

# Leading Them to Water and Making Them Drink: Flipping Instruction

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Engaging college freshmen in library instruction has been a topic academic librarians have discussed for decades. Library instruction in academic libraries have begun to use the tenets of flipping instruction but it is still in the experimental phase. Heinz and Callender, academic librarians at Texas Tech University decided to use flipped instruction in a section of a one-hour credit course Introduction to Library Research in which predominately freshmen enroll their first semester. The goal was to compare the student engagement with another section of the class they co-taught during Fall 2014. A flipped classroom is defined as inverting the traditional model where content is provided outside the classroom and assigned work completed during scheduled class time. The model is attributed to Jonathan Bergmann and Aaron Sams who used videos in their high school science classes to provide more class time for lab work. History, English and other social science and humanities classes have assigned readings outside class for students to prepare to participate for discussion in the next class time. Providing content outside class time allows students to review materials at their pace and review as often as needed. Students are then prepared to apply the information to class assignments leading to deeper understanding and mastery of the content.

## **Literature Review**

Preparing to flip the class required reviewing professional literature which primarily focus on high school classes that have been flipped. The authors

reviewed literature related specifically to both the flipped model and the specific topic of library instruction, learner instruction, or library information literacy. They also surveyed the most recent articles and data on the combination of these two topics as they wanted to explore criticism that had developed over the past few years. The literature surveyed generally agreed that the advent of new technologies eased the way for flipped models as technology can provide a vehicle for disseminating or delivering content outside class. Developing specific outside learning objects were encouraged by Gibes and James for the task or assignment to provide students clarity and direction. The literature surveyed aligned with the concept that the flipped model gives the responsibility of learning to the student creating a learner-centered classroom. Students are more engaged in the curriculum, classroom discussion and deeper examination of the topic. The consensus is the flipped model can work very effectively with user instruction in a class structured over the semester. External forces can impact flipping one-shot library instruction sessions. Faculty buy-in, students reviewing materials or completing pre-work and overall organization of the session must be in alignment. If the faculty member does not require students to review the material, students come unprepared to apply the information to class assignments. Online materials will need to be easily available to students through the personal electronic devices our through computers available in the library.

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Gibes and James discuss the importance of keeping some instruction in the classroom, not removing it completely when utilizing the flip method. They stressed the importance of having multi-faceted learning objects as well as instruction opportunities for students, and not removing all lecture from the classroom. Datig and Ruswick give four quick ways to flip some information literacy practices. They focused on online or distance learning and the use of tutorials stressing the importance of being creative and allowing experimentation. Chen focuses on the first year experience and information literacy, but in the conclusion talks about how the flip method would be beneficial as it allows students to learn at their own pace and possibly with their preferred method of learning style, while allowing librarians to teach information literacy with more depth. Lemmer has an in depth article on how to use inverted classroom in enhancing legal information literacy. Lemmer takes a harder approach to technology, stressing to not simply use the next shiny object in learning, but to concentrate on the goal of the learning object. Technology can be used effectively but not simply for the sake of using technology. Pannabecker et al. discuss the importance of faculty and librarian collaboration which is essential to successfully flipping the one-shot session. Rivera's article compared a workshop on library competency, utilizing the flipped model in one workshop and the traditional lecture method in the other. He suggests a larger sample size to gain statistical insight before making any firm decisions about the benefits of the flipped model.

