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Four quick flips
Activities for the information literacy classroom

In the spring semester of 2012, the librarians at Mary Baldwin College began "flipping" our information literacy classrooms on a regular basis. In a flipped classroom much of the instruction takes place outside of class time, in the form of tutorials, readings, and quizzes. Actual class time consists of active learning activities in which students practice and develop what they've learned. As librarian-instructors we were able to experiment with flipping in multiple environments, including course-integrated instruction sessions and our own for-credit information literacy course. Flipping is not only an effective tool for information literacy instruction, it is also a lot of fun. In this article we describe what flipping entails, how we did it, and some advice for best practices.

History of flipping the classroom

The basic elements of the flipped classroom are not new to teaching. Classes in history and literature have long used the "flipped" method, requiring reading outside of class in preparation for in-class discussion.[1] What has sparked the current buzz is the adoption of the method by STEM classes, the rise of online teaching tools, and the popularity of the Khan Academy. Khan Academy is a nonprofit organization providing online video lectures in a variety of different subjects and learning levels. Khan Academy lectures allow students to learn material at home at their own pace, and advances in online teaching tools give teachers the ability to monitor students' progress on the material remotely.[2] In class, time is spent on group work or one-on-one tutoring, if a student needs extra help. Although the flipped classroom method is a relatively new technique, it has been proven effective in the few studies done on the method. In 2008, the University of Michigan assessed student learning with a flipped calculus classroom and found that students "showed gains at about twice the rate of those in traditional lectures."[3]

Instructor-librarians are also realizing the benefits of the flipped classroom method. Joyce Kasman Valenza writes that many libraries already possess the infrastructure to implement flipped classrooms with video tutorials and other online learning materials. In an instruction session these materials can be sent to the students beforehand, so in-class time can be spent on group work and more advanced concepts.[4] In her poster at the 2012 Georgia Conference on Information Literacy, Nancy Fawley proposed using classroom polling systems as a way to gauge student comprehension on homework material before proceeding with the flipped classroom activities.[5] Although the flipped classroom method contains elements that instructor-librarians regularly employ, such as active learning and online video tutorials,

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implementing the method in both course-integrated instruction sessions and credit-bearing information literacy courses is still being explored.

Why and how we flipped

The idea of the flipped classroom appealed to us on many different levels. From the library literature, and our own experiences, we knew that active learning activities are very effective in the information literacy classroom. Lecturing is becoming an increasingly outmoded style of instruction, and in all honesty, we were experiencing a bit of "lecture fatigue" and were looking for ways to avoid it. We know from our class assessments that students enjoy being active in the classroom. They learn more and are more engaged with the material when they are "forced" to participate, rather than being allowed to sit back and listen (which many librarians know can mean anything from active attention to daydreaming to chronic Facebook checking). Also, information literacy instruction is strongly supported at our institution, so we had many opportunities to experiment in our course-integrated instruction sessions. Finally, this method allowed us to take advantage of the tutorials and guides that we spent so much time developing. Why not find a way to incorporate them more directly into our teaching?

The following four activities grew out of the need to teach students research skills without the librarian-led demonstration. They transfer the demonstrations into students' hands in peer-to-peer learning model, with the librarian to provide guidance. Before they come to class, students are asked to do a reading or watch a video tutorial on the material they'll be working on in class. All of these activities have been successfully implemented in both our course-integrated instruction sessions and our one-credit information literacy course.

1. Searching the databases. In this activity, students learn how to search library databases or other relevant discovery tools. Students are split up into groups and are given differ-

ent databases to search, based on the class assignment. They search for topics of their choosing (often their searches are related to their assignment) or they are assigned research questions by the librarian-instructor. They choose the best article they've found while searching and then come to the front of the class to demonstrate how they searched, share tips about searching in their database, and tell whether they would recommend this database to their classmates.

While they are demonstrating their search tool, the librarian has a chance to fill in the blanks and clarify any questions that may arise from the presenters or the rest of the class. This versatile activity can cover search techniques such as keywords and Boolean operators, a variety of specialized library databases, and source evaluation. Different subject matter can be emphasized, depending on how much students already know when they present their findings. To prepare for this flipped classroom activity, students are given an online research guide (in our case, a LibGuide) with the relevant search tools listed for their assignments, and information on keyword searching and advanced search techniques.

2. Keyword searching. This activity teaches students the basics of keyword searching. Without any guidance from the instructor, students perform a search using the same research question in the library catalog for one minute. After the minute is up, students shout out the number of search results they retrieved. The person who gets the most results comes to the front of the room to demonstrate his or her search. The instructor can then give tips about why the search was effective (while also pointing out that more results don't necessarily mean better results), and what could be done differently in the future. Many times the winning student has used Boolean operators, picked appropriate search terms from the research question, and in some cases has even used subject headings to pick up additional keywords. Before students come to class, they are given a reading on advanced searching techniques and

keyword searching, which, if they have read it, will help them in the competition.

3. Web site evaluation. In our third flipped classroom activity, students are taught the principles of Web site evaluation. Before they come to class they are given a video tutorial on advanced Google searching, which was produced by librarians at our institution. When they come to class, students are split into groups and given a topic for which to search (usually we try to make it related to their course content). The groups are instructed to pick a Web site which they believe would be most appropriate for a college-level research paper. They then present it to the class along with an evaluation. The class then votes to determine which group selected the most relevant and authoritative Web site. As students are demonstrating, the librarian should chime in when the students are confused or have missed an important point.

