

1-1-2015

The Flipped Library Classroom at Georgia State University: A Case Study

M. Leslie Madden

Georgia State University, lmadden@gsu.edu

Ida T. Martinez

Georgia State University, itmartinez@gsu.edu

Follow this and additional works at: <https://digitalcommons.kennesaw.edu/glq>

 Part of the [Information Literacy Commons](#)

Recommended Citation

Madden, M. Leslie and Martinez, Ida T. (2015) "The Flipped Library Classroom at Georgia State University: A Case Study," *Georgia Library Quarterly*: Vol. 52 : Iss. 1 , Article 9.

Available at: <https://digitalcommons.kennesaw.edu/glq/vol52/iss1/9>

This Peer-Reviewed Article is brought to you for free and open access by DigitalCommons@Kennesaw State University. It has been accepted for inclusion in Georgia Library Quarterly by an authorized editor of DigitalCommons@Kennesaw State University. For more information, please contact digitalcommons@kennesaw.edu.

PEER REVIEWED



The Flipped Library Classroom at Georgia State University: A Case Study

By M. Leslie Madden and Ida T. Martinez

Although the flipped classroom concept has gained attention in the media and professional literature in the past year, versions of this instructional delivery method have existed for some time. For many years, librarians and other educators have created tutorials and other learning objects as a means of supplementing and supplanting traditional face-to-face instruction. Librarians at Georgia State University (GSU) are experimenting with using learning objects to teach basic skills, while scheduling face-to-face workshops and instruction sessions to delve deeper into discipline-based research processes. This paper details those efforts, highlights an established flipped classroom practice with the Psychology Department, and presents evidence of improved student learning.

What is a Flipped Classroom?

At its most basic definition, flipping a classroom means that students watch or read lectures outside of class, while traditional homework activities and group learning occur during class time, but it can involve more than that. Valenza (2010) explains:

Flipping the classroom changes the *place* in which content is delivered. If the teacher assigns lecture-type instruction in the form of video, simulations, slidecasts, readings, or podcasts as homework, then class time can be used interactively. The class becomes conversation space, creation space, space where teachers actively facilitate learning. The home becomes the lecture space. (22)

Versions of flipped classrooms are also sometimes called blended learning (Ullman 2012, 47), inverted classrooms (Strayer 2012, 172), backwards teaching (Scott and McGill 2011, 40), and hybrid teaching (Parry 2012, B6). Though these techniques have been used in classrooms for decades (Berrett 2012, A16), the “flipped classroom,” or “flipped mastery model,” has only recently gained attention.

Coined by high school chemistry teachers Jonathan Bergmann and Aaron Sams, who began using the method in the mid-2000s (Tucker 2012, 82), the flipped classroom offers multiple advantages over traditional lecture-style classes. First, students can learn course content at their own pace and on their own time. Students can watch lecture content that is delivered via technology at any time of day or night on devices that are internet-enabled. Students who struggle to learn or build on concepts may watch or read lectures multiple times, while students who more quickly grasp the material may move on to new content (Fulton 2012, 21; “Flipping” 2011, 5). Additionally, more time is offered for in-class assessment, so that instructors can more easily determine where more coverage of concepts is needed and which students need individual coaching (Fulton 2012, 21-22; Berrett 2012, A16). Furthermore, students are required to be more engaged in the learning process. Instead of being “fed” information that they will later regurgitate on an exam, students must demonstrate understanding and application of concepts through participation in active learning exercises in the face-to-face portion of

the course (Herreid and Schiller 2013, 62; "Flipped Classrooms Offer" 2011, 1; Carpenter and Pease 2012, 37-38).

In the college and university setting, flipped classrooms are valuable in yet more ways. Some colleges and universities are offering courses from the top experts in the field through MOOCs (Massive Open Online Courses) (Parry 2012, B6), while also providing students with in-person study and group activity sessions. Additionally, with added time for in-classroom assessments, instructors are better positioned to demonstrate the value and evidence of learning in their classrooms, something campus administrators are requiring more and more often. Finally, the flipped classroom method is flexible enough to accommodate large numbers of students vying for classroom space and limited enrollment slots. Universities are better positioned to offer additional sections of courses, while students receive more personal and individual attention than ever before (Berrett 2012, A16).