Arnold-Garzaf discusses the flipped classroom model as it pertains directly to literacy instruction, benefits as well as challenges. She expands that flipping allows for more time for active learning in the classroom, which allows for more 'learning by doing' by having students engage with concepts, learning materials and peers in the classroom. She also focuses on the concept of the student being responsible for learning, rather than the instructor. She goes on to discuss 'the flip' in higher education and how it was first developed for middle school but is making its

way to higher education. She cites other articles that point out that the inverted model was more of a natural progression in higher education as professors were feeling out different ways to use technology outside of the classroom to enhance learning. She moves on to the more specific topic of flipping and librarians. She states that librarians were early adopters of technology and learning. Arnold-Garza goes on to give a few examples of librarians flipping information literacy. Before concluding, she discusses some of the pitfalls involved with flipping, such as the logistics of assigning pre-work to a class that is having a one-shot demonstration, or the opinions of others on not using other people's videos for pre-class work. She also discusses the pitfall of using flip as a short cut in the whole learning experience. In the long run, it is a disadvantage to the student. She feels that the flip method definitely has its place in information literacy.

In *College & Research Libraries News*, Datig and Ruswick point out that academic librarians have the infrastructure in place to flip instruction by having students review existing online tutorials and other online resources before coming to the library for instruction. Librarians can instruct students on advanced search strategies and skills. Students can work in groups to complete the class assignment or active learning exercises to reinforce concepts and skills in the pre-course materials.

### **Class Experience**

Introduction to Library Research (LIBR 1100) is a one-hour credit course taught by the Research, Instruction & Outreach (RI&O) librarians at Texas Tech University (TTU) since the mid-1990s. The course resources have been periodically updated and brought into alignment with the changing landscape of academic librarians however the subject material remained uninspired. A textbook was developed when the course started but soon became out of date as technology changes occurred on a regular basis making updating the textbook an ongoing task. Texas Tech University began using content management systems for distance courses. Currently Texas Tech uses Black-

Board as the campus CMS. Several slide presentations were developed to cover each topic which were used as lecture aids by the instructing librarian. These slides were easily updated as changes in the TTU Library occurred. Assignments and quizzes were also designed and added to BlackBoard. Every librarian teaching LIBR 1100 used these materials for teaching the course creating consistency across the sections.

Course enrollment for LIBR 1100 dropped off and RI&O librarians began to examine the class more closely and investigate ways to invigorate the class. RI&O Librarians began to incorporate active learning activities to engage students but the content remained unchanged. LIBR 1100 is taught as a semester long course. Topics for the course include: campus libraries, information cycle, and research process, thesis statement, citing resources, evaluating information, managing research, and searching for print and electronic information sources using Texas Tech Libraries resources. Required assignments include weekly online quizzes and assignments leading to a final annotated bibliography project. In previous semesters the course was taught in a traditional lecture based method by librarians who presented the information in class. If time remained after the lecture students were able to work on their final bibliography project. Classwork was primarily independent unless the instructor had an additional group in-class assignment.

Literature reviewed generally suggested students who are responsible for reviewing course content materials prior to class and where class time was devoted to reinforcing learning through active engagement or well defined assignments mastered the content at a higher level. Shifting the responsibility from the instructor to the student creates opportunity for students to take ownership of their learning and moves toward a learner centered environment. Librarians have traditionally included hands-on application of instruction to reinforce learning and have been some of the earliest adapters of technology into instruction.

For the Fall 2014 semester, the authors co-taught two sections—one using traditional face to face lecture with assignments completed outside class time

and one section designated to be taught as a flipped class. For consistency the original prepared slides were left as course material on Blackboard for both sections. These were the only course material provided to the traditional section. The instructors took the first class to explain the flipped model and to answer questions from students. Expectations were defined and course objectives were reviewed to provide students direction. Students in the flipped section were divided into groups which remained constant through the semester. Each group was tasked to identify resources available electronically related to each week's topic. The assignment included capturing the best resources for explaining course material. Students were not restrained by format. They were encouraged to look at articles, web pages, videos or any other material they felt best explained the topic. Students were provided information on SlideShare, YouTube, TED, TEdEd, Merlot, Kahn Academy, Sophia, TTU Libraries' databases as well as others suggested by students in the class. Students were not limited by these resources but were provided as examples of tools to use to locate resources. Students met outside class either in person or electronically to locate resources. Within Blackboard the Group feature was used to create a collaboration space for each group. Students were able to upload their identified resources for presentation in class and for instructors to review. Instructors explained the resources each group identified as their top one to two resource would be compiled at the end of the semester. Students would choose and vote for their preferred resource for each topic. The top chosen resource for each topic by the class would become part of the curriculum materials for future sections of the course.

