bloom’s Taxonomy, which presents six levels of learning: remember, understand, apply, analyze, evaluate, and create. Each level encompasses a set of skills and abilities that reflects learning at that level:
 - Remember: Learners can recall facts and concepts.
 - Understand: Learners can explain ideas and concepts in their own words.
 - Apply: Learners can transfer information and skills to use in new contexts.
 - Analyze: Learners can synthesize information, identify patterns, and draw conclusions.
 - Evaluate: Learners can assess arguments, and choose and justify a position.
 - Create: Learners can use what they have learned to produce new ideas and original work. ****Top of the pyramid****
- Affective aspects like caring might not appear to be relevant to the kinds of content we typically teach in information settings, but if we dig deeper, we can find connections. For example, when teaching citation styles, we usually focus on the fact that if students plagiarize, they are in violation of the honor code and might receive a failing grade; however, we could recast that lesson around the idea that citation is a way of acknowledging other’s work and its influence on us.
- We could ask learners to think about how they would feel if a fellow student got a good grade or won an award by using their work without giving them credit. Examples like this would bring a human dimension to an otherwise dry and off-putting topic and might help students understand the purpose of citations and thus care more about the

practice than they would otherwise. When developing outcomes, the specific taxonomy we use to guide us is less important than carefully describing the goal of the learning.

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- As noted earlier, many instructors feel pressured to cover enormous amounts of content. The issue for many of us is not identifying content related to our outcomes but narrowing that content down to fit our time frame and audience.
- The ACRL Framework consists of six frames, each of which is accompanied by four or more knowledge indicators, and four or more dispositions. The AASL Standards Framework Includes six shared foundations that together include more than five dozen competencies. Needless to say, either of these frameworks would require full courses, if not entire programs, to address fully. Yet, most library instructors are limited to one-shot sessions. How can we make the most of the time we have?
- Big ideas are the core knowledge and skills within a discipline or content area that lead to enduring understandings, or deep learning. These ideas and understandings go beyond recall of basic facts or replication of tasks and processes and form the foundation of knowledge and skill essential to success in a discipline or content area (Wiggins & McTighe, 2005).
- Importantly, Wiggins and McTighe acknowledge that a big idea is not necessarily “big” in the sense of size or scope, but that it must “have pedagogical power ... a big idea is not just another fact or a vague abstraction but a conceptual tool for sharpening thinking, connecting discrepant pieces of knowledge, and equipping learners for transferable applications” (2005, p. 70)
- At the same time, certain knowledge and skills, or basic ideas, are necessary to attain the enduring understandings implied in the big ideas. In other words, big ideas are broad, conceptual understandings, while basic ideas are the building blocks upon which big ideas rest.
- Beyond the big ideas and enduring understandings that are contextualized by necessary knowledge and skills are the things that are “worth being familiar with” but are not absolutely necessary. Information that is worth knowing, but not essential, could include technical jargon or key figures from history. For example, knowledge of the Dewey Decimal System (basic idea) is a stepping stone to understanding organization of information (big idea), but students learning to navigate classification systems do not need to know the name Melvil Dewey.
- Another way to identify big ideas and enduring understandings is to frame content around essential questions or questions that help contextualize the big ideas (Wiggins & McTighe, 2005). As with big ideas, essential questions are usually overarching and conceptual, but they do not have to be very broad in scope. The point of essential questions is to provoke students to think more deeply about the content, and to see how the content relates to the larger world. Typically, essential questions move beyond the specific content of the lesson to more universal ideas. For example, history or civics lessons on the development of the U.S. Constitution could be framed around broader questions about whether democracy is a preferable form of government (Wiggins & McTighe, 2005).

11.Designing Instructional Materials

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- Perhaps the most important thing to consider when delivering information in multiple formats simultaneously is cognitive load, or the strain on learners as they try to hold information in memory while also trying to process new information. Cognitive load “is a theory about learning built on the premise that since the brain can only do so many things at once, we should be intentional about what we ask it to do” (Heick, 2019). Clark and Mayer (2016, p. 35)
- Dual Channels:Different parts of the brain are used to process visual and auditory information. When video and audio reinforce each other, as when images or text on a slide reinforce a speaker’s point, learning is enhanced. However, if video and audio are misaligned, such as when slide text is different from the audio narration, the brain has to work harder, and learning can be negatively impacted.
- Limited Capacity:Individuals can process a limited amount of information in each channel at one time. As such, instructors must carefully select pieces of information to include and make intentional decisions about how to present that information.
- Active Processing:Learning happens when people can identify and access the important information in a lesson, process that information, and relate it to their prior knowledge. Good design can facilitate active processing.
- We can avoid cognitive overload and facilitate active processing by reducing or eliminating extraneous information from our instructional materials.
- These principles are geared toward multimedia learning and are discussed in more depth in Chapter 16, but several principles apply to textual materials and visual aids:
 - 1. Coherence Principle:Omit unneeded words, sounds, and graphics.
 - 2. Contiguity Principle:Place printed words next to the corresponding part of a graphic (see Figure 11.1 and Figure 11.2 for examples).
 - 3. Redundancy Principle:Do not duplicate audio and on-screen text.
- Librarians produce many types of written materials, including brochures, pamphlets, reading lists, flyers, fact sheets, and informational guides. Written materials can be shared in hard copy, such as handouts or worksheets to accompany a workshop, or they can be posted online to be read or printed out at the reader’s convenience. This section focuses primarily on written materials in hard copy but will also address considerations for online materials
- Since printed materials, unlike their online counterparts, cannot be manipulated by the reader or read aloud by a screen reader, we need to follow best practices to increase their accessibility and readability. Choosing an appropriate font is the first step, and the focus should be on a clean, clear font with adequate spacing between letters (Kitchel, 2011/2019). The main choices for font are between serif and sans serif.
- The general recommendation is for 12-point font; 18-point font is considered large type

- Substantial amounts of white space around text and graphics make printed materials easier to read. To avoid dense, crowded handouts, use at least one-inch margins and blocked paragraphs with space between each block, rather than continuous paragraphs with indents.
- Avoid dense blocks of text whenever possible. Keep language simple and straightforward and eliminate unnecessary information. Use lists and bullet points to break up text and increase white space. When appropriate, use graphics in place of text. For instance, rather than describing a display screen, include a screen shot
- Headings and subheadings help break up the text and increase white space. They also act as a navigational guide for the reader, providing an outline of the topic and its main points.
- If we need to highlight or emphasize text within a block, we should use bold or underline, as italics are harder to read. Colored text is also problematic. Lighter colors do not provide enough contrast against the background, making the text harder to read. Also, some readers cannot distinguish color, so we should never use color to convey meaning. While bold and underlining are recommended, they should be used sparingly as they can distract the reader and interrupt the flow of the text.
- The best practices highlighted here apply to charts, graphs, figures, and other supplements, including the legends or captions that accompany them. These elements should be presented in the same size font as the main text, with adequate white space. The figure or chart itself should be of adequate size to be easily read and interpreted. It is better to move a chart or figure to a new page than to reduce the size to fit it on an existing page. Visual elements are addressed in more detail later in this chapter in the section on visual aids.
- Materials should be printed on white paper with black text, as the high contrast makes for easier reading. If you must use colored paper, select a light color, such as pale yellow.
- We might post some of our instructional materials online to make them available after the session ends and to learners unable to attend sessions. In some ways, written materials are more accessible online than in print because learners can manipulate the document to increase text size and brightness or use screen readers. Best practices for printed materials generally apply equally well to written materials posted online. However, there are a few additional considerations for making online materials accessible.
- Headings and subheadings are very important to online documents. Without these headings, a screen reader will read the page as one continuous narrative. However, with online materials, we cannot rely on using bold lettering and different size fonts to signal headings and subheadings, as we might with printed materials. Instead, we must use the headings function built into most word-processing programs. This technique will allow screen readers to recognize headers and subheaders, thus aiding in document navigation. In addition, these functions usually add some additional white space around the header, improving the overall appearance and

readability of the document even when printed (Accessible U, 2019a). Similarly, we should use the word processor's built-in functions for bullets and numbered lists.