Demonstrating the Value of Flipped Classrooms

In 2010, the US Department of Education published the results of a study that analyzed journal literature published between 1996 and July 2008 related to comparisons of learning outcomes in online versus face-to-face classrooms. The analysis focused on empirical research, which mainly took place in higher education settings. The study found that, "on average, students in online learning conditions performed modestly better than those receiving face-to-face instruction" (Means 2010, ix) and, more surprising, that "blends of online and face-to-face instruction, on average, had stronger learning outcomes than did face-to-face instruction alone" (19). The study concluded, however, that blended learning does not seem to be a superior method of instructional delivery but rather that the additional time and opportunity for concept reinforcement and individual coaching are

important components to the success of this method (xviii). Strayer's (2012) mixed-methods comparative study of two college-level statistics courses, one traditional and one hybrid, supports these conclusions.

In 2009, with a desire to "make room for more in-class investigations" (172), Strayer, a mathematics professor at Middle Tennessee State University, decided to experiment with blended learning and to compare student learning outcomes in that class with those in a traditional lecture course that he was also teaching. Students in both courses were given the College and University Classroom Environment Inventory (CUCEI) "to assess their perceptions of the learning environment (both what they preferred and what they actually experienced);" Strayer collected additional data using audiotaped class sessions, individual and focus-group interviews, field notes from observers, and reflective journal entries (173). Strayer's data showed that students in the flipped class were more open to discussion and active learning than their traditional class counterparts and that they preferred activities that allowed them the opportunity to apply concepts they had learned during the lecture portion of the course (190).

Several recent surveys of instructors using flipped classroom techniques also support this methodology. In 2012, Sophia, an online learning community for teachers and learners, polled its members about flipped classrooms and student learning. Of 400 respondents, approximately half had flipped their classes at the time of the survey. More than 85 percent of these flipped classroom teachers saw an improvement in student grades ("Sophia Survey" 2012). A June 2012 survey of 453 educators using the flipped classroom method by the Flipped Learning Network, another online community, found that 67 percent of respondents reported improvements in students' standardized test scores, and 80 percent reported improvements in student attitudes toward learning. Finally, a recent

survey by Herreid and Schiller (2013) of more than 15,000 subscribers to the National Center for Case Study Teaching in Science listserv revealed that 200 of the STEM case study teachers who responded to their survey have flipped their classrooms. Their reasons for doing so included: being able to spend more time with students doing authentic research, teaching students how to apply concepts or learn to “think outside the box” rather than memorize information, and getting students more involved in the learning process (62).

Flipped Library Classrooms

While libraries have been creating online tutorials and other learning objects for many years, and there are a substantial number of publications related to these resources, a survey of the library literature reveals that, as yet, there are few publications detailing flipped classroom practices in libraries. At this point, the majority of articles published in the library literature on this topic are in the vein of “how to” or “how we can,” but a few articles have been published about actual experiences. In 2012, librarians at Mary Baldwin College began experimenting with flipped library classrooms. Based on assessments during library in-class time, the librarians found that “one of the aspects students most appreciate about the flipped classroom is the interactive, hands-on quality” and improved ability to “learn the material” (Datig and Ruswick 2013, 251). In 2013, librarians at Towson University’s Albert S. Cook Library began using flipped techniques “to determine whether the flipped classroom model of teaching could be used to deliver engaging and effective library instruction” (Arnold-Garza 2014, 10). As yet, the librarians at Cook Library have been unable to determine the effectiveness of this method, but after surveying students who participated in these sessions, they found that 90 percent of participants agreed that “the in-class activities supported understanding of the concepts presented in the pre-library session assignment” (11). Additionally, 86 percent of

students in the flipped library sessions “agreed that they learned from in-class activities” (11). Despite the lack of publications on actual flipped library classroom practices, librarians are clearly interested in how this method might impact library instruction and information literacy.

