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Maximizing One-Shot Impact: Using Pre-Test Responses in the Information Literacy Classroom

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Introduction

New librarians accepting instructional roles in academic libraries inherit classrooms which have evolved beyond the traditional “sage on a stage” model of bibliographic instruction to more active, student-centered information literacy sessions. However, as in the past, these are still primarily one-shot sessions. Assessment is used to make the most of these fifty-minute meetings and might include pre-tests, post-tests, and various classroom assessment techniques (CATs). Assessment provides important benchmark data to measure student information literacy skills, and the results inform and guide instruction librarians. Each assessment method has unique advantages; however, this article will focus specifically on the pre-test and the importance of using pre-test responses in the information literacy classroom. Pre-testing provides one-shot instruction librarians an opportunity to get to know a class prior to instruction. This information should be used to shape the design and content of instruction. In addition, the data should be used and mentioned in the classroom. Exercises reenacting responses from the pre-test may be more meaningful for students than an activity using generic examples. This approach to information literacy instruction is grounded in constructivist logic, because it seeks out a student’s prior knowledge and enables the learner to take an active role in building on that knowledge to incorporate new concepts.

A Constructivist Approach

Pre-testing students prior to their instruction experience and using those results as discussion points and activities in the classroom supports a constructivist approach to teaching and learning. The literature contains many definitions and suggestions for such an approach in the information literacy classroom. Allen (2008) summarized constructivism as a theory in which “...the learner brings to the learning environment knowledge from past experience, and that knowledge has a strong influence upon how the learner constructs meaning and acquires new knowledge from new experiences” (p. 31). Constructivist theory also emphasizes active learning. As Cooperstein and Kocovar-Weidinger (2004) explained, active learning is more than providing hands-on activities and allowing students to move around a classroom. Instead, active discovery experiences during instruction should lead to learning, and not the other way around. In other words, instructors should design learning situations that allow for students to make mistakes, from which they can learn. According to constructivist theory, a learner’s mind is not a clean slate. For example, in the case of most college students, learners come into an information

literacy session familiar with search engines, such as Google. Students have ideas about where to find information and how to access it, even if it is not always correct. In a constructivist based lesson, the teacher is the facilitator of the learning environment and develops activities in which the learner might detect discrepancies. Pre-tests facilitate this learning process by introducing a concept prior to instruction and allowing a student to reflect on the answer based on his or her current knowledge. In class, the concept is reintroduced, discussed, and experienced in light of the supplied answers on the pre-test. Learners can then build on their previous ideas, readjusting and reshaping their initial thoughts based on class feedback and activity outcomes.

Pre-Testing Literature Review

The literature is filled with examples of assessing before, during, and after one-shot information literacy instruction sessions. As early as 1982, Fields (1987) used pre-test data from more than 400 students to design the content of her lecture. However, there are not many instances examining only the use of a pre-test as an instruction tool. Most often, pre-tests are mentioned as a partner of post-tests and are used to measure information literacy skills before and after instruction. Results are used to adjust student learning outcomes and redirect teaching methods in future instruction sessions (Carter, 2002; Emmett & Emde, 2007, and Swoger, 2011).

Some pre/post-test studies place more emphasis on the use of pre-test results in the classroom. Koehler and Swanson (1988) created a four-phase bibliographic instruction approach to teach ESL (English as a second language) students, which included a pre- and post-test phase. The authors conducted a review of the pre-test during the in-class phase, recreating the assessment on the board and seeking student input for the correct answers. Ivanitskaya, DuFord, Craig, and Casey (2008) used a pre- and post-test method to measure information literacy skills of Master’s level students. They found when feedback on the pre-test was provided prior to instruction the effectiveness of instruction was enhanced. The feedback included a narrative explaining how research experience was measured and the importance of the experience. Authors suggested the feedback encouraged students to take library instruction seriously. “Feedback may serve to highlight the discrepancy between their perceived information literacy (which is often inflated) and objectively measured information literacy, thus motivating them to learn” (Ivanitskaya et al., 2008, p. 523).

Dunaway and Orblych (2011) explained how they incorporated pre-tests with formative assessment, which uses “assessment-elicited evidence of students’ learning” (p. 25) to adjust instructional methods. Formative assessment does not focus on one tool, but rather it is a process of using assessment results to continuously improve teaching and learning. In their study, the authors administered a pre-test prior to instruction. The data was used to design the instruction session, which included a set of questions used during the instruction session. This allowed students to “confront their misconceptions of their information literacy skills” (Dunaway and Orblych, 2011, p. 35).

Pre-Testing at NKU

At Northern Kentucky University’s Steely Library, a few instruction librarians began experimenting with pre-tests and post-tests in several undergraduate and graduate courses. Librarians were interested in exploring assessment processes and procedures to potentially identify student learning trends and guide future instruction initiatives. Librarians used Google Docs to create a new pre-test for each class. The link to the pre-test was emailed to the class instructor approximately two weeks before the instruction date. This provided plenty of time for students to respond and for the librarian to prepare the class using the responses. The pre-tests were short to encourage participation, usually consisting of no more than five questions. The first question was always a variation of, “Have you ever attended library instruction? If so, in which class(es)?” Other questions were selected based on several factors, including the class assignment, the subject, and the course level. Some example questions are noted in the next section. In spring 2011, the author pre-tested twelve classes. In ten of those classes, more than half the students took the assessment. In fall 2011, pre-tests were sent to nine classes, with all but one class providing at least a fifty percent response rate.

