



Flipped Instruction for Information Literacy: Five Instructional Cases of Academic Librarians



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ABSTRACT

University of California, Berkeley librarians have incorporated the flipped instruction model into information literacy training by focusing on two primary elements: assigning pre-class assignments and increasing active learning techniques. We explore these two elements across five diverse instructional cases, which include one-shot and semester-long classes that were conducted through online or in-person delivery for both graduate and undergraduate students across a range of subject areas (sciences, social sciences, and humanities). We examine the enabling factors and the perceived outcomes of this instructional paradigm. Because students came to class with enhanced library understanding and experience from the pre-class assignment, they were better prepared to engage with the material and articulate additional learning needs. We note students' increased engagement during class and more time available for higher-order learning exercises and discussions. As a result, flipped instruction appears to enable more learning opportunities without increasing classroom time. The challenges of this model are the requisite commitment of time and effort, the need to foster class participation, and the facilitation of active communication within the class. We propose a framework of catalysts, building blocks, and instructional outcomes to help library instructors incorporate flipped instruction elements into their instructional design.

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INTRODUCTION

Flipped instruction, also known as the flipped classroom, inverts the traditional classroom pedagogy of content acquisition and application by using class time to clarify questions rather than deliver new material. In this model, “students gain the necessary knowledge before class, and instructors guide students to actively clarify and apply that knowledge during class” (Center for Teaching and Learning – UT Austin, 2015). Proponents of flipped instruction often emphasize the potential for deeper engagement with content during class (Strayer, 2012). Additional benefits of the flipped instruction model may include improved student–teacher interaction, opportunities for real-time feedback, active student participation and engagement, self-paced learning according to students' needs, deeper understanding, and more meaningful assignments and activities (Center for Teaching and Learning – UT Austin, 2015; Goodwin & Miller, 2013).

In the flipped instruction model, traditional lecture content is delivered through student self-instruction before class. This may take the form of readings, online videos and tutorials, hands-on exercises, and other assignments. Class time is then devoted to engaging in learning

exercises, intensive practice opportunities, and learning assessment. This is counter to traditional academic pedagogy where students are first introduced to new concepts in the classroom and are responsible for completing individual homework assignments for practice and application after class.

While flipped instruction is popular and well documented in the literature, it is still considered an emerging approach that has yet to be fully proven effective. Goodwin and Miller (2013), for example, characterize flipped instruction as a growing practice with little research on how well it works. Abeysekera and Dawson (2015) agree that the approach is “under-evaluated, under-theorised, and under-researched in general” (p. 2) with little consistency in definition and practice. However, a handful of studies suggest the efficacy of flipped instruction. Findings show that students may become more open to cooperative learning and innovative teaching methods (Strayer, 2012), and that students believe the flipped classroom provided an engaging learning experience that helped them absorb the content with an increased self-efficacy for independent learning (Enfield, 2013). Additionally, in a quasi-experimental study, Touchton (2015) found statistically significant advantages to the flipped classroom including higher grades, greater student interest in the subject, and student perceptions of learning increasing or “as more relevant” relative to traditional classes. Despite the small empirical base, Abeysekera and Dawson (2015) argue that

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the case for flipped instruction is supported by evidence in related areas of research on active learning, self-paced learning, and issues related to cognitive load and motivation.

Anecdotally, librarians frequently encounter barriers to implementing flipped instruction. Many do not have the time or authority to assign formal and graded assignments nor do they engage with a class over a semester for intensive learning activities. It can be challenging to motivate faculty and students to engage in this intensive instructional approach for a one-shot library session.

How then might academic librarians realize the opportunities and benefits of flipped instruction within the constraints of limited time and authority? We suggest that librarians focus on two key elements of flipped instruction. The first is providing students with a self-directed assignment to be completed prior to the information literacy class. This contrasts with the usual self-contained structure of a library instruction session, which is bounded by the limits of an hour-long class. The assignment could include readings, online video clips, or self-directed technical exercises and problem sets. With some of the instructional content already learned through a pre-class assignment, librarians are then able to refocus class time for the second element: greater active learning in the classroom. Shifting away from passive lectures and demonstrations, librarians could engage students during class with intensive exercises for problem-solving and skills practice. There is also more time for observing student learning, providing discussion feedback, and tailoring the class to students' learning needs identified in the pre-class assignment.

These two elements match [Abeysekera and Dawson's \(2015\)](#) conceptual review of the flipped classroom approach. Ultimately, it is a "set of pedagogical approaches that (1) move most information-transmission teaching out of class, (2) use class time for learning activities that are active and social, and (3) require students to complete pre- and/or post-class activities to fully benefit from in-class work" ([Abeysekera & Dawson, 2015, p. 3](#)).

