

CLASSROOM ASSESSMENT TECHNIQUES IN ONE-SHOT INSTRUCTION SESSIONS: BALANCING TEACHING, LEARNING, AND TIME

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In one-shot instruction sessions, it can be difficult to justify making time for assessment at the expense of teaching. However, assessment and learning are not mutually exclusive. By utilizing Classroom Assessment Techniques (CATs) that require little time, librarians can assess learning outcomes while providing opportunities for active learning and reflection, and improve student learning by honing teaching skills.

Note: This paper was presented at the LOEX 2011 Conference and included interactive portions. Attendees participated in CATs throughout the session. At the beginning of the presentation, attendees responded to polls. At the end of the session, participants completed a CAT called an “Application Card” where they were asked to identify how they could incorporate CATs into their own one-shot instruction sessions. They were also invited to ask questions they had that had not been answered. Responses from both the polls and the Application Card (the latter was analyzed after the presentation) have been incorporated into this paper in order to provide a realistic picture of the presentation, and also to address attendees’ questions so that readers might benefit from their feedback.

LEARNING ABOUT THE AUDIENCE

Attendees responded to polls administered via Poll Everywhere (www.poll.everywhere.com) addressing their experiences with and opinions about assessment in the classroom. Participants answered via text message or a web-based survey. *Figure 1* and *Figure 2* show their responses. Although roughly 80-90 people attended the session, 29 people answered the first poll, and 37 answered the second.

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Figure 1

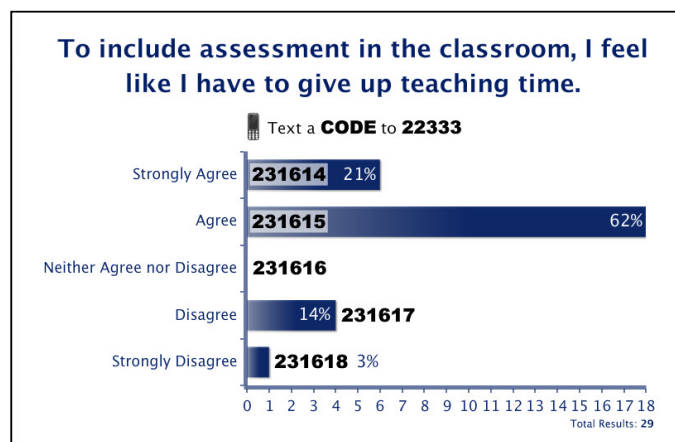
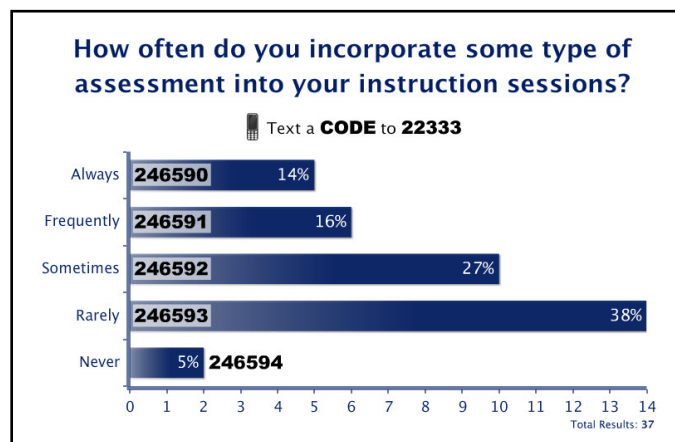


Figure 2



According to the polls, most respondents feel that they have to give up teaching time to include assessment in their instruction sessions, and nearly half of them rarely or never include assessment in their one-shot sessions. On the other hand, a little more than half the group sometimes, frequently, or always includes assessment in their instruction sessions. The responses informed my approach to the session, acknowledging that some attendees were probably being exposed to the idea of classroom assessment for the first time, while others may have experience in incorporating assessment in the classroom but are interested in new approaches.

CLASSROOM ASSESSMENT DEFINED

Classroom assessment, as defined by Angelo and Cross (1993), is a process that allows educators to observe how much and how well students are learning in the classroom, as well as how they respond to different teaching techniques. The goal is simply to improve student learning. Classroom assessment is a type of formative assessment: it occurs during the teaching and learning process in order to improve learning as opposed to demonstrating learning at the end of the teaching and learning process.