- If the document includes hyperlinks, the links should be embedded into the document, rather than giving the URL in the text (Accessible U, 2019b). Screen readers will read every character in the link, frustrating the listener and breaking up the flow of the text. Even in print, including the URL breaks up the text and interrupts the flow. Most word processors will have an option to embed a hyperlink into the text so when the document goes online, users can click the text to follow the link.
- avoid using phrases like “click here” as a link, but instead include some descriptive text with the link, so readers know what they will find if they decide to follow it. Following are examples of appropriate treatment of links in written materials.
- Better Practice:
 - Fake news often preys on people's cognitive biases. The article *Why We Fall for Fake News*, from the Center for Information Technology at UC Santa Barbara, explains different types of cognitive biases and how they influence our thinking.
- As Clark and Mayer (2016, p. 77) explain, “people learn more deeply from words and pictures than from words alone.” Meaningful graphics often can replace some text, further reducing cognitive overload. However, not all visual elements are equal, and when they are not used properly, they can detract from learning.
- Charts, graphs, and tables are excellent ways of organizing and presenting data. Charts and graphs, in particular, can make complex information more comprehensible than it would be in raw-data form, and can make relationships among variables more readily apparent. However, these visuals also require some special considerations. Charts and graphs often use color to convey meaning. We tend to use color-coded lines or bars on graphs to correspond to different variables, or shade regions of a map to represent information, such as population density. To make these materials accessible, we can use patterns—such as dots of varying size and stripes of varying density and direction—rather than colors to differentiate variables. Another option is to use one color and vary the shade, rather than using different colors. Often, different colors have similar levels of brightness and will appear almost identical when rendered in grayscale or viewed by color-blind readers. Using a single color but highly varied levels of brightness will make the figures readable even if the reader cannot distinguish the color.
- Tables can also present some difficulty for users with disabilities and those using screen readers. Gridlines, meant to help organize table elements, can be distracting to the eye. Using a softer gray color for the gridlines and black for the table elements can help the data stand out while still providing a visual guide for the eye. Similarly, we can alternate table rows with gray background fill and no fill, but in this case, we need to choose a very soft shade of gray to ensure enough contrast for the text to be readable (Agency for Healthcare Research and Quality, 2019). We should also designate header columns and rows, so screen readers can distinguish between column and row labels and the data in the rest of the row or column (WebAIM, 2017)

- To ensure accessibility, images and photographs posted online should be accompanied by brief, explanatory notes known as alt text. Alt text should describe the image and the content it is meant to convey within the context of the instruction, with a focus on salient points. Alt text is meant to be brief, and, ideally, should be no more than 125 words. In keeping with the coherence principle, we should avoid images and graphics that are purely decorative, but if such images are used, then the alt text tag can be entered as “null.” If a visual is complex and requires a lengthy description, experts suggest embedding that description in the text and using the alt text tag to direct the reader to that description (IT Accessibility Group, 2019b). Chapter 16 covers alt text in more depth
- Learners also express a preference for handouts accompanying lectures (Stacy & Cain, 2015). By providing some of the main content, these handouts might reduce the need to take as many notes, thus freeing students to listen more closely to the lecture. In fact, Marsh and Sink (2010) found that learners who had access to lecture slides took fewer, but higher quality, notes. Several best practices apply to slide decks:
 - Use highly contrasting colors for the background, text, or graphics, and keep the background design plain.
 - Use the predefined slide layouts, as these are usually designed to work with screen readers (Accessible U, 2019c)
 - Use clean, easy-to-read fonts, and make sure the font size is large enough to be seen by people in the back of the room.
 - Use clear graphics and images, and make sure graphics are large enough to be seen by people in the back of the room. As noted above, be sure to include alt text for images and graphics.
 - When possible, crop images to show only relevant areas. As necessary, use arrows or boxes to draw attention to relevant parts of the graphic.
 - Keep animations and slide transitions to a minimum (TED Staff, 2014).
 - In keeping with the coherence principle mentioned earlier, do not include any unnecessary words or images on the slides (Clark & Mayer, 2016).
 - In keeping with the redundancy principle, use graphics instead of on-screen text in slide decks (Clark & Mayer, 2016). This practice reduces cognitive load by eliminating the need for students to reconcile the written text with what they are hearing in a lecture or demonstration. Also, if both text and graphics are used, we can overload the visual channel. However, text can be included in certain situations:
 - A few key words to reinforce concepts and ideas
 - When terms are technical, unfamiliar, lengthy, and/or needed for future reference, such as a mathematical formula, or steps in a procedure
 - If you include labels for graphics, place the words next to the relevant part of the graphic.
- Videos should be clear, accessible, and engaging, but they do not need to be fancy and full of complicated or high-tech add-ons. In fact, as with most instructional materials, less is usually more. We do not necessarily need expensive equipment to create effective instructional videos. Just a computer, webcam, and headset with a microphone will

suffice. If necessary, we can use a computer's built-in audio system to record, but a separate microphone usually provides clearer audio, while a headset helps to reduce background noise.

- Focus on audio narration with images for support, rather than on-screen text. When text and graphics are used together, the text should align with the relevant portions of the graphic (Clark & Mayer, 2016)
- Closed captioning is crucial to make videos accessible to learners with hearing disabilities and, as with all universal design techniques, can improve accessibility for all learners.
- The captions should appear on screen and in sync with the video. Some video software packages offer auto-captioning, but the accuracy of the automatically generated text rarely meets requirements for accessibility, so we should be prepared to edit
- The ACRL Framework for Information Literacy Sandbox(<https://sandbox.acrl.org/>) provides access to a wide variety of materials on information-literacy topics, including slide decks, worksheets, and multimedia tutorials. Many libraries post freely accessible tutorials on their websites. YouTube(<https://www.youtube.com/>) provides access to videos on an immense range of topics, including TED Talks on a number of relevant education topics. We can also search repositories like Flickr(<https://www.flickr.com/>), Google Images (<https://images.google.com/>), and Pixabay(<https://pixabay.com/>) for photographs and images. Some information settings will also have access to subscription sources of videos and tutorials. For instance, LinkedIn Learning(<https://www.linkedin.com/learning/me>) offers tutorials on a wide range of technology and business topics.
- Four factors are usually used to determine whether fair use exceptions apply to a specific circumstance (Copyright.gov, 2019):
 - Purpose and character of the use. Generally, nonprofit, educational use of copyrighted materials is covered by fair use while commercial use or use of the material that will result in a profit for the user, is not. The government warns that not all educational or nonprofit use will be covered by fair use, nor will all commercial use necessarily be exempt from fair use, but instead, “courts will balance the purpose and character of the use against the other factors” (Copyright.gov, 2019). Transformative use, or use that adds something new to the work for a different purpose, is more likely to be considered fair use than use that is not transformative.
 - Nature of the copyrighted work. Technical and factual materials are more likely to fall under fair use than creative materials such as poems, songs, and artwork.
 - Amount and substantiality of the portion used in relation to the copyrighted work as a whole. In determining fair use, courts consider the quantity and quality of the material used. Larger excerpts or excerpts that represent the “heart” of the work are less likely to be covered by fair use.
 - Effect of the use upon the potential market for or value of the copyrighted work. Part of the purpose of copyright is to protect the creator's right to profit from their work. If reuse of the material will hurt the market for the original work, it is less likely to fall under fair use.

- If we decide to reuse existing materials, we must apply all four factors to determine if we are protected by fair use. When in doubt, it is always best to request permission. We should also be sure to check the licensing agreement for any material we use. Some creators choose to share their copyrighted materials by using less restrictive forms of licensing, which allow for more opportunity and flexibility for reuse by others. Creative Commons (<https://creativecommons.org/>) enables creators to choose from several different licenses. The least restrictive requires only that the user attribute the material to the creator. Other licenses allow reuse for noncommercial purposes, limit derivative works, require users to share any derivative work they create through a similar open license agreement, or some combination of these options. If the work we wish to use has a Creative Commons license, we can generally reuse it without permission, provided we follow the licensing restrictions and requirements. If we do not see a Creative Commons license, we should assume the material is protected by traditional copyright restrictions

16. Online Learning Objects: Videos, Tutorials, and Library Guides

- Learning is a process of sense making in which people attend to information, mentally organize it, and integrate it with their prior knowledge. Instructors cannot simply present material and expect learners to absorb it; rather, effective teaching encourages and supports the sense-making process. Instructional strategies, such as highlighting and organizing essential content, scaffolding complex material, and providing opportunities for practice and feedback, all support learning.
- Clark and Mayer (2016, pp. 35-39) suggest that three findings about learning should drive the design of elearning:
 - Dual Channels: People process visual and auditory information through separate mental channels. Instructional designers can take advantage of this to present information through a combination of text, graphics, and narration.
 - Limited Capacity: People can process only a few pieces of information at one time. Extraneous content causes cognitive overload, leaving less capacity for essential learning, and should be avoided.
 - Active Processing: Learning occurs when people attend to relevant information, organize it into mental models, and integrate it with prior knowledge. Instructional designers can support (or undermine) this process as they make decisions about the selection and presentation of instructional content.
- 1. Multimedia Principle: Present content through a combination of words and graphics. We should use graphics such as screenshots, diagrams, charts, and infographics in conjunction with text to convey information. However, we should minimize decorative graphics added purely for aesthetic appeal and representational graphics

whose only function is to illustrate an object. Instead, we should prioritize graphics that portray concepts, relationships, and changes over time. Also, if the graphic is complex, we should draw the learners' attention to the relevant portions of the image. For example, in a screenshot of an interface, we can use boxes or arrows to point out key features or a specific function

