
The Role of the Flipped Classroom in Information Literacy Programs

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This chapter describes the information literacy opportunities and context at Towson University, including observations about implementing the flipped classroom for library instruction at this institution. Although the flipped teaching structure has been used for several years in classrooms at all levels, it has only more recently been employed by librarians for information literacy instruction (Gibes and James, 2015). This classroom model exemplifies many of the “Characteristics of Programs of Information Literacy That Illustrate Best Practices: A Guideline” (2012) from the Association of College & Research Libraries (ACRL’s best practices) and deserves a place in the teaching repertoire of instruction librarians. Its structure offers flexibility and adaptation necessary for diverse and dynamic teaching environments, and also encourages a reflective, collaborative pedagogical style, which benefits learners.

THE CONTEXT: THE TOWSON SEMINAR COURSE AND BEYOND

At Towson University, all freshmen see a librarian during the Towson Seminar, in a class focused on introducing college-level rigor and requiring a research paper assignment (Towson University, 2015). Typically, the seminar integrates two to four library instruction sessions staged over the course of a semester to support the research paper process and, ultimately, the use of evidence to make an argument using academic research tools and practices. Since all freshmen take the seminar, librarians share responsibility for the sessions, often teaching out of their usual subject areas. Some seminar topics include digital society, the policy and practice of education and teaching,

religion and politics, African American literature, and automobiles in the United States. Regardless of the content of any particular seminar, freshmen have the chance to write a paper based on evidence from scholarly and other sources, which may be a new exercise for them. In this course, librarians address concepts like these:

- Developing or narrowing a topic idea
- Using reference sources to understand background information
- Critically analyzing web sources
- Differentiating sources across the spectrum from popular to scholarly
- Choosing discipline-appropriate research sources
- Developing a research strategy based on Boolean search and other database-specific tools
- Integrating sources appropriately into an argument
- Avoiding plagiarism and using citation styles

It is not typical that all of these topics can be fully covered in the limited time that the librarian-instructor may get with students during the semester.

Library instruction does not end after the Towson Seminar. Additionally, librarians at Towson University teach course-integrated sessions to students in subject liaison areas. At this level, students' exposure to library instruction will depend on their major, the classes they select, and classroom instructors' use of library partners. These sessions are usually limited to one-shot instruction, and they likely address a more specific aspect of the research process related to the course and the assignment. For example, course-integrated sessions may focus on using a specialized resource like U.S. Census data in government-oriented courses, working with primary sources in the history disciplines, or accessing tests and measures in the social sciences.

THE PURPOSE: INSTRUCTION OBJECTIVES

The primary aim for library instruction is to prepare students to be able to complete their assignments. This focus helps classroom instructors see value in using class time for library instruction, especially when the quality of student work is improved by the library instruction session. It will also influence student perception of the usefulness of the library and library resources. By making the research process easier for students, they will be receptive to librarian suggestions and willing to return for other assignments.

In the bigger picture, library instruction is also intended to craft learning experiences that will impact lifelong critical thinking skills and enthusiasm

for learning. These outcomes are much more satisfying for students (and for the instructor), but they take more time to develop, often an entire college career. In order to achieve these outcomes, the immediate goals of an assignment and course must be used as building blocks to greater understanding about information and research.

In the Towson Seminar, students have variable skill levels and understanding of the research concepts their professors expect. At this point, they need instruction and guidance on the full extent of information literacy skills and concepts. Since this is an impossible task, focusing on the objectives most relevant to the assignment and those that the professor emphasizes are the best strategies for planning a manageable scope of objectives.

The flipped classroom is one way to make the most of the limited time librarians typically get with students who seem to need more instruction than there is time to include. By using this teaching model, which transposes the traditional settings for conceptual learning and practical application, students more often get both the specific skills that will help them be successful with assignments and the satisfaction that comes from critical discussion and engagement with concepts.

THE PLANNING: LOGISTICS OF THE FLIPPED CLASSROOM

Planning for a flipped classroom experience is similar in many ways to planning for other library instruction. Here are some general steps to follow:

- Gather information about the course and students.
- Determine the goals for instruction.
- Create an experience that meets the goals.
- Get buy-in from, and include the classroom instructor in, as much of this planning as possible.

