

Interactive Library Instruction:
The Use of Poll Everywhere as an Assessment Tool

Katie O'Connor
Visiting Reference and Instruction Librarian
College of Charleston

Abstract

This article examines the concept of assessment in library instruction, particularly in one-shot instruction sessions. A review of the literature suggests a need for active learning in the classroom. In recent years, using clickers has emerged as a method of engaging students and assessing understanding. The author presents a web-based polling platform called Poll Everywhere as a solution to help librarians encourage student participation and assess comprehension, both before and after an instruction session.

Introduction

Information literacy instruction is a critical component to reference librarian positions. However, many librarians, especially those new to the profession, may struggle with effective teaching in one-shot instruction sessions. They may feel pressure to maximize student learning in these sessions, which are often only fifty-minute classes. Although it may seem difficult to do assessment in such a short time period, students should be evaluated to ensure that learning outcomes are being achieved. Polling software like Poll Everywhere can help librarians incorporate assessment seamlessly into their instruction in two ways: understanding prior student knowledge at the beginning of instruction sessions, and gauging student comprehension at the end.

Background

The College of Charleston is a medium-sized public university located in downtown Charleston, South Carolina. The Addlestone Library Reference Department partners with the First Year Experience (FYE) program to assist first year students with the transition to a college environment. Courses in the FYE program involve a tour to introduce students to the library environment, and many of the FYE classes come into the library a second time for a more official instruction session. Additionally, we offer instruction to many sections of ENGL 110, which is the first year English composition class. The majority of our library instruction takes place in two library classrooms. One seats 20 students; the other 28. The major benefit of using these classrooms is that every student has access to a computer. They can follow along with the instructor and navigate the catalog, databases, and other library resources.

Because so many of the library's one-shot instruction sessions are for FYE and ENGL 110 courses, they provide excellent opportunities for assessing student learning. In the fall of

2014, I began using Poll Everywhere in one-shot classes to help gauge prior knowledge of basic library resources. After several successful sessions, I decided to use Poll Everywhere to ask a few assessment questions at the end of my classes.

Literature Review

Assessment in academic libraries has a long, studied history. The ACRL Framework for Information Literacy for Higher Education (2015), discuss how faculty and librarians should work together to go beyond assessing basic information literacy skills. Libraries need to prove their worth not just to their institution as a whole; assessment data is increasingly needed for accreditation purposes.

Various assessment methods can be used in a library setting. Walsh's (2009) overview of assessment methods in library instruction found that multiple-choice tests were most common, perhaps because of their ease to administer and score. Locally-developed tests can be helpful for both individual instructors and students (Prus & Johnson, 1994). Developing questions can help the instructor clarify a few student learning outcomes on which they wish to focus. Additionally, the immediate feedback they provide can be beneficial to students. Bluemle, Makula, and Rogal (2013) attempted to give students questionnaires that asked about the students' own perception of their learning. However, this indirect method of assessment ultimately proved inconclusive. These questionnaires only described students' beliefs about their learning or skill, not necessarily the abilities themselves or any improvements made after an instruction session. Therefore, student perception of ability and knowledge may not always be an accurate indicator. In a review of information literacy assessment, Megan Oakleaf (2008) analyzed three approaches: fixed-choice tests, performance assessments, and rubrics. Fixed-choice assessments have a high reliability, are familiar to students and educators, and provide quick feedback. One limitation

Oakleaf mentioned is that fixed-choice tests do not assess higher order thinking skills. However, the benefits of such a test may outweigh any potential negatives in a one-shot instruction session.

Gilchrist (2009) described assessment as “knowing what you are doing” (p.72), as well as understanding what students are learning as a result. Assessment is “intentional, designed into the instruction, and integrated into student work” (Gilchrist, 2009, p. 72). She offered a set of questions that can be helpful to librarians trying to build assessment into their instruction sessions:

1. Outcome - What do you want the student to be able to do?
2. Content - What does the student need to know to do this well?
3. Pedagogy – What’s the learning activity?
4. Assessment – How will the student demonstrate the learning?
5. Criteria – How will you know the student has done this well?