Library assignments and active learning techniques are not new to information literacy instruction. The value of the flipped instruction model, however, is that it ties these elements closely together and encourages more student self-instruction outside of the classroom balanced with more engaging and intensive learning activities during class. This expands the student's exposure to information literacy instruction; rather than a traditional one-shot library session, with the pre-assignment students receive a "double shot" of information literacy training.

This paper shares the ways that University of California, Berkeley librarians have incorporated these two key flipped instruction elements — a pre-class assignment and greater active learning in the classroom — into instructional practice. We describe our flipped instructional design and qualitatively explore their enabling factors and outcomes.

BACKGROUND AND LITERATURE REVIEW

This case study was conducted by the Library's Teaching and Learning Expertise Group at UC Berkeley. Expertise groups are our organization's professional learning communities; they are intended to encourage the sharing of questions and approaches across disciplines, to provide a core group for guiding the Library on big issues, to develop individuals' skill sets and increase awareness and expertise of the staff as a whole, to explore innovations in other environments, and to be a springboard for innovative and effective ways to align the Library to the University's mission. Members organize educational events, gather and analyze input from the library and campus, research hot topics, inform policies, and initiate new programs and services. They create opportunities for librarians and library staff to showcase our knowledge in support of the university's research and teaching mission.

During our initial investigation of flipped instruction, the Teaching and Learning Expertise Group reviewed the literature on its application

in various library settings. The case studies on flipping in information literacy instruction revealed a pattern of a three-stage approach: (1) pre-session learning assignments to be performed individually by the student; (2) in-class activities; and (3) assessment and feedback. Each stage presents new opportunities and pitfalls over traditional active learning models, whether used in a one-shot library instruction session, in an embedded instruction arrangement, or in a semester-long librarian-instructor scenario.

Pre-session activities aim to introduce students to key issues and techniques through well designed, hands-on activities specific to the course or a class assignment. Integration of the assignment into the course management system, as modeled by librarians at Marquette University who developed a comprehensive digital learning object used in all first-year English classes, allowed instructors and librarians to track the completion of pre-session assignments by students as well as the correlation between the completion of pre-session assignments and success in learning activities and the course overall ([Gibbs & James, 2015](#)). One of the greatest challenges to one-shot instruction sessions, as noted broadly, is simply getting pre-session materials to the students; developing collaborative relationships between course instructors and librarians for flipped classes may also extend the opportunities for dialog with students ([Arnold-Garza, 2014a](#); [Datig & Ruswick, 2013](#)). With faculty buy-in, integrating a combination of learning objects (including video and text-based resources) better accommodates students' varied learning needs and preferences. Because students are not able to get immediate answers to questions as they could in the traditional lecture environment, designing a way to capture students' questions for in-class discussion is important ([Datig & Ruswick, 2013](#)).

In the flipped model, the actual in-class session is generally devoted to a variety of group-based activities including guided discussions, student-led demonstrations and evaluation of resources, timed search competitions, peer-led instruction, and unstructured work time. In all of the above scenarios, librarians have embraced the "guide on the side" model over the traditional "sage on the stage" approach, providing feedback and answering questions during the student-led activities.

Case studies emphasize the value of feedback and assessment, while acknowledging this as a challenging task. Sample sizes in many individual courses are too small to draw meaningful conclusions; also, students' anecdotal feelings of improved performance often do not translate to improved grades ([Arnold-Garza, 2014b](#)), and even in studies that claim improved performance tied to flipped instruction, it is difficult to identify causality ([McCue, 2014](#)). It would be beneficial to conduct extended assessment over the life of a course. Whether or not the flipped model for information literacy instruction is efficacious may be evident as instructors grade research assignments and papers throughout the course and see the application of concepts and techniques covered in earlier class sessions ([Datig & Ruswick, 2013](#)).

In addition to the general literature about flipped instruction, it is illuminating to read case studies addressing the application of flipped instruction techniques in subject-specific information literacy contexts. Articles surveyed included reports of flipped instruction for engineering ([Maddison, Beneteau, & Sokoloski, 2014](#)), data management ([L. Johnston & Jeffries, 2014](#)), science laboratories ([Gregory, 2013](#)), and legal research courses for international graduate law (LL.M.) students ([Lemmer, 2013](#)). Not surprisingly, many of the goals, methods, and outcomes of subject-specific flipped instruction are similar to those found generally: increased student engagement, active learning, technology-mediated delivery of instructional materials for self-study combined with in-class collaborative learning activities emphasizing hands-on application, and positive feedback from participants. An additional benefit of the flipped classroom experience includes strong partnerships with faculty to collaboratively develop the specialized content for classes ([Maddison et al., 2014](#)).

Flipped library instruction can create logistical challenges for high-enrollment courses because it may be difficult to schedule sufficient instructional sessions with the librarian. Solutions included training

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