Georgia State University and Why We Are Flipping

Georgia State University is an urban research university in downtown Atlanta with more than 32,000 students, 75 percent undergraduate and 25 percent graduate. Eight colleges and schools at the university offer fifty-five undergraduate and graduate degrees in over 250 fields of study. Additionally, the university employs more than 4,700 faculty and staff (Georgia State University 2013a, 2013b). As of May 2014, the University Library employs just under 100 full-time faculty and staff, thirteen of them subject librarians. The library, one of the most popular places for students on campus, welcomed 1,559,958 visitors in 2012, and librarians taught 620 instruction sessions (the majority face-to-face and the remainder synchronous online) reaching 14,411 students during the same time period (Georgia State University Library 2013).

With increasing requests for library instruction sessions and no corresponding increase in librarians to deliver the instruction, the Public Services Department (in which the subject librarians work) carefully evaluated how, when, and why they delivered instruction. During the 2012-2013 academic year, subject librarians created instruction plans for each major. See <http://research.library.gsu.edu/plans> for copies of the instruction plans. These plans helped public services identify and target courses in which instruction would be most effective and think about alternative ways of delivering instruction and information. The plans also clarified the need for diversified, skills-based instruction sessions, rather than the traditional introduction to library resources that

most of the subject librarians had been offering. Informal polls of students revealed that many had received the same information in multiple library instruction sessions, not only in the same discipline, but across disciplines. Rethinking the way that instruction was delivered has eliminated repetitious instruction sessions, which had frequently resulted in student boredom and disengagement. Flipping the library classroom has allowed the subject librarians to reach more students more effectively, providing the right kind of instruction when it is most needed. One established library flipped classroom at Georgia State University involves the Psychology Department.

Psychology Classes and PORT

At Georgia State University the four-credit course PSYC3530, Advanced Research Design and Data Analysis, is required of all psychology majors. It consists of three hours per week of classroom lecture and two hours per week of laboratory time. On average, ten sections of the course are offered per semester, and enrollment is capped at twenty-five students per section. All sections regularly are filled to capacity; therefore, about 250 students take this course each semester. One of the course goals is for students to learn advanced search techniques in the database PsycINFO and effectively utilize features such as its thesaurus and help menus. None of this information is taught or discussed in the lecture portion of the course.

From 2008-2010, students in PSYC3530 learned PsycINFO database search strategies outside of class by watching a series of video tutorials that the psychology librarian produced. They would then take a quiz on the information during lab. There was no flipped component to the teaching strategy, and neither the librarian nor the lab assistants discussed or applied the information during lab. No data on the quiz scores for these years was preserved. In the fall of 2010, a new psychology librarian, at the

behest of the coordinating professor for PSYC3530, began flip-teaching PsycINFO search strategies to all PSYC3530 course sections. In collaboration with the coordinating professor, the assessment tool (the quiz) was revised, and new online video tutorials were created and implemented in the fall of 2011.

Collectively, the videos are referred to as a single learning module called PORT, Psychology Online Research Tutorial. Currently, PORT consists of seven brief videos with a combined viewing time of approximately twenty minutes. Links to the tutorials are provided on a LibGuide, which is prominently featured on all PSYC3530 course sites via the learning management system Desire2Learn. Students are required to view the tutorials outside of class. During a lab session, the psychology librarian and graduate lab assistants guide students in applying what they have learned from the tutorials by having them complete worksheet assignments, conduct searches as a group, discuss techniques and outcomes, and ask questions to get more clarification on the details of how to search the database and use its tools effectively. The assessment tool for this flipped classroom experience is a standardized PORT quiz that each student completes in lab. The quiz scores are shared with the librarian and are used to report learning outcomes to the Psychology Department chair (and ultimately the Dean of the College of Arts & Sciences) and to the library's Associate Dean for Public Services (and ultimately the Dean of Libraries). This flipped classroom practice, with its sustained assessment protocols, is arguably a solid contributing factor in the improvement of average PORT quiz scores over the past three years (see table 1). Changes in librarians, content emphasis, lab activities, and tutorial edits can also be contributing factors, but all are part of effective flipped classrooms. As Strayer (2012) notes, "it is extremely important that teachers adjust the system maintenance and change dimensions of the learning environment to support students' meaning making from activity in an inverted classroom" (192).

