

SPIDERCAT: ON-LINE CLASSROOM ASSESSMENT TECHNIQUES

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BACKGROUND

Exams count, and that makes them seem more important than the little formative assessments students perform throughout the term, but most Cegep teachers realize that formative assessment is more important for learning than summative assessment. What should formative assessment look like? What if I told you there is an existing framework for formative assessment that is rapid, relatively easy, incredibly flexible, and extremely effective at supporting student learning? It sounds almost too good to be true, but it does exist; in fact this model has been around for about twenty years and you are probably already using it in your classroom without calling it by this particular name. Classroom Assessment Techniques, or CATs, were developed by two American researchers in the early nineties as part of their Classroom Research movement. *Classroom assessment techniques: A handbook for college teachers* by Angelo and Cross (1993) lists about fifty different types of CATs, all of which can be modified to fit specific classroom subjects and situations. They recommend that teachers begin by filling out a Teaching Goals Inventory, available online¹ in a handy format that compiles your individual responses and provides comparisons with other teachers in your discipline. The inventory allows you to zero in on exactly what it is you hope students are learning in your classroom, and this is where you begin thinking about exactly what you want to assess with your CAT. You might find it interesting to see how your basic ideas compare with those of colleagues who teach in the same discipline as you.

Have you ever been startled to realize your students had not learned what you thought you had taught them? I think this is a fairly common occurrence for all Cegep teachers, but this is a sad thing to learn at the summative evaluation stage. Classroom assessments help you spot trouble while there is still time to remedy the situation. CATs increase learning, and they also check whether you have increased learning. CATs provide feedback for students and teachers about what is being learned and the effectiveness of the teaching scenarios.

College teachers are looking for assessment techniques that are more open-ended, supportive of meta-cognition, as well as encouraging of intellectual and social abilities and attitudes that will be helpful to students for the rest of their lives (Shepard, 2000). We need to think about the changes we are aiming for; in the past schooling was content driven, but that is no longer perceived as enough. We are now looking for attitudes and abilities that aim at lifelong learning (Marzano *et al.*, 1993). We already collect lots of information about what our students are learning: questions, quizzes, tests, essays, exams; but this kind of assessment is often too late from a learning point of view; we test and then we move on. Formative assessments like CATs assess learning at the beginning, or in the middle, and can help students and teachers adapt to the needs of the situation. The best time for a CAT is before the chapter test or mid-term exam.

1. [http://fm.iowa.uiowa.edu/fmi/xsl/tgi/data_entry.xml?-db=tgi_data&-lay=Layout01&-view]

Feedback is more than grade justification; it is about improving learning. Price *et al.*, in their 2010 article “Feedback: all that effort, but what is the effect?” remind us that research and experience indicate that students may not even read the input we give them, and when they do – they may not know what to do with it! Students need to acquire a working assessment vocabulary in order to profit from the feedback process. If we want to see results we need to share the same vision of its purpose. Feedback is used to: point out errors; motivate learning; diagnose difficulties; measure achievement; and promote growth. The traditional vision of using feedback to correct errors and provide external stimulus for learning is limited because post-secondary learning is too complex. Errors do need to be illuminated, but it is more important for students to understand the gap between their work and the desired standards, as well as how to bridge that gap. If we focus on content rather than facilitating learning, the metacognitive aspect of feedback will likely be overlooked. Good feedback is really about the next assignment! Feedback should be straightforward, sound advice about what students can do to perform better next time. It can only work if the student accepts to act on it and has time to do something with it – the summative final exam is useless for this purpose; but CATs might work. Although CATs are not specifically aimed at one student due to their anonymity, they can quickly and clearly highlight danger areas within the class group that need to be improved before the summative assessments, thus enhancing learning.

So how do we go about doing this in our classrooms? Start small; try one technique in one class to begin. This won't take too much time, five minutes during class and a half an hour after. Follow these three steps: plan -pick a course date and choose an easy CAT; implement – explain the CAT clearly to the students, collect and analyze the responses quickly; respond – share what you learned with students and explain how you will use this information.