Cook, Kunkel, and Weaver (1995) spoke of a need for active learning in bibliographic instruction sessions. Active learning describes ways of engaging students to ensure they are participating (Detlor, Booker, Serenko, & Julien, 2012). Getting students involved in the learning process was the approach that Hunt and Birks (2004) took with their instruction sessions. This interactive tactic produced enthusiasm from the students. When Detlor et al. (2012) studied active information literacy instruction, they found that it had more positive effects on student learning than passive instruction.

Lacy and Chen (2013) explain the importance of student learning outcomes. A clear outcome, or outcomes, from the instructor helps frame the session and can aid the instructor in selecting which active learning techniques to use. The authors provide an example of a student learning outcome that involves selecting an appropriate database. Once this learning outcome was established, “the librarian would then select active learning techniques that would allow

students to exhibit this behavior and a measurement to assess whether or not the learning has actually been achieved” (Lacy & Chen, 2013, p. 130).

Personal response systems called “clickers” have emerged as one way to make the classroom environment more active and engaging. These handheld remotes resemble the “Ask the Audience” section of the show “Who Wants to be a Millionaire?” (Caldwell, 2007). This technology collects student answers to posted questions (usually multiple-choice), and the responses are displayed on a projection screen in the classroom. As Caldwell notes, “These examples illustrate the powerful potential of clickers not just to reveal but to address student misconceptions as part of formative assessment. This means that rather than simply noting the responses of students, the instructor responds to them and may use them to modify the subsequent direction of the lecture” (2007, p.12). In other words, the instructor is able to base the class content on the responses given by students.

Dean (2013) used clickers in his History classes to test student comprehension and knowledge, and it proved to be an exciting, interactive exercise. This method gave his students the chance to see themselves in relation to their classmates by comparing their own answers to those of their peers. Walker & Pearce (2014) found that the classroom environment was more positive and energetic when using clickers. Students often nodded their heads in approval to certain questions, and even had audible reactions to some polling results. The use of clickers in the classroom does present several problems, however. It can be time-consuming to set up the technology. Additionally, many students may forget to bring them to class (Draper & Brown, 2004). Adding technology to the classroom has the potential to distract from the actual material being taught. One solution for the cumbersome clicker technology is to turn to web-based polling programs like Poll Everywhere.

Application of Poll Everywhere

Poll Everywhere allows users to create online polls for live audiences. The basic program is free, but there are options for upgraded plans at a monthly price. These cost anywhere from \$15 - \$1,400 a month, depending on the number of responses allowed per poll, the level of customer support, and other customizable response options (Poll Everywhere, 2015). The free version's features have been more than adequate for me in my library instruction.

The poll creator can choose from several types of polls, including open-ended, multiple choice, or clickable image. The open-ended response allows the student to type in a response instead of choosing from a list of answers, and the creator can select how to display these results on the screen: in a text wall, word cloud, cluster, or a moving ticker. The multiple choice option begins with two choices, but the creator can add answers to the list from which the student can choose. Finally, the clickable image option allows participants to select an area of an image that the creator has uploaded.

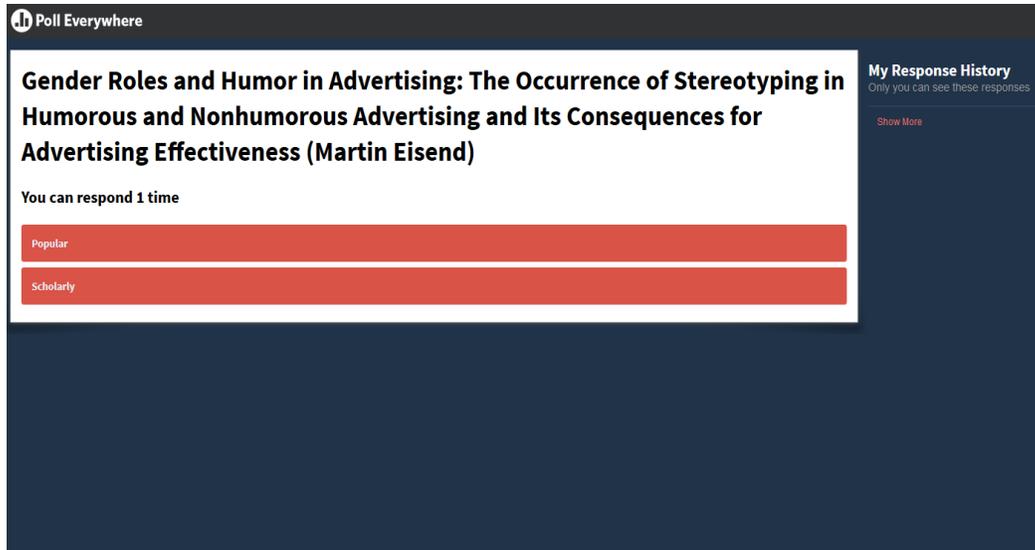
Poll Everywhere allows for several different methods of audience response. Users can submit an answer via text, Twitter, or through the website. If a librarian is teaching in a classroom where students do not have access to computers, they can opt to have students use cell phones to text their answer. When Hoppenfeld (2012) began using Poll Everywhere in a pilot program, he was mainly doing library instruction in a classroom without a computer. His students used their phones to text their responses, and this was well-received by students and instructors.

