



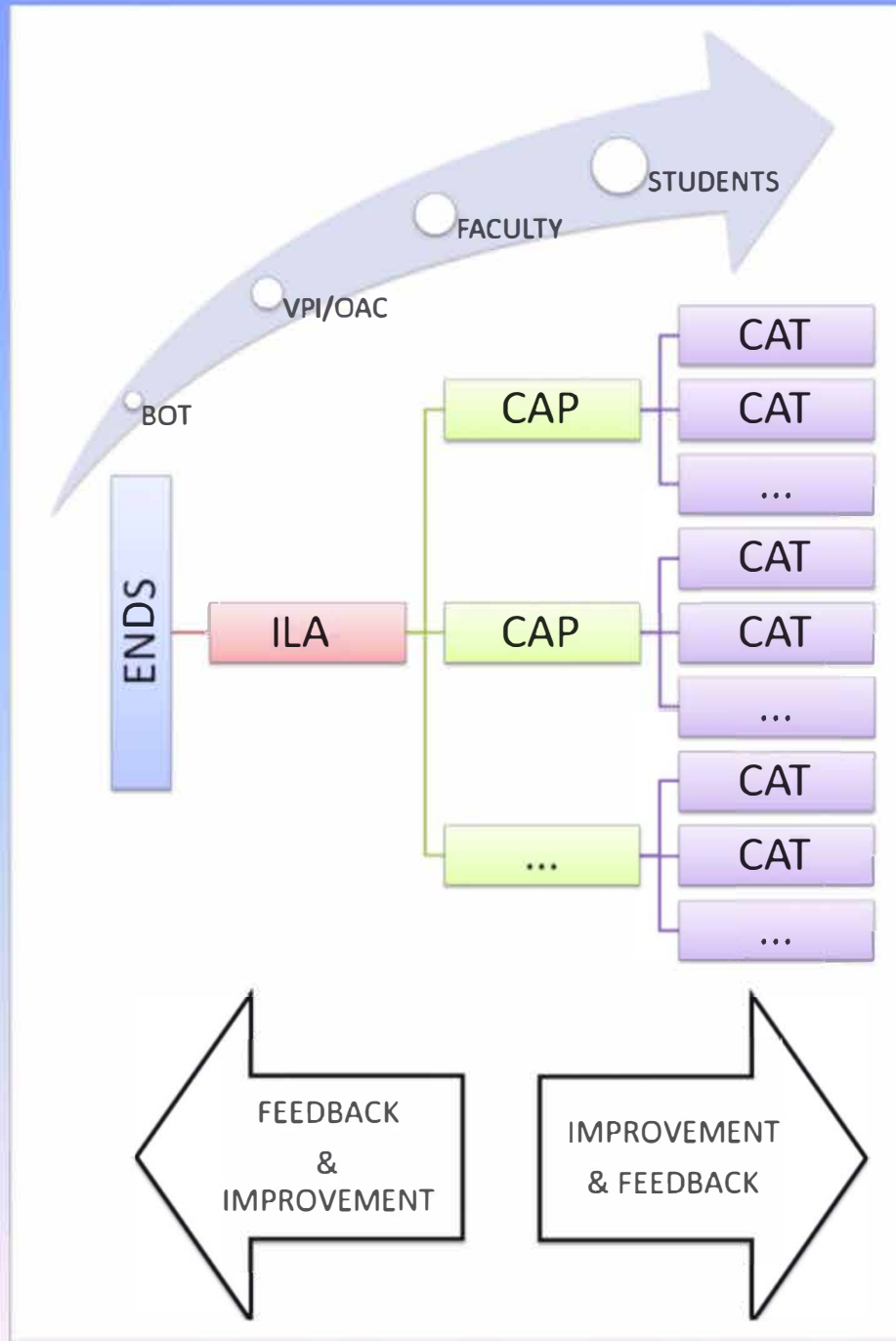
HLC Accreditation Evidence

Title: Barton's Assessment Model: Completing the Cycle

Office of Origin: Vice President of Instruction - Assessment of Student Learning



**BARTON's
ASSESSMENT Model:
Completing the Cycle**



Board of Trustees'
ENDS