Classroom Assessment Techniques (CATs) are tools, exercises, and techniques used to measure student learning in order to improve it (Cross & Angelo, 1993). CATs range from very simple to fairly complex, but this paper will cover CATs that are low-maintenance in terms of development, implementation, and analysis.

QUESTIONNAIRES, POLLS, AND SURVEYS

Questionnaires and polls can be used before or during class to design or adjust teaching methods to meet the needs of learners, and can be administered through a variety of platforms. The focus of this paper is to address the CATs themselves, as opposed to the technologies that could be used to deliver them, but a few possibilities are listed below:

- SurveyMonkey (www.surveymonkey.com)
- Google Forms, a subset of Google Docs (www.docs.google.com)
- Poll Everywhere (www.polleverywhere.com)
- Show of hands

Cross and Angelo's (1993) Background Knowledge Probe is used to assess students' prior learning. The Opinion Poll, on the other hand, is used to discover opinions, attitudes, or experiences. These sound similar, but there are differences. Assessing prior learning uses knowledge questions to ask students to demonstrate what they already know. Opinion polls do not indicate what students have learned, but instead describe how they feel, what they have done, or what they think about something. There is value in both types of questions, and using a combination of both can provide useful information. *Figure 3* shows sample questions one might administer to a class as a pre-test.

Figure 3

1. Have you ever had a library instruction session for another class you have taken?

Yes, within the last year

Yes, but it's been more than one year

No, never had one

Not sure

2. Explain the best way to go about searching for scholarly articles at VCU Libraries. Be as specific as you can.

The first question most closely resembles an Opinion Poll, since it asks students to indicate their previous experiences. The second question, however, requires students to articulate what they know about searching for scholarly articles. This question asks students to demonstrate knowledge, and is therefore a Background Knowledge Probe. Answers to both of these types of questions can be helpful in designing a session that meets the needs of students based on their prior knowledge and experiences.

In place of or in addition to pre-testing, librarians can use polling to ask similar questions in the classroom (like the polls completed by the audience during this presentation). Polling in the classroom can be a useful way to adjust lesson plans on the fly, and also initiate discussion among students.

Angelo and Cross's (1993) Misconception/Preconception Check is similar to the Background Knowledge Probe, but has a twist. It is designed to see what students might need to *unlearn* in order to allow future learning. The questions in *Figure 4* could be used before or during class to plan a session or adjust teaching methods, and also to initiate a conversation among students about the complexity of the information environment or evaluating sources.

Figure 4

1. It's permissible to use information you find on the Internet for a research paper.

Always

Usually

Sometimes

Rarely

Never

2. If something is owned by VCU Libraries, it is automatically considered "scholarly" or "academic."

I'm absolutely certain this is true

I'm pretty sure this is true

I have no idea whether it's true or false

I'm pretty sure it is false

I'm absolutely certain it is false

Since the goal of CATs is to modify teaching methods in order to increase student learning, it is important to "close the loop" – to reintegrate the information gathered via assessment into learning outcomes and pedagogy (Maki, 2004, p. 175). For the CATs just outlined, closing the loop requires flexibility, whether one chooses to administer the CATs before or during

class. If administered before class, instruction sessions can be designed based on student responses. If administered during class, librarians must be ready to adjust lesson plans accordingly based on responses.

THE MINUTE PAPER

The Minute Paper (Angelo & Cross, 1993) consists of variations of two simple questions: “What was the most important thing you learned today?” and “What questions do you have that are still unanswered?” One of the greatest strengths of the Minute Paper is that it can be used in almost any instructional setting with no modification.

Figure 5

1. What was the most useful thing you learned today?

the way to break down the research question in order to be able to research in academic search complete

2. What questions do you still have that weren't answered?

how to find a book, (but I can go downstairs for help)

PS: if you have a question you'd like me to answer, please include your e-mail address (optional)

Figure 5 shows an example of a response to the Minute Paper from an undergraduate research and writing student in a one-shot instruction session. The student articulates what s/he learned, and what was still unclear. Note that librarians can also provide students the option to provide their e-mail address if they wish, regardless of the type of CAT administered. Librarians can then respond to students' questions directly.

Figure 6

1. What was the most useful thing you learned today?

I already kind of know everything, but thank you anyway.

2. What questions do you still have that weren't answered?

No questions here.

