Choose Your Own Adventure: Developing and Assessing Online Library Instruction Modules

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Abstract

In the last few years, several major forces have guided library instruction at San Jose State University (SJSU). The first is the increasing number of courses and programs turning to a fully-online or hybrid format. The second is the Western Association of Schools and Colleges' (WASC) push for assessment of critical thinking and information literacy skills as a core competency for students graduating from WASC-accredited institutions.

Over a two-year process, multiple online library research modules were developed to be embedded into SJSU's course management system. This presentation compared and contrasted a ten module series created by one librarian for one course with a cross-disciplinary suite of modules created by the Online Information Literacy Team. Through this example, librarians were offered a model they could use at their institutions. Discussions and interactive exercises covered assessment, data collection, using open educational resources, and mapping learning outcomes to information literacy standards.

Introduction

Information literacy—the ability to find, evaluate and use information—has always been important to student success, a fact now officially recognized by the Western Association of Schools and Colleges (WASC). This accrediting agency recently adopted information literacy as one of five core competencies for determining institutional effectiveness (WASC, 2013). San Jose State University (SJSU) is in the process of reaccrediting through this agency, and has thus been working to collect relevant data on information literacy instructional effectiveness.

In that same time period, SJSU has seen an increase in the number of hybrid and fully online courses. One of these courses was COMM 80: Communication Studies Lab, which went to a blended learning format in 2012. At that time the Communication Studies liaison librarian was asked to take a 1990s-era paper-based introductory library skills assignment, expand it from a 30-minute assignment to a 2-hour assignment, and convert it to a set of online modules that could be embedded in the university's learning management system (LMS).

In order to meet this request, the librarian created five modules designed to teach basic library research skills. These modules covered Topic Development; Evaluating Websites; Using the Library Catalog; Finding Scholarly, Peer-reviewed Articles; and Using the Library Databases. Additionally, in 2013, the COMM 80 coordinator asked for a set of advanced library modules to be created for the course. The modules for the advanced series included a Library Research Review; Subject Searching; Avoiding Plagiarism; Writing a Literature Review; and Writing an Annotated Bibliography. Each module for both the basic and advanced series contain exercises that are graded by COMM 80 peer mentors. When the advanced module series was

designed, assessment questions were embedded into both the basic and advanced series in order to collect data for accreditation purposes.

Due to this involvement in developing embeddable modules for COMM 80, the author was asked to join the library's Online Information Literacy Task Force when it was formed in Summer 2013. The Task Force was charged with creating a suite of library instruction modules that would be scalable and flexible enough for all SJSU librarians to use for their liaison departments (Mune et al., 2014).

Part of the impetus for establishing the Task Force was the launch of SJSU's pilot project that would add massive open online courses, or MOOCS, to the curriculum. While the Association of College and Research Libraries (ACRL) Research Planning and Review Committee (2013) believes that MOOCs have a long way to go in terms of development, SJSU has partnered with such MOOC providers as edX and Udacity to begin experimenting with these types of classes (Kolowich, 2013b). The initial MOOC course offerings were not as successful as hoped, but a scaled back number of courses will continue to be offered in coming semesters (Kolowich, 2013a; Straumsheim, 2013). Thus, SJSU librarians have to be prepared to offer services to students who take these courses, which means embedding in the online environment.

Description

Using the experience gained from both the individual COMM 80 course as well as the larger Task Force project, the author developed a worksheet to help other librarians begin the process of designing online modules suitable for their campus environments (see Appendix 1).

Attendees of this CARL session were asked to brainstorm topics for potential modules and share their ideas with the rest of the audience. Each person picked one topic to work on for the duration of the session, and then formed groups based on their chosen area. Together with their group, participants worked through the exercises detailed in the worksheet. After each exercise, the groups would reconvene to contribute to a larger discussion on what they had learned or methods they would use for the stages of module development, including initial planning, what types of content to include, and how to approach assessment.

Special consideration was given to mapping modules to learning outcomes, assessment questions, and information literacy standards. In order to effectively accomplish this, groups were supplied with copies of the WASC-recommended Association of American Colleges & Universities (AAC&U) *Information Literacy VALUE Rubric* (AAC&U, n.d.), the ACRL *Information Literacy Competency Standards for Higher Education* (ACRL, 2000), and both the first and second parts of the ACRL *Draft Framework for Information Literacy for Higher Education* (ACRL 2014a; ACRL 2014b).

Key Points

Throughout the discussion, audience members were provided with best practices, tips, and suggestions from the author's knowledge and from the library literature. The first topic centered on why universities move toward online or blended learning and why librarians choose to embed in such courses rather than rely on online course or subject guides.

The 2011 EDUCAUSE Center for Analysis and Research (ECAR) study stated that undergraduate students not only expect to use certain technologies in the classroom but have begun to perceive these technologies as an extension of the classroom itself, and 20-30% of students want more content in the LMS, such as videos and chat sessions, and wish faculty were more effective with technology (Dahlstrom, 2011).

Studies from Silver & Nickel in 2007, Blake in 2009, and Clark & Chinburg in 2010, have shown that students display a marked preference for online library instruction over

traditional lectures. Students like content that is reviewable, so they can watch tutorials multiple times in order to understand concepts and examples.

A meta-analysis of studies examining online versus face-to-face instruction conducted by the Department of Education came up with an even stronger endorsement for embedding, finding that "classes with online learning (whether taught completely online or blended) on average produce stronger student learning outcomes than do classes with solely face-to-face instruction" (Means, Toyama, Murphy, Bakia, & Jones, 2009, p. 38). This finding has been supported by other, more recent studies (Al-Qahtani & Higgins, 2013; McKenzie et al., 2013).