- 2. Contiguity Principle: Align words and graphics. When using graphics, the way we label those graphics can support active processing and minimize cognitive overload. Descriptions and explanations should appear to the side of the illustration, rather than below, and if the illustration shows a series of steps or parts, we should break up the text and place each piece next to the relevant area of the image. If a tutorial incorporates demonstrations or animations, any narration should play simultaneously.
- 3. Modality Principle: Present words as narration rather than on-screen text. We can also reduce cognitive load by explaining graphics through narration rather than on-screen text. This principle often surprises librarians, who may prefer to read information; the modality principle is most important when we are using a complex graphic and the lesson is fast paced. In addition, the narration should use familiar vocabulary. We can still use on-screen text if the graphic is simple; when the words are technical, unfamiliar, in a foreign language, or needed for future reference (e.g., a math formula); when the words are used as a learning support (e.g., the steps in a process); or when providing directions for an activity.
- 4. Redundancy Principle: Explain visuals with text or narration, but not both. As part of minimizing cognitive load, we should not duplicate narration with on-screen text. Learners will pay attention to the written words and ignore the graphic, or spend mental energy reconciling the narration and text, causing extraneous cognitive load. However, this rule does have some exceptions. Textual duplication can be used when there are no graphics, the pace is slow or learner controlled, only a few words are presented on screen (e.g., a summary of key points), or the learner must exert greater cognitive effort to process spoken text (e.g., as with some complex material). Note that another exception to this rule is closed captions, which should always be present for auditory narration.
- 5. Coherence Principle: Avoid adding extraneous content, images, and sound to tutorials. Unnecessary material causes cognitive overload, which has a negative impact on learning. In addition, learners may pay attention to the wrong information; this is particularly true for novices, who often cannot tell what information is essential and what is extraneous. As we design tutorials, we should focus on the intended learning outcomes and cut irrelevant content. In addition, we should keep our text and narration concise and use simple graphics, avoiding detailed images and cropping unnecessary portions of screenshots. Clark and Mayer (2016) note that instructional designers may fall into the trap of adding extraneous content in order to make learning more exciting. Certainly, we should create learning objects that are visually attractive—for example, by using harmonious colors and professional graphics. However, we should avoid adding images or sound simply to grab attention; instead, we can make the lesson itself more interesting by emphasizing relevant, engaging content.

- 6. Personalization Principle: Use a conversational style. The tone of a tutorial can support or detract from learning. We should use conversational language such as “you,” “I,” and “we”; phrase instructions as invitations or requests, rather than demands; and use polite wording (e.g., “please click ‘next’ when you are ready to continue”). Narration should be provided by a friendly, human voice, rather than a machine voice
- 7. Embodiment Principle: On-screen agents should mimic human gestures. Many tutorials use on-screen agents to guide learners through the content; for example, in a tutorial aimed at children, an insect might narrate the content or point to important parts of an image. These on-screen agents do not need to be human, but they will be more effective if they act like humans with natural gestures and movements. These human-like social cues prompt engagement and motivation in learners.
- 8. Segmenting Principle: Break lessons into smaller chunks of content. An important strategy to avoid cognitive overload is breaking complex or extended content into smaller chunks and presenting one segment at a time.
- 9. Pretraining Principle: Introduce key concepts and vocabulary at the beginning of instruction. In some cases, learners will need to understand foundational concepts and vocabulary in order to complete a tutorial; we should introduce these concepts and vocabulary at the beginning of the tutorial, prior to presenting the core instructional content. For example, in a tutorial on searching Scopus(<https://www.scopus.com/home.uri>) for scholarly articles, we would explain the concept of a peer-reviewed journal first, since this vocabulary will be essential to understanding the remainder of the tutorial, then move on to search strategies for Scopus. We can use the nine principles as a guide to every aspect of the instructional design process for online learning objects, from selecting content to designing graphics to editing textual and narrative elements. Some of the principles are straightforward, while others, such as the modality principle, have boundary conditions, and adhering to all nine principles simultaneously is a complex undertaking. Activity 16.1 asks you to explore how these principles might appear in practice; then, the remainder of the chapter will recommend strategies for applying the principles to specific types of learning objects.
- Instructional videos can be created in a variety of styles, and you should select a style that matches your instructional content and purpose.
 - Live Action: Live-action videos feature real people speaking to the camera or acting and are particularly useful for demonstrating tasks like the operation of compact shelving. They can also be used in marketing videos when you want to welcome patrons and put a friendly face on the library.
 - Screencast: Screencast videos show a librarian’s computer screen and are used to demonstrate tasks like searching a database or using software.
 - Slidecast: Slidecast videos are a narrated slide presentation. Librarians can combine text, graphics, and screenshots, making them ideal for conceptual topics such as peer review.
 - Animated Videos: Like slidecasts, animated videos allow a combination of text, graphics, and screenshots, making these good for conceptual topics. The

animated style can feel fresh and fun, especially when trying to reach younger viewers.

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- Clossen (2014, p. 34) recommends that videos be less than two minutes in length, while Bowles-Terry et al. (2010) found that patrons preferred videos as short as 30 seconds to one minute. In addition to meeting user preferences for quick access to information, shorter videos benefit learners with concentration and cognitive-load issues (Clossen & Proce, 2017).
- . In one study of college students, only 35 percent watched an entire video; on average, they watched 54 percent of the video before quitting (Martin & Martin, 2015). Guo (2013) and Lin et al. (2017) found that the longer the video, the less likely students were to watch the entire video. Placing important information at the beginning of the video increases the likelihood that it will be seen by the learner
- Using the learning outcome as a guide, you can write a script that outlines the narration, along with the steps to be followed on screen (in the case of screencast videos) or the shots that will be needed (in the case of live-action and animated videos). Even librarians who prefer to speak more extemporaneously should outline the major points they wish to make, keeping in mind that the goal is to be as concise as possible. In keeping with the coherence principle, resist the urge to add extraneous content in an attempt to engage the viewer. Unnecessary music and graphics, jokes, and side comments will detract from learning rather than enhance it.
- Narration should be clearly enunciated, free of background noise, and evenly paced. A headset or desktop microphone will usually capture better quality audio with less background noise than built-in microphones will and can even smooth out harsh vocal sounds (Martin & Martin, 2015).
- When filming talking heads or live-action videos, we should pay attention to production values, ensuring that the area is well lit with little to no background noise and that the shot is in focus. Using a tripod can ensure a steady camera, and you might consider working with an experienced videographer for camera work. Thomson et al. (2014) provide advice on creating engaging live-action videos, including periodically changing the shot style and having a narrator who is conversant with the material and comfortable speaking on camera
- Veldof (2008) recommends that librarians identify “fail points,” or places where patrons get stuck in the research process and integrate learning objects in those places. In addition, videos can be embedded in library guides, highlighted on social media, and in school and academic libraries, made available within course sites. Librarians can also get extra use out of instructional videos by integrating them within online lessons and tutorials. In all cases, we should title and describe videos in ways that make the content clear to users.
- Videos should have closed captions that provide complete access to the audio narration. Captions should be accurate, timed to match the spoken words and on-screen action, and not block any important content
- If you used a script when recording the video, you may be able to upload the text and convert it to captions. Alternatively, many software packages used to

create videos, as well as hosting sites like Vimeo (<https://vimeo.com/>) and YouTube(<https://www.youtube.com/>), support automatic captioning based on voice recognition. Automatic captioning is a helpful feature that can speed the captioning process; however, you will need to edit the captions to add proper punctuation and correct any misheard words. Not only can such mistakes obscure the meaning of the video, they can be inadvertently embarrassing. For example, one of the authors, Melissa, was correcting the automatic captioning in a course video and discovered that the software had misheard the phrase “front-load” and captioned it with a very different “f” word

- In addition to captions, you should create a transcript and post it with the video. Transcripts are easily generated from the captions and improve accessibility by allowing users to review and search the video’s content. Transcripts can also make a video more discoverable to search engines, potentially increasing traffic to your learning objects. Librarians who want to maximize accessibility can also add descriptive audio that describes the on-screen action for users who have a visual disability (Berkeley Web Access, n.d.)
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- Free software may be adequate for librarians who want to make a few quick videos (e.g., to send to a patron via email reference). In addition, free versions are usually easy to use and can be a good way to experiment with making videos for those who are new to the process. However, librarians who want to make professional-quality videos for use on websites and in instruction programs will want to invest in a paid product.
- For librarians seeking free or low-cost software, Screencast-O-Matic(<https://screencast-o-matic.com/>) and Screencastify(<https://www.screencastify.com/>) are popular, easy-to-use options. Both offer a free version and the ability to access more features for a modest monthly or annual fee. Animoto (<https://www.animoto.com>) is a free site for creating videos appropriate for marketing and social media. For librarians seeking a more robust, professional product, Camtasia And Captivate Are the most widely used and offer a full range of creation, editing, and management tools for screencast, slidecast, and live-action videos. Options for animated videos include PowToon(<https://www.powtoon.com/>) and Wideo(<https://wideo.co/>), both of which offer free and subscription-based versions, and Vyond (<https://www.vyond.com/>, formerly GoAnimate), which requires a subscription. Some applications will support the creation of both videos and multimedia tutorials (discussed in more detail later in this chapter), so librarians may want to consider the entirety of their plans for online learning before committing to a product.
- Multimedia tutorials combine instructional content with practice activities and, most importantly, feedback to the learner. These interactive elements can take a variety of forms, including true/false, multiple choice, and short-answer questions; identification activities; matching and drag-and-drop activities; and branching scenarios where the learner chooses a path to follow. Tutorials can incorporate simulations and games and may feature a gating function so that learners cannot progress to more complex content until they have mastered prerequisite knowledge and skills. As the name

implies, another key feature of multimedia tutorials is their use of multiple forms of media, such as text, graphics, videos, animations, sound, and narration.