Because the vast majority of my instruction classes have occurred in our Addlestone Library classrooms, the students I've taught have been able to use a computer. Many professors instruct their students to put cell phones away during class, so I made the decision to only allow

students to submit their answers on the Poll Everywhere website. In addition to supporting the professor's policy, I felt that this kept the focus on the material and the questions themselves, and was a little less disruptive.

The first instruction session I taught in the fall of 2014 was for an English 110 class. One of the central learning outcomes for the class was the ability to differentiate between popular and scholarly sources. After explaining the difference to the class, I displayed the citation information for a popular source on the computer screen. I asked the students to determine if the source was popular or scholarly based on the information in the citation. Many of the students did correctly identify it as a popular source when I asked for a show of hands. I repeated this same exercise two more times, asking the students to raise their hands if they thought the source was popular or scholarly. We had a bit of discussion after each answer about why that was the case. Although it did spark some student participation, I felt the exercise was a little awkward, and the students still did not seem very engaged. Some of the students who weren't sure of the answer may have looked around the room to see how their classmates were responding before raising their own hands. Several students simply ignored the activity and chose not to raise their hand at all.

I began considering alternative methods to get the students participating. I also wanted to see if they were retaining ideas I'd covered in an instruction session. In one of my next classes, I created a two-part citation identification exercise on Poll Everywhere. I displayed a link for my Poll Everywhere page on the screen and instructed the students to go to the webpage to view the title of an article and its author.



Poll Everywhere Student Response Screen

Students had to search the library's discovery service to find the article, and then decide if it was scholarly or popular based on the information they found. Once every student had answered the first question, I showed the results on the main computer screen. There was a substantial change in the atmosphere of the classroom. Many students nodded their head in agreement, shrugged, or smiled as they saw how their classmates had responded. Several students even leaned forward in their chairs, almost as if they were anxiously waiting to see if they had answered correctly. Having the results displayed this way allowed me to ask for a volunteer to tell me why they chose the answer they did. The students seem much more engaged after this activity than in my previous exercise where they simply raised their hands to respond. Additionally, because I could see how many responses had been recorded, I was able to tell if every student had answered my question. In previous classes where students raised their hands, it was hard to tell if each student had participated. It would have been easier for them to simply stare at their computer and not engage with the activity.

- c. An encyclopedia entry about the Battle of Gettysburg.
- d. All of the above.

Asking just a few simple questions helped me decide where to focus my attention in the session. All students answered questions one and three correctly, so I didn't need to spend a lot of time explaining our Interlibrary Loan service. However, I did have a few students answer question two incorrectly. This led to a discussion of our library catalog and our discovery service, and when it might be more appropriate to use one over the other.

Poll Everywhere can also be used as a means of assessing student learning at the end of a session. Many students in the FYE classes are using the library's resources for the first time. In one particular FYE class I taught in the spring of 2015, one of my student learning outcomes was that students would be able to find a book in the catalog. At the end of this session, I asked students to find the call number of a book. I allowed the students to type in their own answer instead of having them select from multiple choices. Because a few students typed in the wrong number, I used the last few minutes of class to display this book in the catalog and discuss where the call number was located. Having the students actually search the catalog for themselves (along with discussing the answer as a class) allowed me to feel confident that one of my learning outcomes for the session had been met.