## Findings

Students were reluctant at first to present their resources. The instructors deduced this was due to several factors. As a predominately freshmen class students were not comfortable presenting in a college class and may have not worked as a group at the college level. Additionally as new college students they

may have not previously met whereas in high school they most likely worked in groups with students they had met and known previously. Unfamiliarity with the topic was another barrier as students appeared uncomfortable presenting and unsure of how to respond to questions from their classmates and the instructors. The instructors anticipated this situation which prompted their decision to leave prior course content available to provide students with a foundation of information on each topic. By week three, students were comfortable presenting the resources selected by the group and defending why the resources were chosen. Groups used critical analysis and thinking skills to defend why they chose the materials. Instructors also observed a shift in enthusiasm as students looked forward to presenting the resources they selected and were competing to have the best resource for the end of semester vote. Groups began promoting their resources to the class and discussions became more thoughtful. Students were empowered by the ability to speak critically about the content they found and even began giving advice on how to improve the established content from within the course.

A common element emerged when the authors asked students why they had selected their resources. Students prefer clear explanation of the topic followed by examples (good and bad). Most resources were videos and were short, averaging under 4 minutes. Students did not seem to prefer videos using an informal tone with students over formal videos developed by librarians. Their focus was the content and, more importantly to the students, clear examples.

At the end of the semester students were provided a list of resources identified for each week's topic. Resources were not identified by group and voting was anonymous. The top selected materials have been added to the resource list for the class. The authors believe adding student identified and selected materials to the course resources will engage students at a higher level. Students will be required to review the resources and active learning assignments will be developed for in-class application of the reviewed material.

Differences in the two sections became obvious as students engaged in creating the course content were more invested in the curriculum. The traditional section had several students withdraw where the flipped section retained all originally enrolled students. Each section participated in pre and post assessment. No significant difference in scores were notable.

## **Conclusion**

The authors plan to apply lessons learned from flipping the one-hour semester course and apply them one-shot instruction sessions. To be successful this will require librarians working with their departmental faculty to require students prepare for the instruction session by reviewing online resources provided by the librarian. Faculty buy in to this method of instruction will be key to successfully flipping one shot sessions. Faculty will need to be assured this does not create additional work or is to be used in place of a librarian led instruction session. Librarians and departmental faculty will need to collaborate on assignments. Librarians will be able to teach advanced searching and research skills to students. Librarians will need to be willing to release control of the course content when moving from traditional lecture based instruction and concerns about being replaced by online materials addressed by increasing their understanding of how they will assist students in a more meaningful way.

The authors will create a workshop to assist their colleagues' transition to the flipped model of instruction. Workshops will include working with identified departmental faculty members to begin the shift to flipped library instruction and the creation of in class assignments that will assist students apply the information with the librarian available for assistance and deeper instruction. Advanced searching techniques and research strategies are often left out of one-shot library instruction as the basics are covered during the limited time frame. The most time intensive task will be creating online tutorials and videos for students to view prior to the librarian-led instruction session. . RI&O Librarians have already created subject guides

for specific research and the newly developed resources will compliment these guides. Re-partnering with the general and specific college freshmen introductory courses such as Raider Ready (freshmen orientation seminar), English Composition and other introductory college specific courses will help with the transition to flipped instruction as these courses are taught by faculty in all subject areas who will be able to see the benefit of adding not only library instruction but the flipped model of library instruction into the semester class semester.

Flipping library instruction will require organized and thoughtful work on the part of the librarians but the ability to engage students and help them transition to taking ownership of their learning will result in a deeper understanding and mastery of information literacy skills.

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