There are some differences in planning for the flipped classroom, though. The following is an example of the planning process used with a Towson Seminar course.

Gather Information

Typically, the librarian asks the classroom instructor for a copy of the syllabus and the research assignments students are completing. Assignments could include selecting a source (encyclopedia entry, scholarly article) and writing a reflection, creating an annotated bibliography, or writing a lengthy

research paper, among other assignments. It can sometimes be difficult to get a written description of an assignment, especially before or at the start of a semester. In these cases, it's important to plan ahead based on what you know and then ask the classroom instructor to fill in gaps about the assignment as necessary. Often, this process helps classroom instructors understand what role the librarian can play as a support for student learning in their course.

Determine Goals

Depending on the assignment and what the instructor covers during regular class time, the next step is selecting learning objectives for the sessions. It's important to articulate a specific skill or concept to teach students and the research activity or ability that students will achieve as a result. The sessions may look like this:

- *Session 1*—students will learn techniques for brainstorming on topics in order to narrow or develop their chosen topic appropriately for the assignment; students will understand differences between scholarly and popular sources in order to select sources most appropriate for their assignment.
- *Session 2*—students will create search strategies based on the topic development process in order to locate relevant sources; students will identify and practice using academic databases in order to find sources that support their assignment.
- *Session 3*—students will develop a working definition of academic integrity in order to behave ethically during the research process; students will access citation guides and tools in order to create well-formatted citations for their assignment.

Structure the Learning Experience

The next step is to determine if any of the learning objectives can be supported through exposure to a preclass video. For example, in order to spend the most class time applying evaluation criteria to scholarly and popular sources, consider introducing students to the criteria before class through a video. Doing so will avoid lengthy explanation of each criterion during your limited time together, and students can be asked to quickly begin evaluating sample materials in pairs and sharing their observations, for example.

Collect or create the video materials that you want to expose students to before a class session, based on the activities you plan to engage students with

during class. These materials should be short and to the point, since opportunity for extended discussion comes during this in-person session. Librarians can create customized materials for their sessions, but many libraries, including Towson, have produced videos and tutorials that can also be relied on for this purpose and can be reused over time. Students should receive explicit instructions for completion of these materials, including a short accompanying quiz. The quiz will alert the librarian-instructor to any concepts a student may not have grasped well from the prematerial, allowing follow-up on the most important points from the videos, and will convey a sense of accountability for completion of the prevideos. See figures 7.1 and 7.2 for sample preassignment screenshots that use a Google Form.

In class, students engage in activities planned to specifically confront the concepts that the preassignment introduced. For example, if students viewed a video demonstrating how to move from a research question to a well-built database search strategy, you may ask them to help build a search from a sample research question. Then, they can attempt to do this for their own research questions, alone or in pairs. The repetition of the process helps students practice and allows them to encounter the challenges that are a normal part of research. The interactive approach encourages students to ask for and offer help while they learn to identify the important concepts in their research question and how to make use of an academic database.

Collaborate with Classroom Instructors

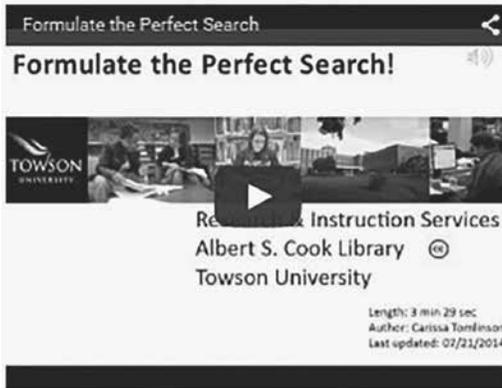
Collaboration starts at the information-gathering stage and continues throughout the process. When scheduling library instruction, the classroom faculty should be notified that students will be expected to complete a brief preassignment to prepare for the library session. If they confirm that they will be able to accommodate this assignment in the workload of the semester, and that they will include it in the syllabus and on the course management system, the librarian-instructor should provide a timeline of when preassignment materials will be available and when each one will be due, so that classroom faculty can anticipate the inclusion of these components. To encourage student participation, it is best if classroom faculty give credit for completion of the assignment and include it in the syllabus's list of assignments. In addition to planning for the preassignment logistics, the librarian-instructor should work with the classroom faculty to make sure that the learning objectives identified are appropriate. This is an opportunity to invite input from classroom faculty about how to meet the research needs of their students.