- Since tutorials are both longer and more complex than instructional videos, they can be time-consuming to design and create, and require specialized authoring software, which can be pricey. At the same time, tutorials offer a number of advantages as a form of instruction. As noted at the beginning of this chapter, learning is a process; individuals must actively attend to and make sense of information in order to learn.
- Tutorials allow us to combine multimedia, interactive practice elements, and feedback can be combined in ways that support deep, meaningful learning. In addition, tutorials can offer a customized learning experience (Clark & Mayer, 2016, p. 15). For example, learners who answer quiz questions correctly can choose to move on to the next topic, while those who answer incorrectly can be prompted to complete additional practice exercises. And unlike videos, tutorials can allow learners to work through material at their own pace
- Librarians should begin by defining the intended audience and writing learning outcomes that will guide the development of content, interactions, and feedback. It is helpful to storyboard the entire tutorial, including defining any alternate paths through the content, and to write and edit all content and scripts before starting work within the authoring software.
- Clark and Mayer's principles of multimedia learning should be followed throughout the process, including segmenting content; cutting extraneous material; combining text, graphics, and narration in ways that support learning; and using a conversational style and polite language in text and narration.
- Graphics, including images, illustrations, and animations, should be professional looking and carefully selected to support learning. As noted earlier, we should use simple graphics that omit unnecessary detail, and place labels and explanations to the side and as close to the relevant portions of the image as possible (Clark & Mayer, 2016, pp. 165-67, 91-93)
- We can use a moderate amount of color and relevant images to add visual interest; however, purely decorative and irrelevant visuals should be avoided (Clark & Mayer, 2016, p. 167; Schneider et al., 2018)
- As noted earlier, multimedia tutorials offer unique opportunities to engage the learner in the cognitive process of learning. Clark and Mayer define engagement as "meaningful psychological interaction between the learner and the instructional environment that promotes the achievement of the learning goal" (2016, p. 222) and distinguish between psychological engagement and behavioral engagement.
- Mindless activities, such as clicking to advance a screen or flipping over cards to access definitions, reflect high behavioral engagement but do not offer the psychological engagement necessary for learning. Psychological engagement is also different than entertaining learners; decorative images and upbeat music may feel "fun" but do not support psychological engagement and may even decrease learning by causing information overload.

- Psychological engagement is fostered through relevant graphics (both static images and animations), the use of conversational style, content-related questions and practice exercises, and meaningful feedback
- In keeping with the contiguity principle, we should minimize the need for scrolling or flipping between two screens; activity directions should appear on the same screen as the activity itself, and feedback should be presented with the text of the original question, the learner's answer, and an explanation of the correct answer (Clark & Mayer, 2016, 281)
- Learners should always have control over the pace of their learning—for example, by choosing when they are ready to advance to the next screen (Clark & Mayer, 2016, p. 331-332).
- For libraries offering optional tutorials on their website, segmenting content and providing links to sections within a tutorial can allow patrons to select material that answers an immediate question. At the same time, these tutorials should have a clear linear path for learners who want to work through the content in a systematic way
- Librarians who are creating tutorials that will be required viewing, such as those for staff training or use in a flipped classroom, should maintain more control to ensure learners do not skip essential content. This is particularly true when designing for novice learners who may not recognize important content if left to choose what to view and what to skip on their own (Clark & Mayer, 2016, p. 327-328). We should also minimize links that take learners outside the tutorial (Clark & Mayer, 2016, p. 333). Activity 16.3 is an opportunity to evaluate multimedia tutorials for best practices
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- Given the complexity of working with multimedia and the potential length of tutorials, it is crucial that you plan for accessibility early in the design process. Many of the best practices for videos apply equally to tutorials. All narrated segments should have closed captions and a transcript. In addition, tutorials should have descriptive audio that ensures accessibility for people with visual disabilities, or a link to an alternate, equivalent form of instruction. Text and images should be large, in high-contrast colors, and remain on screen long enough to be read; flashing content and the use of color to indicate meaning should be avoided.
- All images should have alternative text (alt text) that describes the image and reflects the context in which it is being used. For example, the kittens pictured in Figure 16.1 could be described as “three kittens”; however, a more robust description would offer detail (“a photo of three kittens wearing green and purple sweaters made from socks”) or explain what viewers are meant to notice (“a photo of three kittens showing the folded ears and straight tails that indicate the animals are quite young”).
- Two robust software packages for creating tutorials are Captivate and Articulate 360 (<https://articulate.com/360>). Both offer the ability to import or create content, including slides, templates, videos, and animation; support a wide variety of interactions, such as quizzes, drag-and-drops, and hotspots; and allow the creation of branching scenarios. Designers can access asset libraries of images and on-screen agents and add narration with a text-to-speech feature. Finished products can be placed

on the library's website or integrated with learning management systems in order to track usage and assessment results. Both Captivate and Articulate 360 provide accessibility support. Captivate and Articulate 360 support the creation of rich, professional-grade multimedia tutorials. They offer unlimited possibilities for creation but come with a significant learning curve and cost. If you want to add simple interactions to an online lesson, you may be able to utilize an online tool with an easier learning curve and possibly a lower cost. Pear Deck(<https://www.peardeck.com/googleslides>) is an add-on for Google Slides(<https://www.google.com/slides/about/>) that allows instructors to integrate short-answer and multiple-choice questions into presentations; with a paid account, instructors can add drag-and-drop and drawing answers as well as narration. Panopto(<https://www.panopto.com/>) and edpuzzle(<https://edpuzzle.com/>) allow users to add quiz questions to videos, which can be particularly useful for flipped classrooms and online courses. You can upload your own content or use videos from YouTube and other hosting sites. Panopto requires an institutional license, while edpuzzle offers both free and paid subscription options. H5P(<https://h5p.org/>) offers a wide variety of interactions that can be added to a lesson or embedded in a course management system, including interactive videos, virtual tours, timelines, quizzes, and games. All of H5P's content is free.

- Almost all libraries produce written guides to assist their patrons. These guides may be available as print handouts in the library, although increasingly libraries make them available online so that patrons can access guides from their home or office.
- Guides can cover a wide variety of topics:
 - Research Guides: Research guides are very common in school and academic libraries. Each guide addresses a specific topic, and librarians recommend print and online sources, and provide search tips, such as appropriate controlled vocabulary.
 - Database Guides: In some cases, patrons know what database they want to use but need guidance in searching it effectively. Depending on the approach taken, these guides will provide step-by-step directions or tips for commonly used search functions and unusual features.
 - Citation Guides: School and academic libraries frequently provide guides to common citation styles such as MLA and APA. These guides are not intended to replace the published handbooks but serve as shortcuts for students who need a quick reminder on the format of a particular citation type.
 - Reader's Advisory Guides: Public and school libraries in particular may offer readers' advisory guides that recommend reading for a given age group or topic (e.g., "picture books on dinosaurs," "great books for armchair travelers," "science fiction by women of color").
 - Guides to Library Services: A library might provide a guide to using a service such as interlibrary loan or online book renewal. These guides can advertise the service, provide directions on accessing the service, or both.
- Each guide should focus on a specific topic. Patrons may find a very general guide overwhelming or have difficulty selecting the resources that meet their specific need. In school and academic libraries, we can create guides that correspond to

specific courses and assignments. In public libraries, librarians should think creatively about how to make guides as specific as possible. For example, rather than a general “business research” guide, we might make smaller guides on topics like investing and running a small business.

