

Following the Evidence: Using Assessment to Inform Online Instruction and Demonstrate Library Value Across Campus

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Abstract

As an increasing number of hybrid and online-only classes are being offered in higher education institutions to meet students' growing need for flexibility, librarians continue to explore ways to provide online information literacy instruction that is on par with the instruction provided on campus. At CSU San Marcos, the Health Sciences and Human Services (HSHS) Librarian, in collaboration with instructional faculty and the campus assessment specialist, developed an assessment project that examined whether synchronous online instruction is equivalent to face-to-face instruction in student learning. In addition to finding that both methods produced significant student learning in an undergraduate kinesiology course, this project enabled the HSHS Librarian to strengthen relationships across campus and demonstrate the value of librarians as assessment partners.

Introduction

At higher education institutions, the number of courses and programs being offered completely or partially online continues to grow in response to student demand. According to the U.S. Department of Education (2016), 27% of students enrolled in postsecondary education were taking at least one online course in Fall 2013. At institutions where library instruction is generally delivered face-to-face, this trend has a serious impact on how and to what extent librarians provide information literacy (IL) instruction to students.

Online instruction can be provided either asynchronously (through learning objects such as tutorials, library guides, or videos that can be viewed at any time) or synchronously (through live web conferencing classes, live chat discussions, etc.). When using asynchronous instructional tools to replace a one shot library session, several issues emerge. First, it is difficult to match the more personal experience provided by face-to-face instruction. In a face-to-face session, students not only learn IL concepts, they also learn who their librarian is and have the opportunity develop a rapport with their librarian. Second, it is difficult to explain and work through complex IL concepts in an asynchronous environment because of the limitations on the recommended length of time for tutorials as well as the inability to ask and answer questions in real time. Synchronous online instruction through web conferencing can provide a way to deliver online IL instruction while still providing students a personal connection with their librarian and the opportunity to ask questions and clarify concepts during the class session.

Literature Review

There has been a considerable amount of research done comparing online instruction (focusing on asynchronous methods) with traditional in-person instruction. A systematic review looking at the efficacy of computer mediated (online) versus in-person instruction concluded that

both teaching methods produce equivalent student learning (Zhang, Watson, & Banfield, 2007). Anderson and May (2010) also found that the method of instruction: face-to-face, online asynchronous, and both conditions blended, did not have a significant effect on student learning or the retention of basic library skills.

While the existing research reflects student learning through asynchronous online instruction, very little has been done in synchronous instructional environments. Several articles document the implementation of synchronous online instruction (Barnhart & Stanfield, 2011; Kontos & Henkel, 2008) and establish best practices or lessons learned (Smith & O'Hagan, 2014) from delivering instruction in webinar format. However, little quantifiable research exists which compares the effectiveness of in-person IL instruction with online synchronous instruction in producing student learning outcomes. This assessment project attempts to fill that gap by focusing on the assessment of student learning in synchronous online and face-to-face environments, while also aiming to demonstrate how librarians can collaborate with instructional faculty and university staff to demonstrate library value across campus.

Background

The HSHS Librarian at CSU San Marcos has provided in-person instruction for “Exercise Fitness & Health” since Fall 2013. The course assignment requires students to choose a controversial health topic and compare information from three different kinds of online sources: scholarly articles (peer-reviewed journals), authoritative websites (national organizations or reputable non-profit agencies), and popular online sources (websites, news or magazine articles, blog posts). The library instruction provided for this course focuses on understanding the differences between these types of sources and how to find each source type for their controversial health topic.

From 2013-2014, all IL instruction for this course took place in a library computer classroom. Beginning in Spring 2015, the course started to be offered as a hybrid (part in-person, part online) and fully online. In order to meet the needs of online students the HSHS Librarian and the course instructor discussed possibilities for transitioning library instruction to an online environment. Due to the complex IL concepts students grapple with in the class, it is essential that students are able to communicate with the librarian quickly to clarify questions that arise during instruction. Also, it is important for students who struggle with the course assignment to 1) know who to ask for help after the library instruction, and 2) feel comfortable doing so. In light of these factors, the librarian and course instructor decided the best instructional method would be an online synchronous library session, where students could log in via Zoom webinar software and virtually participate in the class.

Spring 2015 marked the first attempt at a synchronous online session for an entirely online version of the course. The webinar class was optional to attend, but strongly encouraged by the instructor. In order to support student learning in this new format, the librarian revised the format of the course so it would be pedagogically sound in the online environment. A PowerPoint presentation was combined with screen sharing and polling to guide students through the session and create opportunities for participation. Attendance was unsurprisingly low, with only 9 out of 30 students attending. However, survey feedback from the session was overwhelmingly positive.

The following summer session, two different time options were provided for students in the online course in an effort to increase attendance. The librarian provided an evening session and a morning session with the hope that these options would accommodate the schedules of more students. Unfortunately, the percentage of students who attended the sessions did not change, hovering at about 30%. Similar to the spring session, student feedback in the summer classes was very positive.