Religion and Politics 2/26 Library Session Prep

Watch the posted video and complete the short quiz by Wednesday, February 25, midnight. We will review the answers in class.

* Required

Formulate the perfect search (3.5 min)



What's an annotated bibliography? (2 min)

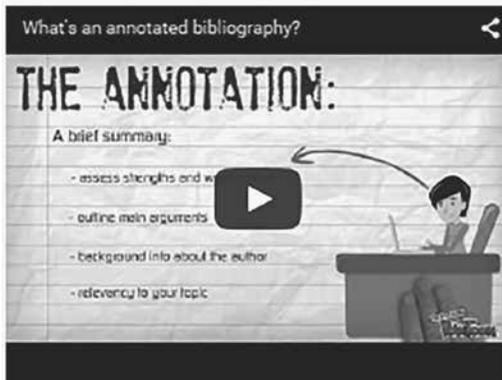


Figure 7.1. Google Form preassignment videos.

What is your full name? *

What are the key concepts in the topic [recruitment of male nurses]? *

What are the key concepts in the research question [What are "faith-based initiatives" and how do such programs fit in with or violate the 1st Amendment separation of church and state?]? *

What are the key concepts in your own topic/research question/thesis statement? *

What are the 2 main ingredients in an annotated bibliography? *

Describe at least 2 things you can include or discuss in an annotation. *

Describe at least 2 ways your annotated bibliography may be useful to you as a writer and researcher. *

Figure 7.2. Google Form preassignment quiz.

Alternative Ideas

In addition to the activities already outlined, there are likely to be options that may work better in varying library and classroom environments. For example, a preassignment can take the form of an interactive tutorial, or other media, depending on the instructional technologies available. Additionally, asking students to write a brief reflection or to submit questions for clarification could achieve the same goals as a short quiz. Some flipped classroom components that work for one teaching environment may not be appropriate for others. Since the flipped classroom is not a prescriptive label, instruction librarians can experiment with preassignment materials and in-class activities and determine which activities work best in particular settings.

THE RESULTS: ASSESSMENT ACTIVITIES

During a pilot phase in 2013, flipped Towson Seminar participants completed student, faculty, and librarian questionnaires to share what they thought of the experience. Students overwhelmingly agreed that the preassignment component and the in-class activities worked together to support their learning. Of course, student perception is not necessarily an accurate depiction of their actual learning. Comparing student work samples from flipped classes to traditional library instruction sessions could provide a controlled understanding of the real learning outcomes from this practice. Faculty feedback indicated that they also felt the practice improved the student work product, though actual student work was not evaluated during this pilot. Librarian feedback provided a more complex picture about the use of the flipped classroom, which has helped Towson University librarians refine their flipped instruction practice. One of the most important findings was that planning with intention and instruction tailored to the specific needs of the assignment, students, faculty, and environment leads to more success. There is not a single formula that can be adopted for all instructional scenarios.

Even without a specialized assessment procedure for flipped teaching, gathering feedback from students as an ongoing activity for all instruction, flipped or not, may provide useful insight on what they found helpful or confusing and what could be improved. For example, specific student comments could help improve how the librarian-instructor distributes time, designs a worksheet, or structures activities. Conversely, student feedback can highlight what content or approaches students appreciate, which can be included or emphasized in future sessions.

THE CHARACTERISTICS: ACRL'S BEST PRACTICES AND THE FLIPPED CLASSROOM

The flipped classroom shines when compared to the characteristics described in the various categories of ACRL's best practices document for information literacy. Following is a description of some of the ways that the flipped classroom can address selected characteristics. Practitioners may find many more opportunities to exemplify ACRL's best practices when using the flipped classroom, depending on their own program and its features.

The flipped classroom "accommodates the level of the program, department, and institution" (ACRL, 2012: 356) by the flexible nature of the model. It can be employed uniformly across a specific set of courses, or it can be modified to suit the student learning needs and academic style of a course. The extent of accommodation depends on the time and resources available for instructional design in the library, which is a very real challenge instruction librarians may face.