Table 1: Average PORT Quiz Scores for Georgia State University's PSYC3530 Classes

Semester	Average PORT Quiz Score
2010 Spring	76%
2010 Fall	78%
2011 Spring	81%
2011 Fall	85%
2012 Spring	84%
2012 Fall	86%
2013 Spring	82%
2013 Fall	88%
^a Average quiz scores prior to 2010 Spring not available. ^b Change in psychology librarians effective 2010 Fall. ^c Major revision of PORT introduced in 2011 Fall. ^d Incomplete reporting of quiz scores for 2013 Spring.	

Each section of PSYC3530 requires a major research writing assignment for which students must utilize what they learn from the PORT module. Therefore, though they learn and practice their PsycINFO research skills outside of class, they must use them to be successful in completing one of the course's core requirements. This is a good example of a flipped classroom collaboration between faculty and an academic librarian.

This case study has revealed a number of other successes, albeit anecdotal. First, the gradual improvement in PORT quiz scores might suggest that PSYC3530 instructors are seeing improvement in the quality of the references in the written research assignments. A tangential measure of this is the noted drop in the number of research consultations that the psychology librarian has seen among PSYC3530 students. In other words, the PSYC3530 instructors, who require several drafts of the written assignment, are not referring students as frequently as before to the psychology librarian for in-depth or supplemental assistance. The inference is that students' written research papers are improving. Also, students must take at least one 4000-level research seminar following successful completion of PSYC3530.

Students report, again anecdotally, that but for the detailed guidance in mastering PsycINFO via PORT in PSYC3530, they would not have been as confident in their research for the 4000-level seminar. In fact, seminar instructors do not teach research methods in their lectures but regularly refer students back to the PORT module to refresh their memories on how to conduct effective PsycINFO database research for their seminar assignments. Likewise, a number of psychology instructors at GSU regularly incorporate the flipped PORT model into their classes.

Flipping the Classroom Beyond PSYC3530 and PORT

As with most academic librarians, subject librarians at Georgia State University are deeply invested in the success of students. Until recently, reaching as many students as possible in face-to-face instruction sessions was a goal that the subject librarians worked hard to attain. Growing numbers of students, without an increase in the number of librarians, however, have made this goal unsustainable. Between 2009 and 2011, an average of 108 library instruction sessions were taught per year for freshman English courses. During that same period, requests for instruction sessions from freshman orientation (GSU1010) instructors grew exponentially. In 2009, eleven library instruction sessions were delivered to GSU1010 courses; in 2010, thirty-one sessions were offered, and in 2011, sixty sessions were offered. These sessions were offered in addition to the librarians' teaching and consultation responsibilities beyond the freshman level.

In fall 2012, a decision was made to discontinue offering traditional face-to-face, course-based instruction to freshman English and GSU1010 classes and, instead, to more effectively market a suite of basic learning objects and tutorials that the library has created and maintains. LibGuides were created for both freshman English and GSU1010 at: <http://research.library.gsu.edu/freshmenenglish>

and <http://research.library.gsu.edu/gsu1010>), and a series of face-to-face workshops were offered where students could practice and build on the skills they learned from the tutorials and other learning objects. Because data has only been collected for one academic year, no conclusions have yet been made regarding these changes to instructional offerings. Flipping the classroom for freshman classes, however, has allowed subject librarians more time to focus on research courses within the majors, in which targeted, skills-based instruction can be more effective.