4. Identifying source types. Our final activity teaches students to identify different types of sources and evaluate them for their appropriateness to the assignment. Before they come to class, students are given several different options for learning about the differences between scholarly and popular journal articles, including a video tutorial and a text-based research guide, which they can choose from according to their personal learning style. During class, students are split into groups and given a different type of source to examine: a book, encyclopedia, scholarly article, or news article. Ideally, all the sources should be on the same topic. In their groups they are told to identify the type of source, whether it is scholarly or popular and how they determined that fact, the nature of the information in the source, and how it could be used in a research paper. Then students come up and present their findings to the class. The presentations can be ordered so that students move from primary to secondary and tertiary sources.

Student feedback

These activities are consistently a great success with students. Based on assessments given at the end of course-integrated instruction sessions, one of the aspects students most appreciate about the flipped classroom is the interactive, hands-on quality, and, in the words of one student, the "very helpful, creative approach to teaching." Not only does flipping make the class more fun, but students also said it helped them learn the material. As one student put it: "the way you presented and got us involved helped me learn a lot." Students also appreciated how the librarian offered suggestions and feedback during the students' presentations. After a database searching activity in a psychology instruction session, one student said she "enjoyed that we got to go up and show the class and Ms. Datig gave us tips while we were up there."

Feedback was also very positive among faculty who brought their students for library instruction sessions. They enjoyed seeing their students engaged in class while also learning the material. One challenge that we faced with faculty was the distribution of pre-instruction session materials to the students before class. However, even if students were not able to access the materials beforehand, we made sure to show their location during class so the students could find them later.

Such a ringing endorsement from both students and faculty on the flipped classroom activities has propelled us to teach as many instruction sessions and information literacy classes as we can with this method. Although students have told us they learn more during flipped classes, we have yet to perform extended assessment to see whether this is true. Our next step would be to follow up with faculty and analyze students' research papers to evaluate whether students' research and use of library resources improved more after a flipped classroom than after a typical library lecture class.

Lessons learned and future plans

One thing we have learned from our experiences is the importance of being willing to experiment and be creative. With a bit of ingenuity, many different information literacy

synchronous sessions are not possible, create effective tutorials instead. Stick to the Rule of Three: teach simple or complex skills (from a quick how-to to the peer review process), but keep it to three concepts and three minutes.[4] If purchasing software is not an option, try freeware,[5] link to tutorials from other libraries, or reuse existing Creative Commons licensed content from sites like ANTS[6] or PRIMO.[7] When conducting sessions or building tutorials, engage users through interactive tools like Poll Everywhere,[8] and remember to include transcripts and closed captioning to make videos ADA compliant. Position asynchronous instructional content at the point-of-need or in a How Do I page.[9]

Finally, don't forget to keep up. Our Lib-Guide[10] suggests Webinars, conferences, blogs, RSS feeds, and key people to follow on Twitter. Or why not create your own informal online monthly chats with a few other librarians in your area?

Conclusion

As online and distance learning programs grow at many institutions, an increasing number of librarians are involved in various aspects of distance education programs and perhaps even moving into positions as distance education librarians.

We hope these tips, based on our experiences coordinating distance education programs, are useful if you find yourself diving headfirst into a new role or teaching a few online courses. Please visit the Diving In LibGuide for additional information on all of our tips. Now you have some hints to help you dive in, embrace distance education, and become swim champs at your own institutions.

Notes

1. Radford, Alexandria and Thomas Weko, "Learning at a Distance," Stats in Brief NCES

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topics can be flipped. From class assessments, we have also come to realize that in the future, we need to make sure that students are actually completing the activities outside the classroom. This will increase the effectiveness of the technique and improve the level of class discussion. We could increase their motivation with short, in-class quizzes, or require a quick presentation on the readings. One option to consider is working with faculty to make completion of the out-of-classroom activities part of the students' grades. Greater collaboration with faculty might give us more information on how effective these techniques are in the long term. Also, we discovered that running a flipped classroom means developing a whole new skill set and way of being in the classroom. It requires the librarian to relinquish control and authority over the classroom, which can be difficult. But the rewards are worth the risk.

Notes

1. Dan Berrett, "How 'Flipping' the Class-

room Can Improve the Traditional Lecture," *Chronicle Of Higher Education* 58, no. 25 (February 24, 2012): A16–A18, Academic Search Complete, EBSCOhost (accessed March 19, 2013).

2. Sarah D. Sparks, "Schools 'Flip' for Lesson Model Promoted by Khan Academy, (Cover story)," *Education Week* 31, no. 5 (September 28, 2011): 14, Academic Search Complete, EBSCOhost (accessed March 19, 2013).

3. Berrett, "How 'Flipping' the Classroom Can Improve the Traditional Lecture," A16–A18.

4. Joyce Kasman Valenza, "The Flipping Librarian," *Teacher Librarian* 40, no. 2 (December 2012): 24, Academic Search Complete, EBSCOhost (accessed March 19, 2013).

5. Nancy Fawley, "Turning the Tables: Using a Flipped Classroom Method Approach to Teach Information Literacy" (poster at the 2012 Georgia International Conference on Information Literacy, Savannah, GA, September 21–22, 2012). ン