Many institutions face cuts that challenge growth and experimentation in the classroom. As instruction librarians grow more successful with integrating information literacy into the curriculum and demonstrate the value of library instruction to faculty, they must face questions of sustainability. Our abilities to expand information literacy are limited, and the flipped classroom "addresses and prioritizes human, technological, and financial resources (both current and projected), taking into account administrative and institutional support" (ACRL, 2012: 356). The following discussion addresses these elements of sustainability individually.

Although the number of librarians available for instruction may not grow, the flipped classroom model increases the capacity of one-on-one interaction for problem solving in the classroom. Rather than spending large amounts of time lecturing to an entire classroom, a librarian-instructor can get students working immediately and can spend time interacting with individual students as they encounter difficulty or develop questions. This one-on-one support is most available when in-class activities are planned in such a way that individuals and small groups can drive their own work and seek direct assistance as needed from a library instructor in the room. Human resources in the library classroom are enhanced by the use of this model.

The flipped classroom may appear to be dependent on the use of technological resources, but it actually does not require a high level of technical skill or equipment. The model takes advantage of tools that allow for flexible content delivery and interaction. Tools can take the form of free web platforms and content created at other institutions for those with a lack of technological resources. For campuses with well-equipped and supported technological

resources, creation of original content and use of technology in and out of the classroom setting can be incorporated. For example, tutorial creation software like Adobe Captivate (<http://www.adobe.com/products/captivate.html>) provides lots of functionality but comes with a price. Less fully featured web-based tools for screen capture, like Jing (<http://www.techsmith.com/jing.html>) are free and may be completely sufficient for most needs. Additionally, many libraries make their content available for use by other institutions, which can supplement the resources available for instruction.

By making use of existing resources, the flipped classroom does not require new purchases or financial commitments. Technology for preclass assignments has been addressed above. In class, active learning can take many forms, perhaps using paper and pencil to create mind maps of a topic and associated research questions, or iPads for each student to contribute to a collaborative online space that includes web links and photographs, depending on what is available. Administrative support is easiest to get when using the resources already at one's disposal, even at a time that course redesign and innovative teaching and learning are priorities. Support can come in a variety of forms, and although financial support is often a sticking point, administrators can also provide the policies, trust, advocacy, and collaborative opportunities that make programs sustainable (Noe, 2013).

The flipped classroom does not benefit from the use of technology for technology's sake. Instead, in its best form it "incorporates and uses relevant and appropriate information technology and other media resources to support pedagogy" (ACRL, 2012: 357). Online video and interactive tutorials offer an opportunity to transform what may have previously been lecture to material reviewed outside of class, preparing learners for encountering practical experiences in class. If this can be accomplished with an available technology tool, it should be employed. Learning should not be made more complicated by the need to learn a specialized tool—only enriched by the use of it.

Planning for a flipped classroom "encourages librarian, faculty, and administrator collaboration at the outset" (ACRL, 2012: 356) because it is simply not possible to implement without extensive collaboration between librarians and faculty and without support for teaching transformation from administrators. Working with faculty to plan for the flip, including creating learning outcomes appropriate to the learners and the assignments, communicating with students about the expectations for this model, and engaging faculty as participant instructors in the information literacy classroom, is vital to its success. Students will participate and benefit from library instruction only if they perceive that their regular instructor is supportive and engaged as well. This is especially true if the flipped model diverges from what they are used to in their regular classroom. This change in activity can be a difficult ad-

justment for students, so instructor support is absolutely necessary. Because collaborative planning is required for the success of a flipped library session, classroom instructors are likely to be more engaged with these sessions than the ones planned without as much of their input. These instructors are likely to be receptive to communication that focuses on student work and outcomes (Noe, 2013).