You could build the best mousetrap in the world, but if you never go down in the basement to see if you caught a mouse, you would never know if it worked. CATs are all about checking your mousetrap. These trips to the basement help you make adjustments to your device to make it ever more efficient. I tried several CATs in my courses last term. I used a KWL (What do I Know, Want to know, and what did I Learn?) about religion in my humanities class. I tried a Minute Paper on “Most important things I learned, and What I would like to know more about” after a guest speaker on First Nations' spirituality in the same course as part of a virtual team-taught class between Sept-Iles and Vanier. These are both examples of Classroom Assessment Technique type one: assessing prior knowledge, recall, and understanding. It seems to me that this is probably the most obvious kind of CAT, possibly due to our infatuation with content. (Angelo and Cross 1993). It would be good if we could shift the focus, especially in General Education English courses like those I teach, to goals such as: “foster the kind of informed thoughtful reading that [students] can enjoy throughout their lives” (Angelo and Cross 1993, p. 63). Classroom assessment techniques are a breed of tools that can help us with this. CATs help students pay attention to what they are learning and make them more aware of themselves as learners.

Back to the metaphor; those trips to the basement equal your attempts to check the teaching and learning going on in your classroom through Classroom Assessment Techniques. The information you gather on those sojourns into the minds of your students and their thoughts about metacognitive process should help you tweak your teaching in ways that bring your practice closer to your goals. You may have the best PowerPoint presentations this side of McGill, but if the students aren't learning, you're just talking. (Angelo and Cross 1993). The workshop we gave at the AQPC 2011 Symposium was entitled *SpiderCATs* as a reference to using Web-based tools like Zoomerang to conduct Classroom Assessments. These on-line options for implementing these techniques provide a simple way to gather and collate information without using precious class time; hence the playful nickname *SpiderCATs: Classroom Assessment Techniques on the Web!* During the AQPC workshop we modeled many examples of different CATs, but for the purposes of this paper we will explore one example thoroughly and suggest that you research on-line if you are

interested in discovering the diverse possibilities of CATs. The following is an example of classroom assessment technique number ten, “assessing learner reactions to class activities, assignments, and materials; techniques in this category are designed to provide faculty information that will help improve course materials and assignments” (Angelo and Cross 1993).

1. AN EXAMPLE OF ONE CLASSROOM ASSESSMENT TECHNIQUE

The general core course 603-101-MQ “Introduction to College English” is the gateway to post-secondary writing. High school students walk in the door and I try to help them walk out the door fifteen weeks later with the ability to read college level material with deep understanding and write organized essays that analyze material in a coherent, insightful fashion. Fostering effective reading and writing skills would be at the top of my Teaching Goals Inventory. I wanted to see what my students thought about the mental gymnastics I had set up for them to achieve these skills.

– The Plan

I wanted my CAT to explore the efficiency of my teaching methods, so we will begin with a brief description of how my class runs. Each week we take a different unit of our textbook describing a specific rhetorical pattern, read some example essays, and work with them – individually, in pairs, in small groups, and all together. At the end of class we look at the suggestions for writing at the end of the unit, and each student begins to think about what they will write for their response journal essay in the Lab.

– The Purpose of the CAT

Is this style of teaching working? That is the basic question I wanted to know more about. Were they actually reading the essays in the textbook, and if yes, did they understand them, and furthermore, did they find reading the essays to be a useful activity to improve their reading and writing skills. Were they using the reading and writing techniques we were trying to foster, and were they transferring them to other courses, as that is part of the mandate of general education courses. And also, were these even new skills? The make-or-break concept in the “Introduction to College English” course is the *thesis statement*. It links to the author’s main idea in reading, and is the key to writing a well-organized essay. It is a crucial concept on the English Exit Exam – the common writing task for all students in all programs, an imperative for obtaining a College Diploma. The CAT I designed doesn’t set a task for them to show me their conceptual or procedural knowledge regarding these elements; that is covered in the summative assessments. Rather I wanted to investigate their perceptions of my teaching methods. Hence the use of technique number ten that takes the learner’s pulse of the activities and methods used.

– The Results

Here is the CAT my students filled in. I sent them a Zoomerang URL link through OmnivoX, our classroom management system. The information provided by the CAT is useful in thinking about the teaching and learning methods going on in my class because it is specific to our situation.

2. TEACHING AND LEARNING CAT FOR INTRODUCTION TO COLLEGE ENGLISH

(See figures, page 41)

This survey is anonymous, so feel free to tell the truth!

- What works and doesn't work in Sharon's teaching methods?
- What works and doesn't work in your learning methods?
- One of the main things I am hoping you'll learn in this course is how to read, understand and write essays at the college level.
- The following questions will help me see if I'm on the right track.

Written responses for number 3: Which of the following reading strategies do you use?

1. **annotating;** I do use it in other classes, but once in a while
2. **concept mapping;** Also in psychology.
3. **concept mapping;** I hate those.

Written responses for number 5: Any other thoughts about progress you made as a reader this term?