- Within the guide, information should be organized to support ease of access, comprehension, and retention. We can chunk content into boxes or categories and provide brief subheadings to help users navigate to needed information. Goodsett et al. (2020) recommend organizing resources by relevance or in the order that they should be used, rather than alphabetically, and adding a prominent “best bets” box to direct users to a few key resources
- In keeping with the coherence principle, we should take care not to overwhelm the user. Resource lists should be selective, and textual content should be focused and concise. Avoid large chunks of text, and opt for bulleted lists and short annotations instead. In addition, take care to avoid library jargon that may not be understood by users. As with videos and tutorials, library guides should feature a conversational, friendly tone. Librarians can create a personal presence by adding a professional photo and providing ways to contact a subject specialist or general reference desk (Goodsett et al., 2020)
- Once created, guides must be reviewed and updated on a regular basis. You will need to remove outdated resources, add new resources, and fix any broken links (a link checker can ease this process)
- Most libraries link their guides from a central location. Users who are accustomed to using guides may turn to this central location when seeking assistance; however, guides should be linked elsewhere on the library’s web page as well. Research guides might be linked from departmental pages and with lists of journals and databases, while seasonally appropriate reader’s advisory guides might be highlighted on the library’s homepage.
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- It is relatively easy to ensure guides are accessible to all users. Librarians who are creating print guides should follow the best practices for written materials outlined in Chapter 11, including using large, easy-to-read fonts and high-contrast colors. When placing guides online, either as PDFs or web pages, librarians should continue to use large, easy-to-read fonts and high-contrast colors while also offering properly structured headings and alt text for any images. Hyperlinks should link from the relevant word or phrase, not “click here” or a URL
- For example, LibGuides supports alt text for images, but librarians are responsible for adding that alt text as they create a guide. Additional best practices for accessible LibGuides include:
 - Use the default sans-serif font. Use bold (sparingly) if emphasis is needed.
 - Use boxes to break up the content. Within boxes, use headings and bulleted lists that allow users to skim and minimize the need to read long passages of text.
 - Develop a style guide and use consistent formatting for pages and boxes. The LibGuides system uses heading 1 and heading 2 for page and box titles; within boxes, librarians should use heading 3.

- In Gallery boxes, set auto-rotate to “off.”
- Include alt text for images and provide captions and transcripts for videos.

20. Coordinating Instructional Programs

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- Identify Desired Results
 - What are the learning goals of the library instruction program?
 - What should students know, understand, or be able to do by the end of the program?
- Determine Acceptable Evidence
 - How will we know if learning goals have been achieved?
 - What activities will students engage in to demonstrate knowledge and ability?
- Plan Learning Experiences and Instruction
 - How will we engage students with the curriculum?
 - What courses, sessions, and activities align with the program learning goals?
- The three stages of Backward Design are (illustrated in Figure 20.1):
 - 1. Identify desired results
 - 2. Determine acceptable evidence
 - 3. Plan learning experiences and instruction
- We can draw on existing course- or session-level outcomes to extrapolate our program-level outcomes, as outcomes across various sessions will imply the broader skills and knowledge learners are intended to develop when these sessions are combined. For instance, learning outcomes related to Boolean, proximity, and subject searching in individual sessions imply that, ultimately, learners should be able to apply and combine search commands to develop effective search strings. While program-level outcomes will be broader than those at the session level, they should still be clear, specific, and measurable, as we will need to assess the learning at the program level just as we would at the session level. As always, the outcomes should be appropriate to our audience and setting.
- When drawing on standards like these to create program learning outcomes, we need to consider our audience and the scope of our program. Are we describing outcomes for students in a certain year of high school or college, or at the end of their entire high school or college degree program? We would not expect students to achieve the same learning outcomes at the end of their first year of college as we will expect of them when they are seniors, but in both cases we can begin with the ACRL Framework To determine what learners should know and be able to do
- Once we have our program learning outcomes, we must decide how we will assess achievement of those goals. According to Backward Design, at this stage we identify activities or assignments through which learners could demonstrate their learning.

- As described in Chapter 9, we can find or develop activities that align with our learning outcomes, have students complete those activities, and then collect and analyze the results for evidence of learning.
- In order to assess at the program level, we collect and analyze data across sessions and over longer periods of time, such as a semester or year, to get a picture of learner achievement across the program
- importantly, we need to ensure that we are offering an appropriate range of sessions, each with its own appropriate set of outcomes and learning activities, so that learners completing those classes will be able to demonstrate the program-level outcomes
- When planning our instruction program, we should consider scaffolding, or sequencing sessions, so that learners are exposed to more complex information to build their skills and knowledge over time. Just as we would do within a session, we should examine our program to understand where certain skills are introduced, how they can be built on or reinforced, and whether there is a clear path for students to fully achieve the program-level goals. One way to conduct this type of review is through curriculum mapping.
- Briefly, a curriculum map is a way of charting the “what” and “when” of the instructional program (Burns, 2001) by aligning instruction sessions with program learning goals, and illustrating how classes and other offerings build toward achievement of those goals. Often, these maps are laid out as tables or spreadsheets, with program-level learning outcomes listed across the top, and individual instruction sessions listed in the first column. Instructors can then use the appropriate table cell to indicate if a specific outcome is addressed in that course. These maps might also identify the level of learning happening in each session. Typically, the maps identify learning levels as “introduced,” “reinforced,” or “mastered,” depending on the expectations for student ability at the end of that session, although any terminology could be used.
- Once completed, these maps provide a visual overview of how current instruction sessions align with program goals, whether a clear path to attainment of learning goals exists, and where the gaps are.
- School and academic librarians also use curriculum maps to illustrate how their instruction supports academic programs by mapping information literacy courses to departmental learning outcomes rather than, or in addition to, library-determined learning outcomes (see, Charles, 2015; Howard, 2010; LeMire & Graves, 2019; Webb, 2020).
- part of Backward Design involves planning for assessment, including identifying relevant activities and assignments that demonstrate student learning. Our purpose with program-level assessment is to measure the extent to which all learners are achieving the outcomes we set or, put another way, how well our program is enabling achievement of those outcomes.
- Session-level assessment tells us how well individual students are performing within a class and can give us a sense of how well the group assembled for that lesson achieved the session goals; however, without program-level assessment, we cannot see

how the community of learners is performing nor whether we are successfully meeting our stated program-level learning goals.

- For librarians, gathering evidence for assessment can be more challenging at the program level than at the session level. Unlike teachers in a degree program, librarians typically are not in a position to assign the types of activities like capstone projects or portfolios that require students to synthesize and apply skills and knowledge they have developed over the course of a program.
- In a school or academic library, if the parent institution has identified learning outcomes related to information literacy for all students, or if individual subjects or degree programs have their own information literacy outcomes, librarians might be able to work with faculty to access capstones, theses, and other culminating projects that integrate those outcomes to assess for information literacy. Otherwise, we will probably have to draw on and aggregate work produced in our individual sessions to assess at the program level. We can use our curriculum map to locate instruction sessions that address specific outcomes at a mastery level, and then identify the activities or assignments from that session that align with the outcome.
- The next step is to gather the identified assignments or activities, or a sample of those activities and assignments, for review. Remember that our purpose at the program level is to get an overview of how well our community of learners is achieving program-level goals, not to scrutinize or provide feedback to individual students; that is done at the session level.
- Rubrics can greatly facilitate the review process at the program level (see Chapter 9 for more on rubric design). Ideally, rubrics should be developed specifically for the program-level outcomes. As with the session level, program-level rubrics should describe three levels of learning, typically, “exceeds expectations,” “meets expectations,” and “does not meet expectations.” In general, when we complete the assessment, we want to see the bulk of students meeting expectations, with some smaller percentage exceeding or not meeting, so that if we plotted the scores out on a graph, we would see a normal curve. Within our own programs, we can establish benchmarks or a minimum percentage of students we want to see meeting or exceeding expectations.
- In addition to assessing whether learners are achieving program-level learning outcomes, we can use our review of activities to assess the efficacy of our various instruction sessions. We can gather activities from a specific session or series of sessions over a certain time period and review the activities to determine whether that session or series is effective. For instance, a public library that consistently offers a series of technology workshops could gather activities from those sessions for a six-month period and review them to determine if the classes are meeting their goals. If gaps are found, the program manager might make recommendations for revisions to the session.
- As with program-level assessment, evaluating programs allows us to see patterns and identify gaps in order to improve services, provide evidence of our value to stakeholders, and inform managerial decisions such as allocation of funds and staff.

- we could compile survey results from all of our workshops over the course of a semester or year to get a picture of learners' perceptions of our instruction program as a whole. Similarly, we could look across the short-text responses from multiple sessions for patterns and themes. With regard to standards, librarians could look across lessons in a unit or series to see how well their programs address the full standards, and whether content and skills are appropriately scaffolded across sessions
- Most libraries and information centers will track attendance at instruction sessions. Especially in cases where learners choose to attend sessions, such as public library workshops, we might want to track attendance by time of day, day of the week, and session topic to get a sense of the distribution of attendance, which can help us plan for future workshops. In school and academic settings, where librarians might be dependent on faculty invitations to provide instruction, we can track requests by department, which can help us plan outreach. If we create online learning objects such as videos, tutorials, and library guides, we can use web analytics to track usage of these resources. It is important to note that while these numbers can help us evaluate the impact and reach of our programs, they do not measure quality or learner satisfaction.
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- Program managers will often have responsibility for overseeing the administrative and logistical details of the instruction program. The specific areas of responsibility will vary by institution but will generally include managing staff, including setting schedules, establishing policies and procedures, and communicating with stakeholders. In some settings, program managers might also administer their own budget, and manage facilities and equipment like instruction classrooms and makerspaces. This section will provide a brief overview of some of the major areas of program management. More in-depth information is available in the Suggested Readings at the end of the chapter.
- Depending on the size and organizational structure of the library, the program manager might be a department head with dedicated staff or might act as a coordinator or team leader. As a department head with direct reports, the program manager will likely be responsible for hiring new instruction librarians. Even if the library director makes the final hiring decision and negotiates the offer, the instruction program manager will be involved in writing the job description, reviewing applications, and setting up and conducting interviews.
- In addition to a standard résumé and cover letter, many institutions ask applicants to submit documents, such as a teaching statement, that speak to their teaching abilities. The vast majority also require invited applicants to do a presentation as part of their interview (Hall, 2013). The structure of the presentation varies by institution. Some ask applicants to discuss their experience and philosophy of teaching, or their perspective on an issue in the field, while others have the applicant prepare and teach an actual instruction session targeted to a specific outcome and audience.
- Once a hire is made, the program manager will orient the new staff to the department, including reviewing policies and procedures, and lead them through any training

program, which might include shadowing experienced instruction librarians and assisting in instruction sessions. During this process, the manager should review the position description, and work with the new employee to set professional development goals for the upcoming year.