Conclusion

In an effort to offer a sustainable instruction program, to eliminate student boredom and instruction repetition, and to target library instruction where it is most effective, librarians at Georgia State University continue to evaluate

the ways in which instruction is delivered and student learning is achieved. More data is needed to determine whether or not the flipped classroom model is successful with freshman classes, but the ongoing relationship with PSYC3530 and evidence in the broader academic literature demonstrate that this model can be effective and even desirable for library instruction.

Originally presented as the YBP award recipient at the GLA Academic Library Division Papers Presentation, COMO 2013.

M. Leslie Madden is Team Leader, Library Services for Arts & Humanities at Georgia State University

Ida T. Martinez is Psychology & Honors College Librarian at Georgia State University

References

- Arnold-Garza, Sara. 2014. "The Flipped Classroom: Assessing an Innovative Teaching Model for Effective and Engaging Library Instruction." *College & Research Libraries News* 75 (1): 10-13.
- Berrett, Dan. 2012. "How Flipping the Classroom Can Improve the Traditional Lecture." *The Chronicle of Higher Education* 58 (25): A16-A18.
- Carpenter, Jeffrey P. and Jennifer S. Pease. 2012. "Sharing the Learning." *Phi Delta Kappan* 94 (2): 36-41.
- Datig, Illka and Claire Ruswick. 2013. "Four Quick Flips: Activities for the Information Literacy Classroom." *College & Research Libraries News* 74 (5): 249-251, 257.
- "Flipped Classrooms Offer New Learning Path." 2011. *Electronic Education Report* 18 (23): 1-3.
- Flipped Learning Network. 2012. "Improve Student Learning and Teacher Satisfaction in One Flip of the Classroom" (info-graphic). <http://flippedlearning.org/cms/lib/07/VA01923112/Centricity/Domain/41/classroomwindowinfographic7-12.pdf>.
- "Flipping the Classroom." 2011. *Educational Horizons* 90 (1): 5-7.
- Fulton, Kathleen P. 2012. "10 Reasons to Flip." *Phi Delta Kappan* 94 (2): 20-24.
- Georgia State University. 2013a. "About Georgia State University." <http://www.gsu.edu/about/>.
- . 2013b. "Discovery and Diversity in the Heart of Atlanta." http://www.gsu.edu/wpcontent/uploads/2013/04/QuickFactsFlyer11_12.pdf.
- Georgia State University Library. 2013. "Quick Facts." <http://library.gsu.edu/242.html>.
- Herreid, Clyde Freeman and Nancy A. Schiller. 2013. "Case Studies and the Flipped Classroom." *Journal of College Science Teaching* 42 (5): 62-66.
- Means, Barbara, Yukie Toyama, Robert Murphy, Marianne Bakia, and Karla Jones. 2010. *Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies*. US Department of Education: Center for Technology in Learning. <http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf>.
- Parry, Marc. 2012. "5 Ways That edX Could Change Education." *The Chronicle of Higher Education* 59 (6): B6-B7.
- Scott, Heather and Toria McGill. "Technology Transformation." *Principal Leadership* 11 (6): 38-41.
- "Sophia Survey Finds Student Grades Improve When Teachers 'Flip' Their Classrooms." 2012. *Sophia*, May 17. <http://www.sophia.org/news/sophia-survey-finds-student-grades-improve-when-te>.
- Strayer, Jeremy F. 2012. "How Learning in an Inverted Classroom Influences Cooperation, Innovation and Task Orientation." *Learning Environments Research* 15 (2): 171-193. doi:10.1007/s10984-012-9108-4.
- Tucker, Bill. 2012. "The Flipped Classroom." *Education Next* 12 (1): 82-83.
- Ullman, Ellen. 2012. "The Perfect Blend." *Technology & Learning* 33 (3): 47-48.

Valenza, Joyce Kasman. 2012. "The Flipping Librarian." *Teacher Librarian* 40 (2): 22-25.

Strauss, Valerie. 2012. "Classwork at Home, Homework in Class." *The Washington Post*, April 16, B02.