Furthermore, from a librarian perspective, reusable content cuts down on prep time and work load, after the initial investment in creation. Tooman & Sibthorpe (2012) point out a number of concerns that online instruction can help alleviate, including the fact that there is uniform delivery of instruction and assessment and, thus, large class sizes do not pose a problem in a virtual environment.

One consideration discussed in this CARL session was that creating content for online modules can be costly in terms of time. One option to work around this is to use high-quality open educational resources (OER) built by other libraries, such as video tutorials, concept maps, worksheets, and citation guides. Many of these are discoverable through a quick web search. However, for all their time-saving convenience, there are a few drawbacks to using OERs. Librarians must set up a regular review schedule to make certain the OERs they have selected are not outdated or have not been taken down by the library which produced them, making for broken links. Also, there is something to be said for materials that are branded with one's own university logo and geared toward one's specific student population. This is a choice librarians looking to develop modules must make for themselves.

The CARL session discussed various software possibilities for creating content, such as Jing, Screencast-O-Matic, ScreenMimic, and CamStudio. At SJSU, the Task Force decided to use a combination of materials created in-house as well as OERs. Several student focus groups were conducted during the development of these modules, and students preferred video tutorials for concept-based materials, such as choosing search terms and forming a thesis statement. Whereas, they preferred text-based instructions for learning to search in databases (Mune et al., 2014). Thus, the Task Force chose to use the open-source Guide on the Side platform for new database tutorials (University of Arizona Libraries, 2013), and for video tutorials would continue to use Adobe Captivate, the proprietary software licensed by the library.

Another concern brought up in the discussion was that modules embedded in a campus LMS would become unavailable when the class ended and students no longer had access to the course shell. To confront this challenge, librarians at SJSU created a mirror of the modules in a LibGuide (SJSU Research Guides, 2014), which audience members agreed was probably the best approach to ensure continued access.

The final point in the discussion was assessment. One consideration many audience members faced was what tools could best be used to collect relevant assessment data. Some LMS and tutorial software provides built-in tools for data collection, though it was noted that this is sometimes not the most effective or reliable method for amassing data that can be easily accessed and analyzed by multiple librarians. Potential tools that were cited in particular included Google forms and Qualtrics. The author brought up an in-house instrument created at SJSU, which includes a database of multiple-choice questions aligned with learning objects compiled by several SJSU librarians—this instrument is described more fully by Staley, Branch, and Hewitt (2010). The audience liked the idea of a reusable list of assessment questions, and several attendees mentioned bringing the idea back to their home institutions.

Though it was stressed that assessment is not required when building online information literacy modules, many in the audience stated a desire to collect assessment data either for accreditation purposes or for improving the online instruction of individual librarians. For individual improvement, the assessment can be tailored to specific course content; however, to collect large amounts meaningful data for accreditation, the assessment may need to be generalized to be applied across multiple disciplines. For example, an assessment question about "primary research" would have significantly different meanings to a Biology major (hands-on laboratory experiments) versus a History major (examining original documents from a time period under study).

For the last group exercise, participants were asked to brainstorm an assessment question that aligned with the learning outcomes and information literacy standards they had identified in an earlier exercise on the worksheet. An example provided from SJSU, which aligned with one of the modules in the author's COMM 80 basic series, was as follows:

Basic Module 2: Evaluating Websites

Learning Outcomes
1. Students will be able to apply evaluative criteria to information found on open web websites.
2. Student will be able to compare two websites on a given topic and select the most credible.

Information Literacy Standard
AAC&U *Information Literacy VALUE Rubric*, Evaluate Information and its Sources Critically, Capstone 4, "thoroughly (systematically and methodically) analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position" (AAC&U, n.d.).

Assessment Question
Which of the following is NOT important to evaluate information on the web?
a. When was it published
b. Who is the author
c. Is the source reliable
d. Length of material
e. Purpose of the website

Conclusion
The time invested in building modules can be significant, but the reality is that universities are turning more and more often toward blended or fully-online courses in order to decrease demand for classroom space and offer more flexible scheduling for both instructors and students (Grassian, Botello, Phares, & Turnbow, 2005). With that in mind, online library modules are one of the most effective ways to get students the information literacy instruction they need and allows librarians to be responsive to the changing campus environment. Careful planning and working with other librarians at one's institution can spread the workload, bring together multidisciplinary perspectives that foster modules flexible enough to meet the needs of many subject areas, and thus created the potential for larger assessment data sets which will assist with campus-wide accreditation efforts.

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Appendix 1

Choose Your Own Adventure Online Modules Worksheet

Institutional Considerations

If you develop online information literacy modules at your institution, would you be most likely to do so as an individual or would you work in a team? (Consider how your answer will change the scope of your modules in terms of subject coverage and the number of modules that are feasible.)

Initial Planning

Brainstorm a few module topics that you think would be useful for your institution.

1.

2.

3.

Beginning Development

Choose **one** of the topics you brainstormed.

Who is the intended audience for this proposed module (e.g. first-time freshmen, STEM majors, graduate students)?

List 2-3 learning objectives for this proposed module.

1.

2.

3.

Align these learning objectives with the information literacy standards of your choice (e.g. ACRL, AAC&U). What benchmarks or performance indicators do you intend to meet with your proposed module?

1.

2.

3.

Content Considerations

Will this module include a graded assignment or just exercises the student will work through? If a graded assignment, who will be responsible for grading?

Will you create content for this module, use open educational resources, or both?

If creating content, what software will you use?

Assessment

Do you intend to include assessment in your module?

What tool or tools will you use to collect assessment data?

How will you develop assessment questions? Who will be involved in this process?

Brainstorm a few assessment questions that align with your learning objectives and your information literacy standards.

1.

2.

3.