- The aim with constructive feedback is not to just point out areas for improvement but also to identify strategies for improvement, such as training and professional development, shadowing a more experienced teacher, and opportunities for self-reflection. We should also review each staff member's goals from the previous year, discuss achievements, and set goals for the upcoming year
- On a day-to-day basis, the program manager might administer logistics such as schedules and facilities. In some institutions, especially those which use a liaison model, in which librarians are assigned to directly support specific academic departments, liaison librarians might receive instruction requests from departmental faculty directly and manage their own schedules. In other cases, a program manager might receive all instruction requests and be responsible for assigning staff coverage and requesting classroom space as necessary.
- The amount of prep time necessary for any session will vary depending on the experience and comfort level of the teacher and whether the instructor has already taught that material in the past, but a general rule of thumb is to plan one to two hours of prep time for every hour spent in class. If instructors have already taught a class before, they will still want to review their notes and perhaps update examples or test demonstrations. They might also need time to incorporate ideas for improvement from their assessments and evaluations of those previous sessions. If a session is completely new, instructors might need even more than two hours, as they will have to prepare the entire session, from identifying the learning outcomes to developing assessments and learning activities. If an instructor is visiting a class at the request of a faculty member, we might also build in time for them to talk about goals for the session.
- Assuming that most library instructors will need about two hours of prep time for each hour in class, we can estimate how many hour-long instruction sessions per week our staff can handle. We can also try to manage the schedule so that sessions are balanced across staff in order to avoid burnout. Keep in mind that prep time does not have to be scheduled immediately prior to the instruction session. In fact, most instructors will want to plan their sessions days or even weeks in advance, and then take time to review the materials briefly just before the session.
- Program managers could be in charge of managing classroom space as well as the schedule. Some libraries have their own instruction space or another area that is often used for educational programs like a makerspace. Part of scheduling involves ensuring that the sessions do not overlap and that the appropriate groups have access to the space as needed. If the library has its own classroom, the program manager might be consulted about layout and equipment needs for that space. Ideally, as discussed in Chapter 6, we should develop a space with attention to universal design principles, including adequate space within the classroom for wheelchairs and other assistive devices, flexible furniture, adjustable lighting, and appropriate assistive technology. Even when we do not have direct control over our classroom space, or lack

the budget to renovate our space, we can take steps to make the classroom comfortable and accessible for our learners and our instructors. For instance, we might be able to move some furniture to make wider aisles or to provide space at workstations for wheelchairs, arrange seating at the front of the room for learners with visual or hearing disabilities, and adjust the lighting in the room, the volume of any audio materials, or the text size of screen displays as necessary (Thurber & Bandy, 2018).

- A mission statement is a brief summary of an organization's or program's philosophy. It provides a "foundation for the organization's identity and purpose and helps focus the efforts of everyone involved to work toward the same goal while informing the public of its reason for existence" (Comstock, 2020).
- An instruction program mission statement should align with the mission and goals of the larger library and its parent organization. Within that framework, the instruction mission statement should identify and describe the primary audience(s) for instruction and the library's goals in serving that audience, including the learning outcomes. For instance, a high school library would describe the student body as its primary audience, perhaps followed by teachers, administrators, and, possibly, parents. Goals for a high school library instruction program would probably include enabling students to fulfill academic requirements related to information literacy required for graduation and developing the information literacy skills students will need for success in college, work, and personal life.
- Instruction policies might provide a more detailed overview of our intended audience and goals than what is found in the mission statement. By detailing the services offered, the policies will also describe how the instruction program will achieve its goals. Policies might describe the range of skills and knowledge areas covered by the instruction program. Further, these policies will likely outline the types of instruction offered, which could include in-person instruction both in class and at the reference desk or through research appointments; online (synchronously, asynchronously, or both); and through the development of learning objects like research guides and tutorials. The policy would likely also detail the kinds of services available to faculty, such as the ability to request an in-class session or a tailor-made research guide. The policy might also lay out any parameters for service requests.
- Procedures are the step-by-step processes for implementing our policies. For instance, a library that offers in-class sessions or creates research guides at faculty request should include a form explaining how to submit such a request. Likewise, librarians who are willing to partner with other offices or organizations should explain how interested parties can contact the library to set up a program. In general, librarians will do everything they can to meet the demand for their services, but in times of limited resources, some libraries might not be able to fulfill all incoming requests. In such cases, the library might also institute a policy and procedure for handling overwhelming demand.
- All instruction librarians should be ready to take part in marketing as described in Chapter 19, but the program manager will usually take the lead in coordinating the marketing program and for sharing program-level information with stakeholders. Part of the process is identifying stakeholders and determining what they need or want

to know. Stakeholders can be anyone who has a direct or indirect interest, or stake, in the library and, for our purposes, in the instruction program.

- Stakeholders would include learners, of course. If the learners are students in a school or college, others who could be considered stakeholders could be teachers, school or campus administrators, and even parents. Additional stakeholders include anyone with a financial interest in the library, including taxpayers, as well as those who provide budgetary oversight like city councilors, campus administrators, and boards of trustees.
- Once we have identified stakeholders, we can determine what information would be of interest to them. For instance, teachers and faculty might be interested in how well students in their departments are achieving information literacy outcomes, while campus administrators and school boards might be interested in how well the full student body is achieving program-level outcomes. In a public library, city councilors and others might be as interested in learners' satisfaction with current program offerings as they are with achievement of learning outcomes
- In our role as program administrator, we should analyze the program-level assessment and evaluation data to cull the information relevant to each stakeholder audience and find ways to package and share that information. As described in Chapter 19, we should be sure that we adapt the information to our audience. Students might be satisfied with a few tweets that share major findings from a program assessment, while campus administrators will probably prefer a brief report with charts and graphs to illustrate the data
- Unlike a mission statement, which typically describes what the program intends to accomplish currently, a vision is forward-looking, and a vision statement describes what the program hopes to accomplish in the future, building on its strengths and resources (Comstock, 2020). What is the mission and value of our program? Why should staff and stakeholders care about it? How do we want our program to be viewed by the community? As a leader, rather than just a manager, we should consider these questions and then work with our staff and our community to answer them. To craft such a vision, we must be aware of the priorities of our larger community or campus and be monitoring the trends in the field.
- Furthermore, we have to work with our staff to cultivate support and enthusiasm for the vision. Why should the staff care about this vision? Why should they work toward it? How do their individual positions and efforts contribute to the program vision, and how does the program vision contribute to the mission and vision of our larger community and campus? As a leader, we have to help our staff see the answer to these questions. We also have to be responsive to our staff's ideas and inputs. Remember that instruction staff are on the front lines of the service, delivering sessions, interacting with learners, and gathering assessment and evaluation data. They will have important insights about what is working and what is not, what learners and other stakeholders think about our current services and what they would like to see, and how well our resources and facilities support our instructional programming. As leaders, our role is to organically develop a vision of services, in concert with our staff, that is

responsive to our community's needs and cognizant of the challenges, issues, and trends in the field

Ch. 9 Assessing Learning

- Research has indicated that people who become aware of themselves as learners—that is, those who are self-reflective and analytic about their own learning process—become better learners.” Similarly, assessment encourages instructors to reflect on their practice and can lead to better teaching. As we review assessment data, think about what worked well and what did not, and make changes to our practice, our skill as instructors increases (Oakleaf, 2009). Ideally, instruction and assessment should be inseparable
- While assessment focuses on progress toward goals and seeks ways to improve learning, grades are used to make an overall determination of a learner's performance
- We can think of assessment as a cycle having five steps:
 - • Set learning outcomes. Setting learning outcomes is the first stage of Backward Design and is also the first step of the assessment cycle. These outcomes are the goals against which we will measure progress.
 - • Identify and/or develop assessment tools and activities. The second step of the assessment cycle, as with Backward Design, is to identify assessment measures. These measures are usually activities that allow learners to demonstrate and reflect on their knowledge, skills, and abilities. Often, we develop our own assessment tools, such as surveys, writing exercises, or worksheets, for assessment. Examples of assessment activities are provided later in this chapter.
 - • Collect data. The third step is to implement the assessment activities and collect the data they provide.
 - • Analyze data. Once we have assessment data, we need to analyze it by looking for evidence that learners are achieving the outcomes we set. In cases where students are not fully achieving outcomes, we should try to identify the gaps, misunderstandings, or challenges that are preventing achievement.
 - • Revisit outcomes and reflect on instruction. Assessment data should inform decision making. Once we know how well learners are meeting outcomes, we can revisit and, if necessary, revise those outcomes. If a large majority of students are consistently achieving an outcome, we might consider tweaking that outcome to make it slightly more challenging. On the other hand, if a large group of students is not meeting the outcome, we might revise the outcome to better align with our learners' developmental stages and abilities, or review our teaching methods and instructional strategies to see if we could clarify concepts.
- Summative assessment comes at the end of a session or unit and gives a final overview of whether learners fully achieved the outcomes (you can think of it as “summing up” the session). Summative assessments can take many different forms, but some common

examples are a final project, test, or presentation. Summative assessments provide us with a broad overview of student learning and the overall success of the lesson