1. I'm as good as I was before.
2. By annotating, it helps me better understand pieces of writing and I take more of my time to understand it well.
3. I can read way better than before!
4. Since I have started reading more, I understand most all of what I read in English without having to use a dictionary
5. I take more time to read between the lines.
6. To be honest, I have not progressed in reading as much as I have in writing. We used to read novels in my English high-school course.

Written responses for number 6: In this "Introduction to College English" course, Sharon really tries to demystify essay writing. Is it working?

1. I love the way we look at essays with Sharon, before I took her class, I didn't even like to read all that much, now I love to read :)
2. I already knew.
3. She's a great teacher.

Written responses for question 8: Do you think you know how to write an effective thesis statement?

1. Sometimes it's still difficult though
2. I still have a hard time
3. More or less. I am never sure if my thesis statement is clear.
4. Sometimes it is hard.

(See reflections at Section 3, for questions 11 and 12.)

1. Have you read the assigned essays in the text?

all		6	46%
most		6	46%
some		1	8%
Other, please specify		0	0%

2. Did you feel you understood the essays we read from the textbook?

easily		7	54%
somewhat		6	46%
with difficulty		1	8%
Other, please specify		0	0%

3. Which of the following reading strategies do you use?

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.

	in all my classes	just in English class	sometimes in English	never
previewing	8 62%	2 15%	3 23%	0 0%
highlighting	8 62%	4 31%	1 8%	0 0%
annotating	3 23%	8 62%	2 15%	0 0%
concept mapping	1 8%	10 77%	1 8%	1 8%

[View 3 Responses](#)

4. Which of these strategies were new to you this year?

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.

	I had never used it before	I used it a little bit already	we did this in high school
previewing	4 31%	4 31%	5 38%
highlighting	3 23%	2 15%	8 62%
annotating	9 69%	1 8%	3 23%
concept mapping	7 54%	5 38%	1 8%

5. Any other thoughts about progress you made as a reader this term?

[View 6 Responses](#)

6. In this "Introduction to College English" course, Sharon really tries to demystify essay writing -Is it working?

Yes		13	100%
No		0	0%
Total		13	100%

[View 3 Responses](#)

7. Do you feel like you know what a "thesis statement" is?			
Yes		11	85%
No		2	15%
Total		13	100%

8. Do you think you know how to write an effective thesis statement?			
Yes		8	62%
No		5	38%
Total		13	100%
View 4 Responses			

9. Did learning about different rhetorical patterns (such as narration, process analysis, division) help you write better essays? Rate your impression of how useful this is on a scale of one to ten.			
1 not at all		0	0%
2		0	0%
3		0	0%
4		0	0%
5 somewhat		2	15%
6		0	0%
7		0	0%
8		7	54%
9		1	8%
10 really helped		3	23%
Total		13	100%

10. Which type of essays do you prefer writing?			
your own topics		5	38%
about other texts		0	0%
both equally		6	46%
Other, please specify View Responses		2	15%

11. What did you learn in English so far this term...			
View 11 Responses			

3. REFLECTIONS ON THE CAT SURVEY RESULTS

The following paragraphs reflect briefly on the student responses and explore possible courses of action that I shared with the students in class a day or two after the CAT closed.

3.1 Questions (1 to 12)

- **Question 1:** *Have you read the assigned essays in the text?*

Most of the students said they had read most or all of the assigned readings. I think this is true from the quality of in-class responses as well as indications in the homework. This is better than previous years – I have never had such a strong impression that almost all the students are really reading almost all the material. I feel this is a good indicator that I am setting up tasks and an environment that encourage them to take ownership of their reading. Some students have mentioned that they forget or do not hear the readings being assigned in class, although they are usually also written on the PowerPoint that is uploaded to the classroom management system, but today in class a student came up with the idea of a homework forum to post the readings, exercises, etc. and students could even ask questions there.

- **Question 2:** *Do you feel you understood the essays we read from the textbook?*

Most students understood the essays we read. That means the level is not too difficult, but may be too easy. This is definitely something to explore further. I might want to add some more challenging material.

- **Questions 3 and 4:** *Which of the following reading strategies do you use? Which of these strategies were new to you this year?*

I wanted to look at these together because I was trying to see if students thought they were actually implementing the procedures we were discussing, both in our class and in their other courses. Also, I wanted to see if these were new, or was I *thinking* I was teaching them something when actually they were already competent with these tools. Most of the students are using the strategies, especially in English, but somewhat in other courses, and aside from highlighting (not really surprising that they used this in high school) most of these deep reading techniques are somewhat new to them.