Preassignments and in-class activities “emphasize learner-centered learning” (ACRL, 2012: 357) in a variety of ways. Students are provided with independent learning opportunities and peer-learning opportunities in a flipped classroom. Since students complete preassignments on their own, they can choose when and how to engage with the content. Students who quickly understand the material may choose to complete the preassignment and arrive to class without questions about the material. Students who find the preassignment challenging can review it as many times as they like before class, and may arrive with a need for clarification on many points. Most students will fall somewhere on a spectrum between these extremes. The preassignment quiz (or feedback mechanism of some kind) can help the librarian-instructor shape the learning experience based on the student needs demonstrated. For example, if several students have difficulty articulating the correct answer to a preclass quiz question, the librarian can use this to shape the lesson content, creating a practical experience that engages students on the points the assessment highlighted. A preassignment “promotes critical thinking, reflection, and recursive learning” (ACRL, 2012: 357) in addition to allowing students to determine the support they receive by asking directly for help or to be spurred by feedback mechanisms that a librarian-instructor builds into an activity. The learner-centered experience also ensures that a student “endeavors to work collaboratively with others and support each other’s learning development” (ACRL, 2012: 358). By creating in-class activities where peers depend on each other to accomplish goals, like a team-based citation creation competition, students can help reduce the gaps in skills among learners.

An important feature of the flipped classroom is that students take responsibility for their learning. It “focuses on enhancing student learning and skill development for lifelong learning” and similarly, “prepares students for independent lifelong learning” (ACRL, 2012: 358) by encouraging students to become accustomed to driving their own learning experience. Preassignments provide an opportunity for students to prepare themselves for the classroom. If they neglect the preassignment, students suffer the consequence of observing their more prepared peers in the classroom. This emphasis on self-dependence recurs during the classroom activity, when students are expected to engage with material to problem solve or accomplish some goal, rather than passively listen as an instructor talks. Using active learning shifts

control from the instructor to the student, building the student's independent research skills (Noe, 2013). Students in a flipped classroom become aware of the control and power they possess when it comes to their own education, if this realization has not come to them before. Activities that also "include learner-, peer-, and self-evaluation" (ACRL, 2012: 358) extend the process of independent learning and peer-learning opportunities to the assessment phase by supporting information transfer and metacognition about the activities. Self- and peer assessments, like classroom peer review of paper drafts, or directed reflection, provide information about what a student knows, and also allow the student to participate in this observation so he or she can reflect on the learning process and objectives.

Flipped classroom activity is most useful to students when it "works within the context of the course content, and other learning experiences, to achieve information literacy outcomes" (ACRL, 2012: 357). For example, preassignments and assessments could ask students to reflect on concepts of information literacy in the context of their course, with research topics and source examples matched to the discipline. Context becomes even more important for in-class activities, because practical application is built on the specifics of an assignment, course, or discipline. Classroom interaction provides an opportunity for the librarian to model how the same method or process for doing research may be adapted by student researchers, depending on the assignment need. Due to the modular nature of preassignments and active learning experiences, the same concepts can be adapted depending on the course. Examining a sample annotated bibliography with citations of material similar to what students will be expected to use can help students transfer their abstract conception of the purpose of an annotated bibliography to the practical experience of creating and using them during the research process.

One of the most appealing features of the flipped classroom is that it "supports diverse approaches to teaching and learning" (ACRL, 2012: 357). Regardless of an instructor's style of approaching material, the basic model of a preassignment with assessment and in-class practical application can accommodate it. Librarians with a creative streak can infuse entertainment into preassignments, but simplicity will also get the job done. Instructors who are talented in engaging whole classes in conversation can plan for this type of activity. For those with less confidence in this area, small-group work or activities led by students can be used.

The flexibility described above applies to student work as well. Activities can "take into account diverse teaching and learning styles" (ACRL, 2012: 357) by allowing students to engage with content and demonstrate their learning in a variety of ways. For example, activities could be based on discussion, writing, demonstration, multimedia, or even games. Although some

students may typically prefer to read and write, other students may appreciate activities that also allow them to speak/listen and perform for their peers. Offering an array of acceptable options for demonstrating understanding is a way to “acknowledge differences in learning and teaching styles in the outcome measures” (ACRL, 2012: 358) and can be refreshing for students and instructors, who may become fatigued or even hampered by the repetition of traditional or uniform course work. This approach also exemplifies Universal Design for Learning principles, which some have advocated as a useful strategy for meeting diverse learning needs and improving teaching effectiveness (Zhong, 2012).

The modular and flexible nature of the flipped classroom makes it a useful tool for a variety of library instruction environments. As highlighted by ACRL’s best practices, it offers opportunities in sustainability, the use of technology, independent learning, peer learning, diverse teaching and learning styles, and collaborative connection. With flipped classroom success, a library instruction program can “contribute to information literacy’s advancement by sharing information, methods and plans with peers and stakeholders both within and outside of the institution” (ACRL, 2012: 358).