- Formative assessment takes place during the session. Some people refer to formative assessments as “taking the temperature of the class” or as a “dipstick test” because they let us quickly check how students are doing, just as a dipstick can quickly check the level of oil in your car. The purpose of formative assessment is to diagnose issues during the course of the lesson so that you can make incremental adjustments as you go. For instance, during a lesson on plagiarism and citation styles, you might ask students to identify instances of plagiarism from a list of examples or give them a worksheet to format citation styles. As the students answer the questions, you will be able to see if they are understanding the lesson, and, if not, you can review or clarify as necessary.
- Assessment activities can be either direct or indirect. Direct assessments require students to demonstrate their knowledge, skills, and abilities, while indirect assessments ask students to self-report on their perceptions of what they learned. Direct assessments can include worksheets, tasks, or “performances” such as having students walk us through a search strategy or the evaluation of a resource and explain their reasoning. Indirect assessments are generally more reflective and involve self-assessment by the students. These assessments can include questionnaires or reflective papers that ask students to describe what they have learned, how well they feel they have achieved learning outcomes, or how confident they feel in their knowledge and skills.
- The important difference is that while students tell us that they have learned something through indirect assessment, they are not showing us what they have learned, and we cannot be certain that students are accurate in their reflections or self-perceptions.
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- Research suggests that people are not necessarily very good at assessing their own abilities (Brown et al., 2015; Ross, 2006) and that the people with less well-developed skills and knowledge are even more likely to overestimate their abilities (Campbell, 2018).
- After reviewing the literature on student self-assessments, Ross concluded that “there is persuasive evidence, across several grades and subjects, that self-assessment contributes to student learning” (2006, p. 9)
- Academic librarians who have been invited into a classroom could also ask for informal feedback from the faculty member whose class they are visiting. Formal assessments will usually give us more information, but they are also generally more time-consuming. Informal assessments are less reliable, but they are usually quick and can be a good supplement to formal assessment.
- Assessments that provide students with opportunities to demonstrate their learning are sometimes called “authentic” assessments and are contrasted with “traditional” assessments. Traditional assessment refers to the closed-ended or forced-choice activities, such as tests, that require students only to select the correct answer from a fixed list of choices (Mueller, 2018). Fixed-choice tests can be reliable

data-collection instruments, are quick and easy for instructors to score, and remain popular assessment tools. However, traditional assessments have been criticized because they focus solely on students' recall of basic facts rather than higher-order thinking skills.

- The first step to developing or selecting assessment activities is to reflect on our learning outcomes. Some assessment tools and activities are better suited than others to certain learning outcomes, and each one will give us somewhat different information.
- For example, if one of our outcomes is for students to use Boolean operators to broaden and narrow searches, an activity that requires them to create search strings with Boolean operators will tell us more than a quiz that asks them to name the operators or identify which search strings will bring back more or fewer results. A short reflective paper asking learners when and why they would use Boolean operators can help us determine if they are ready to transfer the skills they have learned to other contexts.
- We can ask learners to complete worksheets with questions or tasks that require them to use the skills they have learned in class. We can ask almost any type of question on a worksheet, including closed-ended questions like multiple choice and true/false, fact-based questions with a single right answer, or short-answer questions that require learners to explain a concept or justify their reasoning. The specific questions should relate to the learning outcomes and session content and focus on what we want to know about our students' learning
- If several students perform poorly on a certain section or get the same question wrong, that can be a signal that we need to review that material and perhaps revise our instructional approach.
- Worksheets are useful when learning can be explained clearly through written answers, but sometimes we can gain a better understanding of learning by having our students carry out a task or demonstrate a process.
- Asking students to write out the steps to attach an image to an email would be burdensome. Instead, the instructor could have the learners send her a test email with an attachment so that she could see if they are successful or have them demonstrate the steps for her
- Chapter 7 describes pre-assessments, including pre-tests that can probe what learners already know about a topic before the start of a lesson. We can pair pre-tests with a post-test that asks identical or similar questions at the end of the lesson to gauge student learning. Instructors can review question by question to see if learners generally were able to answer questions correctly on the post-test that they did not answer correctly on the pre-test, and can look across sets of tests to see if students scored higher on the post-test.
- Using the construction of a "test" can be problematic, as learners may not expect to take a test as part of library instruction and may find the experience stressful and off-putting. However, while this assessment approach uses the term "test," the actual activity does not have to take the form of a graded test but could be presented as a

low-stakes worksheet or questionnaire. Keep in mind that tests that focus on recall of facts are not considered authentic forms of assessment.

- We often discuss the relative advantages and disadvantages of keyword versus subject searching, or of searching the general web as opposed to subscription databases for scholarly information. After such a session, we could assess students' learning by asking them to fill out a chart listing the pros and cons of each of the methods discussed.
- For example, the ability to use natural language is an advantage of keyword searching, but the greater number of irrelevant results is a disadvantage. Subject searching is more precise, but it requires knowledge of a specialized vocabulary.
- If our session focuses on skills related to evaluating and selecting trustworthy information, including identifying scholarly versus popular articles, assessing "fake news" and other general information, or finding appropriate articles for a research paper, we can have learners create an annotated bibliography to demonstrate their ability to evaluate sources and select quality information.
- We could give students time to search for their own materials or provide them with a list of resources to review, and ask them to select a certain number of sources that they believe are trustworthy and appropriate for their purpose. For each selection, students would write two to three sentences explaining why they selected that source, including how they evaluated it.
- Brief writing exercises, of which many examples exist, give students an opportunity to reflect on and demonstrate learning. Exit ticket asks students to provide a brief answer to a question, summarize key points, or solve a problem related to the session outcomes and turn it in on their way out of class
- Directed paraphrasing asks learners to explain a concept in their own words. Instructors will sometimes ask learners to "explain the idea to me as if I were five years old," encouraging the learner to use clear and simple language. The learners' ability to translate a new idea into their own words demonstrates a different level of understanding than simply reiterating a definition, and also suggests an ability to transfer the learning to new contexts.
- A similar exercise asks students to distill a lesson, idea, or concept into a one-sentence summary, showing not only their recall of the lesson but their ability to extract the most important ideas. An application card asks learners to write down one (or two or three) ways that they can use their new knowledge or skills. This exercise helps with transfer, as it encourages students to consider when and where they would use their knowledge and skills beyond the specific context in which it was learned
- Some assessment tools are better suited for knowledge and some for skills and processes. For instance, a writing exercise is appropriate if we want learners to explain how they would evaluate sources for a paper, but an activity or worksheet might be more appropriate if we want students to demonstrate how they would create search strings to find those sources.
- While gathering the best and most appropriate data to measure learning is the most important factor in choosing an assessment activity, we should also consider our audience and logistics such as materials and time frame. For instance, complicated

writing exercises might not be appropriate for younger students, English-language learners, or learners with certain disabilities. A short quiz might be fine for students in a school setting but off-putting to adults attending a workshop at a public library. If the activity is computer-based, such as submitting a web form, we need to be sure that all learners have access to an appropriate device for completing the task. Finally, some activities take more time than others, so we need to consider our time constraints. We probably do not want to plan an assessment activity that will take 15 or 20 minutes out of a 45-minute, one-shot session. See Activity 9.2 for an exercise on creating assessment activities

- Assessing learning outcomes can seem ambiguous at times. Think about some of the assessment activities just discussed. The graphic organizer and some of the worksheet questions have clear right answers, so instructors would not find it hard to analyze those activities and decide if learners supplied the correct responses. In fact, provided with an answer key, a person unfamiliar with the lesson could complete the analysis. But other activities are not as clear. Entries in an annotated bibliography are less likely to be completely right or wrong, although some answers might be better than others. But what criteria, exactly, make a better or worse answer? Is a current review of a scientific breakthrough in a popular magazine better than a decades-old journal article on the same topic? Ambiguities like these can be frustrating for both students and instructors. Worse, they can lead to discrepancies in how student learning is assessed, since one instructor might judge the same student work differently from another instructor. The use of rubrics for assessment or “scoring” of student work can help minimize ambiguities and frustrations.
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- Rubrics are often laid out as tables or grids. The columns of the table identify the various levels of proficiency, while the rows identify the criteria by which the performance is assessed. The first step to developing a rubric is to identify the criteria by which we will evaluate performance. What knowledge or understandings should learners have? What skills should they be able to demonstrate? What should we look for in their performances, activities, or assignments that would illustrate the required knowledge, understanding, or skills? Criteria for assessment could relate to Bloom’s Taxonomy, with sections for basic knowledge, application of knowledge, and analysis. We might also focus on steps in a process or task, or evidence of critical thinking. Depending on the assignment and related learning outcomes, written skills or public speaking and presentation skills might be important. One area to generally avoid in rubrics is effort, as it is usually difficult to infer how much effort went into an activity, and effort is rarely related to the learning outcomes.
- In order to avoid plagiarism, learners must know what plagiarism is and know when and how to cite their sources. Thus, the criteria for evaluating student understanding of plagiarism are topical knowledge (defining plagiarism), application (knowing when to cite sources), and execution (accurately formatting citations). These criteria head the rows of the table.