Post-tests were sent out in a similar fashion, one to two weeks after the instruction session. However, the author did not receive high response rates when compared to the pre-test response rate. The author continues to experiment with post-tests and other assessment methods to measure student learning; however, an unexpected outcome during this time was the value the pre-test results provided for creating purposeful, student-centered instruction sessions.

Using Pre-Test Results in the Classroom

When preparing for a class, librarians struggle to come up with meaningful examples to illustrate various competencies and guide student learning. Cooperstein and Kocovar-Weidinger (2004) acknowledged designing activities to support a constructivist learning approach takes time. “Finding perfect examples and problems that will lead students to an appropriate ‘Aha!’ experience is difficult...” (p. 145). However, turning to the pre-test can make the process easier. Not only do results help librarians decide which competencies to emphasize, but students provide topic examples and share research experiences.

These examples and narratives should be used and discussed in class. The simplest way to accomplish this is to review the results at the beginning of class as Koehler and Swanson (1988) did with their ESL students. At the very least, it provides students the opportunity to see how their responses compared with their peers. However, in addition to, or in place of a review, pre-test results can be incorporated into various learning exercises.

Pick A Word, Any Word

This activity involves using student-suggested keywords from the pre-test. For example, the following question was asked on a pre-test for students in an introductory public speaking course:

Pretend you are researching the topic below. What keywords would you use to search for information? “Should K-12 teachers be ‘friends’ with students on Facebook?”

On the pre-test, student responses to this question vary from one or two words pulled from the research question to lengthy phrases. A couple of students will add keywords to broaden or narrow the topic. Some students use the Boolean operator, AND. These various suggestions, the good and not-so-good, are written on slips of paper and placed in a jar. In class, students pull out suggested keywords and use them to search a database. Some of the suggestions yield good results, other suggestions are too broad, too narrow, or produce no results. The exercise teaches students the importance of using appropriate terminology. It could also be expanded to include a discussion of subject words.

Zooming In on Ideas

A common question the author will present on a pretest helps gauge what students know about the library and how they compare it to searching the Internet.

How is searching for information on the Internet, using something like Google, different than searching library resources, such as databases?

Answers to the above question vary, but responses often include variations of these phrases: “Google is not educational”; “It’s [Google] quicker and a lot less time consuming”; “Databases only give scholarly sources”; and “Library resources are more focused”. These and other similar responses provide great discussion points. To display student remarks, the author has used Prezi (<http://prezi.com>) to create zooming presentations. Students may feel more compelled to join the conversation if they see their response on the board, and it may be helpful for learners to hear peers’ opinions. A similar activity can be done with a variety of questions, including student definitions of peer-review or definitions of primary and secondary sources.

Can You Find It?

A pre-test question might ask students to examine a citation and identify the source, such as a book or article. If students incorrectly identify the citation on the pre-test, the librarian can provide the citation in class and ask students to find the item. Teachable moments arise when students begin to search the library catalog for an article, or turn to a search engine.

Selecting Sources

Which of the following sources do you plan to use for your upcoming research paper in this class? Check all that apply: Websites, Newspapers, Scholarly Articles, Blogs, Books, Documentaries, Wikipedia, Magazine Articles, Other

After gathering responses to this question, the librarian can add up the most frequently used and the least used sources. Sharing these results with the class can generate a discussion. Learners may feel the need to defend their

choice or they may change their mind after hearing opinions from peers. It can also illustrate the importance of determining one's information need and deciding which sources are better for a given topic.

Conclusion

For the author, approaching an information literacy session without pre-test data is similar to walking into a classroom on the first day of the semester. The students and the instructor are strangers to each other. In a semester-long class, an instructor will gain knowledge about his or her students and adapt lesson plans and approaches to fit the class needs. For librarians teaching a one-shot session, this is not an option. However, pre-testing helps make a connection with the class ahead of time. Furthermore, taking a constructivist approach, pre-tests provide librarians the opportunity to design relevant and authentic activities. For the author, the pre-test provides a sense of confidence she will address the class needs, but more importantly, it helps create meaningful one-shot sessions for students.

References

- Allen, M. (2008). Promoting critical thinking skills in online information literacy instruction using a constructivist approach. *College & Undergraduate Libraries*, 15, 21-38.
- Carter, E. W. (2002). 'Doing the best you can with what you have': Lessons learned from outcomes assessment. *The Journal of Academic Librarianship*, 28, 36-41.
- Cooperstein, S.E. & Kocevar-Weidinger, E. (2004). Beyond active learning: A constructivist approach to learning. *Reference Services Review*, 32, 141-148.
- Dunaway, M.K., & Orblych, M.T. (2011). Formative assessment: Transforming information literacy instruction. *Reference Services Review*, 39, 24-41.
- Emmett, A., & Emde, J. (2007). Assessing information literacy skills using the ACRL standards as a guide. *Reference Services Review*, 35, 210-229.
- Fields, C.B. (1987). Using results of a pre-test to determine lecture content: A case study. *Research Strategies*, 5, 29-35.
- Ivanitskaya, L., DuFord, S., Craig, M. & Casey, A.M. (2008). How does a pre-assessment of off-campus students' information literacy affect the effectiveness of library instruction? *Journal of Library Administration*, 48, 509-525.
- Koehler, B., & Swanson, K. (1988). ESL students and bibliographic instruction: Learning yet another language. *Research Strategies*, 6, 148-160.
- Swoger, B.J.M. (2011). Closing the assessment loop using pre- and post-assessment. *Reference Services Review*, 39, 244-259.