- **Question 5:** *Any other thoughts about progress you made as a reader this year?*

Most comments indicate an enthusiasm for and an appreciation of the things we have been learning in class. Students talk about slowing down and annotating, reading better, reading more, understanding more, and reading between the lines. I think this speaks well for the methods we are using.

- **Question 6:** *In this “Introduction to College English” course, Sharon really tries to demystify essay writing. Is it working?*

This one feels a bit like a fan club, and that may skew the results, but in general it looks like this is working.

- **Questions 7 and 8:** *Do you feel like you know what a thesis statement is?*

Do you think you know how to write an effective thesis statement? Most answered yes, and this is pretty good. Thesis statements are hard for the students to master, and I respect the two students who are still struggling with them. Knowing you have difficulty with this is better than thinking you can do it when you really can't. All four comments reflect similar feelings of difficulty, and I think that is because the writing of a thesis statement is at a perfect level within their zone of proximal development!

- **Question 9:** Did learning about different rhetorical patterns (such as narration, process analysis, division) help you write better essays?

Most students agreed, and I was actually surprised by this because I wasn't sure they would see a link between this and writing. Two students answered mid-way (five), somewhat, and this is believable, because for some the transfer of patterns from what they read to what they write is not obvious, and it shows in the work they do in class.

- **Question 10:** Which type of essays do you prefer writing?

I was sure everyone would choose personal topics, and five did, but surprisingly six students liked writing about other texts as much as their own topics. The remaining two students specified that they liked using the suggestions in the text, which is actually what I meant in the "own topics" category. I asked the students about this in class, and they said they liked the comfort of writing about other texts, they felt more sure of what they needed to do, and one girl said she had more of an idea of how I would feel about the topic, so that was less stressful for her. I thought that was very interesting, and possibly something to be capitalized on, to talk about the comfort of an activity such as the English Exit Exam, because it is pretty straightforward as far as tasks go.

- **Question 11:** What did you learn in English so far this term to help you in this course and in other courses? What did you learn in English that wasn't helpful?

Students felt it was helpful to learn how to organize ideas effectively, to properly analyze and understand a text, write thesis statements, annotate essays, different writing techniques, how to write effective essays, and different types of strategies. For their other courses it helped to learn ways of reading, how to organize ideas effectively, highlight main ideas, how to divide information, and annotate texts. Two students felt it wasn't helpful to learn to use concept maps, and one didn't like annotating. These responses seem very positive -they list a variety of techniques that we work on in class and seem to value these skills for the most part.

- **Question 12:** What do you do that helps you learn or interferes with your learning?

Students listed as helpful: concept maps, highlighting, annotating, searching on the internet for more information, concentrating, asking questions, reading more in English at home, listening carefully when the teacher is speaking, paying attention in class, and reading essays more than once. The following interferes with their learning: listening to music while they try to read, not listening, getting distracted easily, noise, not concentrating, reading in French, talking too much in class, going on Facebook and a lack of motivation. I think this is a good exercise in metacognition. They are able to identify both helpful and unhelpful behaviors and that can make them more aware of what they need to do if they want to improve their learning potential.

3.2 Synthesis of Strengths and Weaknesses of the CAT

This survey provides an interesting classroom assessment that gives useful feedback to the teacher and the students about activities and the teaching and learning behaviours that support the course objectives. There is some information on content as well as some metacognitive feedback. The sample is statistically irrelevant but the individual responses are useful. One of the survey's strengths is that it doesn't take too much effort on the part of the students; they can select among answers provided, yet they can still add more in the comment boxes if

they want to clarify a point. This strength is also a weakness, though, in the sense that this restricts their exploration of thought by only proposing specific elements.

3.3 Evaluation of the CAT's Short-term Effectiveness

I went over the survey results with the students, showing them the on-line results and graphs on the screen during class time. This feedback will help students, and the teacher, be more aware of why we are doing what we are doing.

3.4 Speculation of the CAT's Possible Long-Term Impacts

This is a kind of evaluation I would try again. Overall I think it will make me think more critically about the activities I ask my students to undertake. I think the students will continue to be more self-aware as learners, and I would hope it may even nudge them towards taking control of their own learning.

CONCLUSION

CATs help improve teaching and learning in our college classrooms, they get teachers and students more involved and provide everyone with feedback about whether or not their efforts are paying off. CATs help us with the primary goal of curriculum alignment: matching up what we are teaching with the learning changes we are hoping to cause, while using assessment tools that match up with our learning objectives. CATs can give us hints about how well we are doing with all of this, so we can fine tune our efforts.

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