- Students can also benefit from assessments by learning what they are doing well and where there are gaps in their knowledge, skills, or abilities. While students might reflect on their learning and recognize areas for improvement simply by engaging in the assessment, instructor feedback is important for ensuring that students continue to learn and make progress. Whenever feasible, we should provide learners with feedback on their performance on any assessment activity. Feedback should be both positive and constructive. We should tell students what they did well, in addition to identifying areas for improvement. When we do identify gaps, errors, or misconceptions, we should focus on how to improve. For instance, if students choose a problematic resource for a research paper, we should help them understand why that resource is not appropriate, and help them figure out how to make a better choice by discussing appropriate outlets to search and by reviewing the criteria for evaluation
- Because rubrics already outline performance expectations, instructors can sometimes point to the language on the rubric rather than rewriting comments, thus streamlining the feedback process. Some instructors will add blank columns to the rubric where they can write additional comments to elaborate on the assessment.

13. Evaluating and Improving Instruction

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- the effectiveness of an instruction program and inform allocation of resources in support of the program, and it can demonstrate the value of the program to library stakeholders. Some studies have linked student satisfaction and engagement to self-regulation (Liaw & Huang, 2013), perceived quality of instruction (Rodriguez et al., 2008), and learning (Baños et al., 2019; Lo, 2010). Because of these potential impacts on students and the usefulness of data for improvement and demonstrating value, we should consider evaluating our instruction sessions as well as assessing for learning. The process of evaluation is similar to that of assessment, described in Chapter 9, and can be summed up in four steps:
 - 1. Identify the criteria by which we will evaluate the instruction. For assessment, we use our learning outcomes. In evaluation, as described in more detail later in this chapter, we explore other criteria that impact the perceived quality or success of the session.
 - 2. Find or develop a tool to gather data related to those criteria.
 - 3. Analyze the findings.
 - 4. Use that information to make informed decisions about changes.
- As Hernon and Altman explain, “if customers say there is quality service, then there is. If they do not, then there is not. It does not matter what an organization believes about its level of service” (1996, p. 6). The researchers’ point is that when the learner’s opinion of the quality or success of instruction differs from the instructor’s, the learner’s opinion counts, because they will act on it.

- If learners enjoy the session, they might return and even encourage others to attend. If learners did not find the session useful, or if they perceived the instructor to be unengaged, they probably will not return and are likely to tell others about their negative experience (Dixon et al., 2010).
- As described in more detail later, a range of possible data-gathering methods exists, including both quantitative and qualitative methods. Quantitative methods include tools, such as surveys, that generate numerical data. Qualitative methods collect textual data. Examples of qualitative methods include comment cards and minute papers.
- depending on whether we have gathered quantitative or qualitative data. In general, quantitative data is analyzed using frequency counts and percentages, while qualitative data is analyzed for themes or patterns in the responses. For instance, we would calculate the percentage of people who rated themselves on a survey as highly satisfied with an instruction session, or review comment cards to see if learners agree on which aspects of the session were most engaging or least clear
- After analyzing the data, we must think about what story the data tells and how we can use what we have learned to make improvements to our instruction. For instance, if a substantial portion of our learners indicates that the pace of the session was too fast or too slow, we can adjust the pace. We might keep an activity that learners liked, and tweak or discard one that they found boring or unhelpful.
- Surveys usually consist of closed-ended questions, sometimes called forced-choice questions, that ask the respondent to select an answer among a range of choices or along a set scale. For instance, evaluation surveys often ask learners to rate their level of agreement with statements such as “the workshop met its learning outcomes” or “the instructor provided clear explanations.”
- Similarly, surveys can ask students to rate their level of satisfaction with the session as a whole, or with various aspects, such as the pace of the instruction, the amount of content covered, balance of lecture to activities, and comfort of the facilities. We can also incorporate open-ended questions in surveys and provide space for respondents to provide an answer in their own words. Open-ended questions can be a good way to expand on closed-ended questions. For instance, we might ask learners to rate their level of satisfaction with the session and then ask them to explain their answer by describing which aspects of the session left them more or less satisfied. Open-ended survey questions should be analyzed as qualitative responses.
- Following are several strategies for writing good survey questions (Harris, 2007; Lloyd, 2018; Pew Research Center, n.d.):
 - • Use clear, simple language.
 - • Keep questions short.
 - • In general, avoid using technical terms and jargon. If you do include these terms, provide a brief definition.
 - • Avoid vague or ambiguous language. Asking learners if they agree that “the activity was good” is vague because the learner could respond to many aspects of the activity, and the word “good” could be interpreted differently by different people. A better approach is to ask about specific aspects such as, “Did you like

pairing up with a classmate for the activity?” or “Were the activity instructions clear?”

- • Avoid double-barreled questions. Double-barreled questions ask two separate questions but allow for only one answer, making it difficult or impossible for respondents to answer accurately. “Was the instructor friendly and knowledgeable?” is an example of a double-barreled question because the instructor could demonstrate one quality and not the other; respondents, however, are asked to treat the two qualities together. Ask about each quality or aspect separately.
- • Avoid leading or loaded questions. Some questions suggest a “correct” answer or prompt the respondent to answer in a certain way. For example, asking if learners are happy they attended the session prompts the respondent to answer positively.
- • Offer comprehensive lists. When providing respondents with a list of choices, be sure that all possible options are included and provide an option for a write-in response if necessary.
- • Avoid overlapping or ambiguous scales. For instance, if you ask patrons how often they attend library workshops and provide the options of “often,” “frequently,” “sometimes,” and “not often,” respondents will probably have a hard time distinguishing the difference among these choices. How many workshops count as “frequently,” and how many would be “sometimes”? Better wording might be “about once a week,” “about once a month,” “several times a year,” “about once a year,” or “less than once a year.”
- • Avoid asking for unnecessary personal information. Demographic questions such as age, gender, race, and ethnicity should be asked only if they are relevant to your analysis. For instance, a public librarian running a mixed-age workshop might be interested in whether learners of different ages rated the workshop differently.
- In addition to the wording of questions, we must think about the overall format and design of the survey. We should focus only on essential questions and avoid anything extraneous. Shorter surveys require less time and effort for the learner to complete and for the instructor to analyze. Sometimes survey questions are Evaluating and Improving Instruction|241
- dependent on the answer to a previous question. For instance, if learners did not complete a certain activity, they will not be able to answer questions about that activity. We should make it easy for respondents to skip unnecessary questions by directing them to the next relevant question. Survey software typically offers “skip logic,” whereby we can embed commands into the design to automatically redirect respondents away from questions that do not pertain to their experience. Finally, we should organize the survey so questions on the same topic are grouped together
- If questions for reflective writing exercises are directly linked to learning outcomes, then they are assessments. However, if the questions focus on satisfaction or engagement, they are evaluations. Questions for short-text responses will be more open-ended and general than survey questions, but we should still strive to

make them clear, simple, and unambiguous. Also, because these questions require more effort on the part of the learner, we should limit ourselves to two or three questions. Some examples of short text evaluation questions include:

- • What are one or two things that you enjoyed about today's session?
 - • What is one thing that you would improve or change about the session?
 - • What did you find most engaging about the session, and why?
 - • Which part of the session was least engaging, and why?
 - • How well did the workshop meet your expectations? Please explain
- We can use the information we gather from the observations and recordings to make decisions that will improve our practice, thereby increasing the quality of instruction and the levels of learner satisfaction.
- We can compare our lessons to these standards to see how well we are addressing them. Keep in mind that we cannot address all standards in a single session. However, we can see if individual lessons align with some part of the relevant standards and frameworks.
- The bulk of this chapter focuses on evaluation of individual instruction sessions or self-reflective evaluation of ourselves as instructors. However, evaluation should also be carried out at the program level. Program evaluation allows us to improve services, provide evidence of our value to stakeholders, and inform managerial decisions such as allocation of funds and staff
-