THE WARNING: FLIPPING IS NOT ALWAYS BEST

The flipped classroom, like any instruction method, should be used when appropriate. There may be many circumstances that call for other strategies or structures for a learning experience. This can only be determined by carefully considering an instruction scenario and its features. The following questions can help to reveal barriers to using the flipped classroom:

- Can the planned learning objectives be addressed with a preassignment plus active learning structure formula, or is something else needed?
- Is the classroom instructor willing to allow the use of the flipped session and also able to collaborate in the flipped classroom planning?
- Will you be able to communicate the expectations of the flipped classroom to students?
- Are there specific circumstances that will prevent this model from being successful?

In some cases, a librarian may not have the time or ability to adequately plan a preassignment that matches the desired learning objectives. Or, students may be too accustomed to a strong culture of classroom lecture in a particular course. Upper-level classes might not require exposure to new

material before a library session, nor expect very structured activities during the session in order to be useful. These are just a few examples of the many situations that are not best suited to a successful flipped classroom experience.

At times, a librarian may decide that the flipped classroom is a good match for a particular class and then encounter problems during the implementation. These situations cannot be avoided, just like any teaching mishaps. But they can possibly be remedied if the potential problems are anticipated. Consider these questions:

- What if students don't complete the preassignment?
- What if students don't participate in the active learning component?
- What if the technology tools don't work like you planned?

As with all instruction, having a backup plan in place for reconfiguring when things don't go as planned can salvage a difficult situation. Flexibility is probably the most universal teaching tool.

THE TAKEAWAYS: LEARNING FROM EXPERIENCE

Here are some important lessons gleaned from trial and error with flipping the library instruction classroom:

- It's not a time saver—planning for the flipped classroom takes as much time (or more!) than planning for any other instruction. Assuming otherwise is a mistake.
- Do check students' knowledge before class—any kind of assessment tool that will provide you with an understanding of student comprehension of the preassignment material is important for planning active learning. Using this assessment also means your instruction is automatically more learner centered.
- Do plan highly structured class time—in order to make sure you are truly making the most of the flipped classroom model, students should be directed to engage with concepts introduced in preassignment material. This engagement does not happen by accident; planned activities should guide them through the experience.
- Do practice letting go of control—if you are used to showing and telling students everything they need to know to be successful at library research, letting go of the lecture format will be hard. Designate practice

time so that you know you can limit your time speaking and students can focus on the activity.

- Don't worry about the technology—only use the tools that you are comfortable with and are necessary for the experience. There is no reason to make it high tech or complicated, and doing so will likely cause problems.
- Do focus on the pedagogy and the fundamentals—you can keep your instruction simple and accessible by being clear about what the learning objectives are and why you are doing what you are doing. If your instruction planning seems to be getting muddy, remind yourself of your goals for the session and the reasons you have chosen to flip.
- Do consider opportunities and challenges—the flipped classroom may not be the best option for every class. If the arguments against it outnumber the arguments for it, think about alternatives.
- Do try it and tweak it—you won't know all the benefits and pitfalls of using the flipped classroom in your teaching environment until you try it. Take advantage of the learning experience and build on what you think you can do better next time.

CONCLUSION

The role of the academic library on campus is continuing to change, just as change in higher education is ongoing. Today's best practices will likely evolve, and experimenting with pedagogical techniques like the flipped classroom both instigates and chases the process of change. For example, as instruction librarians consider and use the ACRL *Framework for Information Literacy for Higher Education* (2015), new models for library instruction will be adopted. This time of review and reflection on library instruction activities is a great opportunity to consider integrating the flipped classroom and other innovative models into the information literacy instruction repertoire.

Experimenting with library instruction makes our work fun and helps us improve our practice. The flipped classroom provides the chance to meet the instruction goals of making the most of limited time with students to help them be successful in their assignments and to eventually become adept at research. It also illustrates many of ACRL's best practices, making a library instruction program stronger. As librarians continue to experiment with this method, and many others, they should be guided by reflection on the needs of students in order to keep pace with the changing academic environment.

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