PS: if you have a question you'd like me to answer, please include your e-mail address (optional)

In addition to being humorous, Figure 6 demonstrates a downside of the Minute Paper. Since the questions posed are

general, students' answers can be vague, and do not always provide enough information for librarians to improve teaching.

Traditionally, the Minute Paper is administered at the end of a one-shot session. However, one could also administer it midway through the class following a specific section of content. This approach allows the librarian to elicit specific feedback from students, and also respond to questions immediately. The Minute Paper could be integrated midway through a session as follows:

- Teach students catalog searching
- Administer Minute Paper
- Students search catalog (5 minutes). Librarian collects and reviews responses to Minute Paper.
- Respond to questions
- Move on to next section of session

If the Minute Paper is administered partway through a session, librarians can respond to questions immediately. If it is administered at the end of a session, librarians must be more creative in reconnecting with students to clarify issues and increase their learning. If students have provided their e-mail addresses, the librarian can respond to questions directly. For concepts that seem to be an issue for a significant portion of the class, librarians may have to rely on their relationships with teaching faculty to reconnect with students. That might mean an e-mail to the faculty member that s/he passes along to students, perhaps including existing library learning tools that could support learning, like YouTube videos. In the event that there seems to be serious gaps in students' understanding, the librarian could visit the class briefly to clarify.

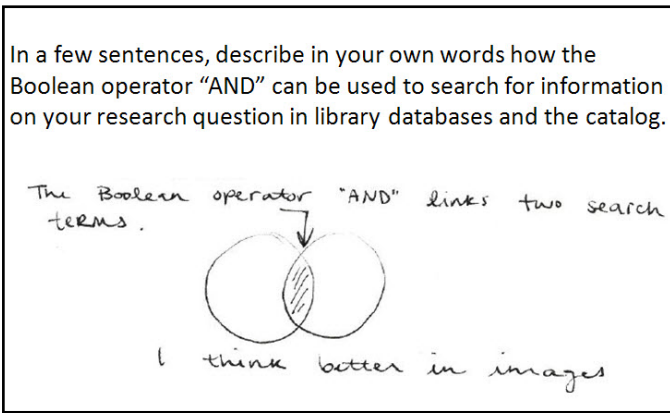
Minute Papers allow librarians to consider ways to adjust their teaching for future instruction sessions. Every class is different, but particularly if you teach many different sections of the same course, it may be safe to assume that if one class struggled with the way you taught a concept, others probably will, too. Therefore, Minute Papers (and many other CATs) allow librarians to continuously develop as teachers, improving student learning not for just one class, but for many classes to come.

DIRECTED PARAPHRASING

Directed Paraphrasing exercises ask students to restate something they have learned in their own words (Angelo & Cross, 1993). Unlike the Minute Paper, Directed Paraphrasing exercises often employ a specific prompt, and facilitate collection of specific feedback.

I often use Directed Paraphrasing exercises to assess students' understanding of search strategy techniques. Figure 7 is an example of an exercise in which students restate what they have learned about the Boolean operator “AND.”

Figure 7

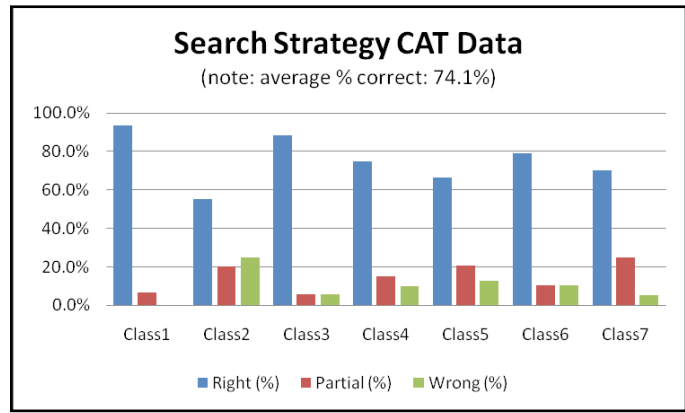


I employ the same exercise to ask students to articulate how to use the Boolean operator "OR" in searching, and how to use the asterisk for truncation. To save time, instead of asking students to answer all three exercises, I ask a third of the class respond to the "AND" exercise, a third to the "OR" exercise, and a third to the asterisk exercise. That way, I am able to get a picture of how well students understood what we covered, and I can then identify gaps in learning without taking up too much time.