Poll Everywhere Open-Ended Results Screen

Conclusion

Using Poll Everywhere can help librarians begin the process of assessment in the classroom. It is by no means an exhaustive tool, and the data it provides has the potential to be misleading. Because my polls were structured in a multiple-choice format, it is possible that some students may have simply guessed at the correct answer. This format also only allows for limited student demonstrations of knowledge. To really gauge comprehension, open-ended questions or short answer responses may be required. Additionally, I only utilized Poll Everywhere for either pre-tests or post-tests, not both. It may be helpful to gauge student learning by polling them again at the end of a one-shot session on concepts covered during the class. Despite its few limitations, using Poll Everywhere as a classroom tool can be advantageous. It can help librarians incorporate interactive learning into their instruction sessions, encourage participation, and foster student comprehension.

References

- Association of College & Research Libraries. (2015). *Framework for Information Literacy for Higher Education*. Retrieved May 12, 2015, from <http://www.ala.org/acrl/standards/ilframework>
- Bluemle, S. R., Makula, A. Y., & Rogal, M. W. (2013). Learning by doing: Performance assessment of information literacy across the first-year curriculum. *College & Undergraduate Libraries*, 20(3-4), 298-313. doi: 10.1080/10691316.2013.829368
- Caldwell, J. E. (2007). Clickers in the large classroom: Current research and best-practice tips. *Cell Biology Education*, 6(1), 9-20. doi: 10.1187/cbe.06-12-0205
- Cook, K. N., Kunkel, L. R., & Weaver, S. M. (1995). Cooperative learning in bibliographic instruction. *Research Strategies*, 13(1), 17-25. Retrieved from <http://www.sciencedirect.com/science/journal/07343310>
- Dean, D. (2013). The clicker challenge: Using a reader response system in the (British) history classroom. *History Teacher*, 46(3), 455-464. Retrieved from <http://www.thehistoryteacher.org/>
- Detlor, B., Booker, L., Serenko, A., & Julien, H. (2012). Student perceptions of information literacy instruction: The importance of active learning. *Education for Information*, 29(2), 147-161. doi: 10.3233/EFI-2012-0924
- Draper, S. W., & Brown, M. I. (2004). Increasing interactivity in lectures using an electronic voting system. *Journal of Computer Assisted Learning*, 20(2), 81-94. doi: 10.1111/j.1365-2729.2004.00074.x
- Gilchrist, D. L. (2009). A twenty year path: Learning about assessment; Learning from assessment. *Communications in Information Literacy*, 3(2), 70-79. Retrieved from <http://www.comminfolit.org/index.php?journal=cil>

- Hoppenfeld, J. (2012). Keeping students engaged with web-based polling in the library instruction session. *Library Hi Tech*, 30(2), 235-252. doi: 10.1108/07378831211239933
- Hunt, F., & Birks, J. (2004). Best practices in information literacy. *Portal: Libraries and the Academy*, 4(1), 27-39. doi: 10.1353/pla.2004.0010
- Lacy, M., & Chen, H. (2013). Rethinking library instruction: Using learning-outcome based design to teach online search strategies. *Journal of Information Literacy*, 7(2). doi: 10.11645/7.2.1778
- Oakleaf, M. (2008). Dangers and opportunities: A conceptual map of information literacy assessment approaches. *Portal: Libraries and the Academy*, 8(3), 233-253. doi: 10.1353/pla.0.0011
- Poll Everywhere. (2015). *Frequently asked questions*. Retrieved from <http://www.polleverywhere.com/faq>
- Prus, J., & Johnson, R. (1994). A critical review of student assessment options. *New Directions for Community Colleges*, (88), 69-83. doi: 10.1002/cc.36819948811
- Walker, K. W., & Pearce, M. (2014). Student engagement in one-shot library instruction. *Journal Of Academic Librarianship*, 40(3/4), 281-290. doi:10.1016/j.acalib.2014.04.004
- Walsh, A. (2009). Information literacy assessment: Where do we start? *Journal of Librarianship and Information Science*, 41(1), 19-28. doi: 10.1177/0961000608099896