Despite the encouraging feedback, students in this summer class performed poorly on the course assignment following library instruction. While much of this can be attributed to the low attendance, it was surprising that even students who attended the online session struggled with the assignment. To uncover whether the online synchronous library sessions were providing an equivalent learning experience to the traditional in-person sessions, the HSHS Librarian initiated an assessment project in Fall 2015.

Methods

In order to develop an assessment that accurately measured student learning in the face-to-face and online synchronous environments, the HSHS Librarian worked with the course faculty and campus assessment specialist. To guide the assessment and increase the potential professional development aspect of this project, the librarian applied for and was accepted into the third year of ACRL's Assessment in Action program.

The project compared two hybrid sections of the same course. A librarian-led IL instruction session was taught in-person to one class and as a synchronous online session to the other class. A pre- and post-test was given to students directly before and after the instruction to measure student learning. A student survey was administered after library instruction to gather open-ended feedback from the students. A faculty survey was emailed to the instructor after the course assignment was due in order to uncover any differences in instructor experience or between the classes in assignment performance. By teaching the online library session during the normally required in-person class, it was possible to require attendance from all students in both courses. This significantly increased student turnout from around 30% in previous semesters to 95-100% in Fall 2015.

The methodology used in this assessment was intended to match the university's growing emphasis on the assessment of student learning outcomes. Recently, the university has begun to more clearly institutionalize a sustainable approach to the assessment of student learning, in part because of the growing focus on accreditation by the state's accrediting body for universities. Ensuring that the library is an active part of this effort was a priority of this project and several other assessment efforts in the library.

Results

The IL instruction was delivered in Fall 2015 and the data was analyzed in Spring 2016 (actual data is available upon request). A comparison of post-test scores revealed there were no significant differences in student learning between the in-person and web conferencing class, regardless of variation in pre-test scores. In fact, the post-test scores were almost identical between the two classes when the results were filtered by source type. The student surveys

showed that students in both sections had a positive instructional experience and had high levels of confidence in completing the course assignment after instruction. The results of the faculty survey did not reveal differences between the two environments.

Conclusion

This assessment project demonstrated that synchronous online instruction through web conferencing results in student learning that is equivalent to traditional face-to-face instruction in one-shot IL classes. This is an important finding for librarians who are interested in reaching out to students or patrons through online instruction. The fact that students in both sections responded positively to the instruction suggests that there are no problematic differences between the learning environments in terms of the student experience. The faculty survey needs to be reconsidered for the next round of assessment. While the idea seemed useful during the planning stage of this project, the data from the faculty survey did not demonstrate any useful differences between the classes. It may be better to ask faculty for access to assignment grades for both classes so course assignment performance can be triangulated with pre- and post-test scores. An interview with the course instructor may also be a useful way to uncover relevant information about the instructor's experiences and perceived differences in student performance between the environments.

In addition to evaluating student learning from web conferencing instruction, this project had several other goals aligned with university priorities. Actively participating in assessment efforts demonstrates librarian value and expertise within the domain of assessment. Participating in the Assessment in Action program and developing a project that was visible to the University Provost and Library Dean was an important way of demonstrating library support for campus priorities.

The results of this assessment are in the process of being disseminated. In addition to professional publications and presentations, the HSHS Librarian hopes to share this research through campus-level research events and through the university newsletter. The results and methodology of this assessment has also been shared through informal conversations with disciplinary faculty. As many of the faculty in the health sciences and human services programs are teaching online at some point in the year and are strong supporters of evidence-based practice, they were very interested in hearing about the project and learning about what can be concluded from the findings.

Finally, this project has allowed the HSHS Librarian to build an assessment (and research) skill set from working with her campus Assessment in Action campus team. Moving forward, this knowledge will be shared by collaborating with other librarians interested in assessing student learning.

Future Directions

This project provided the information needed to make evidence-based decisions about online IL instruction at CSUSM. Since student learning was equivalent in the web conferencing and face-to-face environment, it is clear that other factors likely have a significant impact on the outcome of instruction and must be seriously considered when implementing synchronous online classes. Focusing on these factors, like ensuring attendance, will be a primary goal when

delivering this kind of instruction in the future. One way of ensuring attendance is to include the required date and time of the live online library class in the course enrollment information. This strategy requires planning and forethought and relies on the instructor being willing to include this live event in their otherwise asynchronous online class.

In light of these potential barriers, another option that may be considered when moving forward is the development and assessment of an asynchronous tutorial. If an online tutorial can be developed that supports the development of rapport between the librarian and students and provides a way for students to ask questions and receive answers quickly, it may be a useful replacement to the synchronous library sessions in completely online and hybrid courses. In addition to assessing student learning from a tutorial, measuring librarian follow-up rates and self-reported comfort levels in asking for research help after the tutorial would be essential to supporting this shift.

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