Librarians can review responses to Directed Paraphrasing exercises in a couple of ways. Reviewing them informally works well; librarians can get a picture of what students are struggling with just by leafing through answers. Librarians can also create simple rubrics for each question. Rubrics allow librarians to clearly and consistently identify what they are looking for in a 'right' answer. This method offers a more systematic way to assess how well a class grasped a concept. Since I teach many sections of the same course, assessing responses to Directed Paraphrasing exercises with simple rubrics allows me to identify classes that score significantly below the average, which suggests that those students may need additional attention from me as I "close the loop" (Maki, 2004, p. 175).

Although CATs are not designed to generate data to share with library stakeholders, there is often pressure on librarians to produce that type of information. With that in mind, using simple rubrics to assess Directed Paraphrasing exercises can be useful in generating shareable data. *Figure 8* shows responses from Directed Paraphrasing exercises administered to seven classes.

Figure 8



Like the Minute Paper, Directed Paraphrasing exercises can be administered at the end of class or partway through. Methods for reconnecting with students to clarify issues and increase their learning are the same.

TOPIC, DISCIPLINE, DATABASE, ARTICLE (A HOMEGROWN CAT)

I created Topic, Discipline, Database, Article (TDDA), which asks students to do the following:

- Write your research question
- Write the discipline(s) your research question is situated in
- Write down two discipline specific databases that are relevant to your research question
- Write down the citation of one article relevant to your research question

Initially, I developed this exercise to structure the time students had in one-shot sessions to search for information on their research questions. I was teaching in a classroom that required students to share computers, and I was wary of one student monopolizing time on the computer while his/her partner did not have the chance to search. Therefore, I created TDDA and told students that each partnership/small group needed to work together to ensure that everyone in the group completed it.

The exercise worked well: students seemed to stay on track when searching. As I walked around, I also noticed that it was helpful for me to see students' progress in their research by looking at their written exercise. I could respond immediately to problems individuals were having, or address larger issues with the group. For example, in one session, I discovered by watching students complete this exercise that I was not clearly articulating the distinction between a research guide and a discipline specific database. I took a moment to clarify the issue for the class, and have been more deliberate about explaining this distinction to classes that followed. I have never collected the TDDA exercise from students, but there is

potential in this exercise for rubric-based assessment that could result in shareable data.

WRAPPING UP: THE APPLICATION CARD

When this content was presented at the LOEX 2011 Conference, participants completed a CAT called an Application Card at the end of the presentation. They were asked to provide a specific example of how they could incorporate a CAT into one of their instruction sessions and what learning outcome or goal the CAT would assess. The majority of respondents explained specific plans for ways in which a CAT could fit into their instruction sessions – the favorites seemed to be TDDA, Directed Paraphrasing, and polling. Several respondents indicated that they were interested in trying the Minute Paper in the middle of a session.

Attendees were also invited to ask questions that remained unanswered. Answers to some of the questions posed were integrated into this paper. For example, several attendees expressed that although they understood that the goal of CATs is not to generate data to report to administrators, they were interested in whether or not it could be done, and how. Therefore, I included examples of using rubric-based assessment to generate data in this paper. Similarly, several attendees wanted more information about integrating CATs like the Minute Paper and Directed Paraphrasing in the middle of a one-shot instruction session. Therefore, I included a sample outline of how one might integrate a Minute Paper into the middle of a session. Administering the Application Card and asking for questions, and then integrating the results back into this paper, exemplify a CAT in action.

CONCLUSION: BALANCING TEACHING, LEARNING, AND TIME

The CATs discussed in this paper take very little time. For example, administering classroom Opinion Polls might take about 90 seconds per question. The TDDA exercise fits into time that is already allotted for students to search. The Minute Paper and Directed Paraphrasing exercises take students about two minutes to complete. Additionally, the development and analysis of these CATs also requires little time.

While including CATs in one-shot sessions may require librarians to trim down lectures and demos a bit, the CATs listed in this paper provide opportunities for student engagement, active learning, and reflection, all of which enhance students' experiences as learners, according to Angelo and Cross (1993). In conclusion, CATs actually enrich teaching and learning time, while still allowing librarians to assess how much and how well students are learning, enabling them to improve their performance as teachers and ultimately increase student learning.

REFERENCES

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