to
Degree Level
Assessment

Board ENDS

POLICY TYPE: ENDS

POLICY TITLE: ESSENTIAL SKILLS

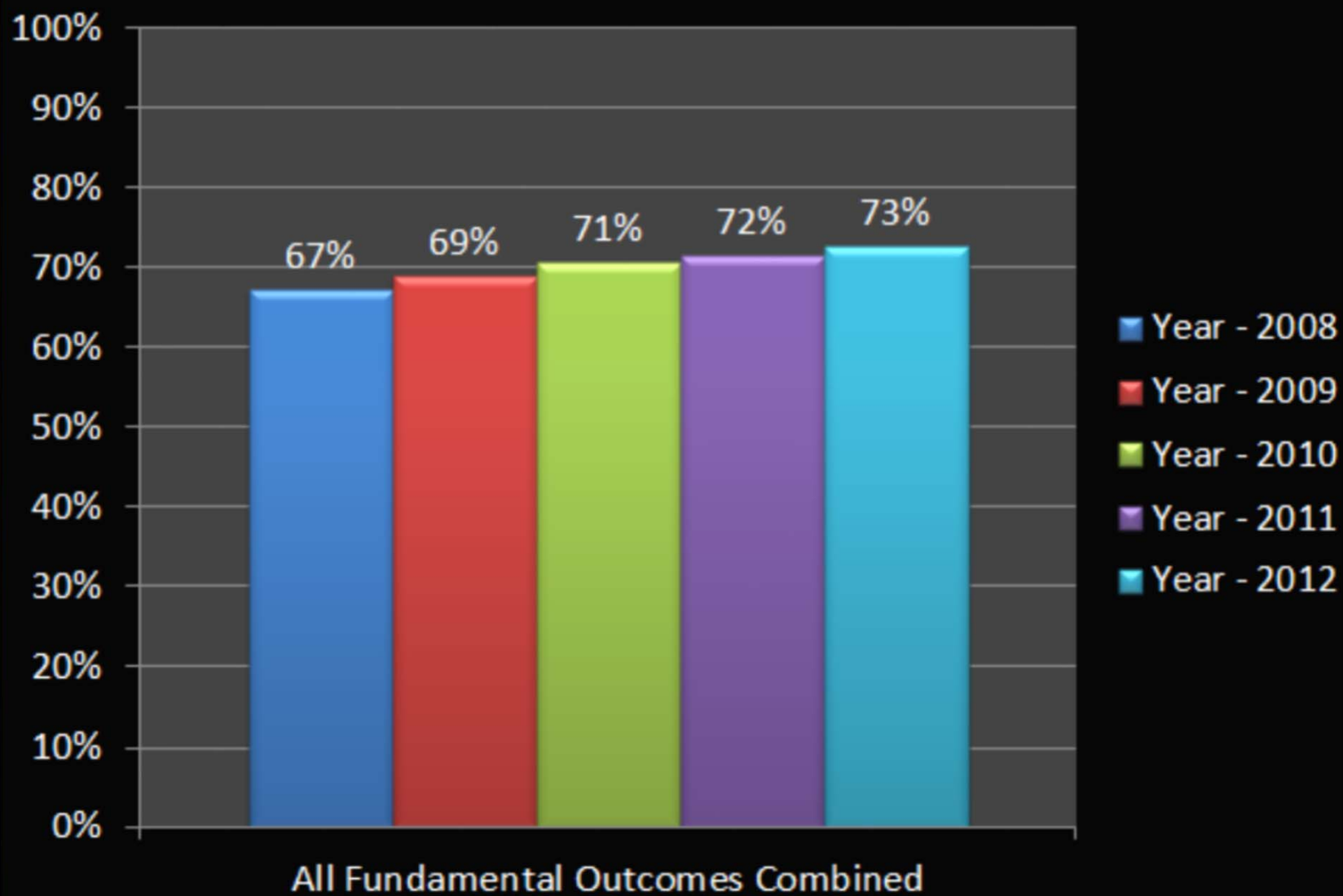
Statement: Students will have the essential skills to lead productive lives.

Completion of a Barton Community College degree template will enable students to:

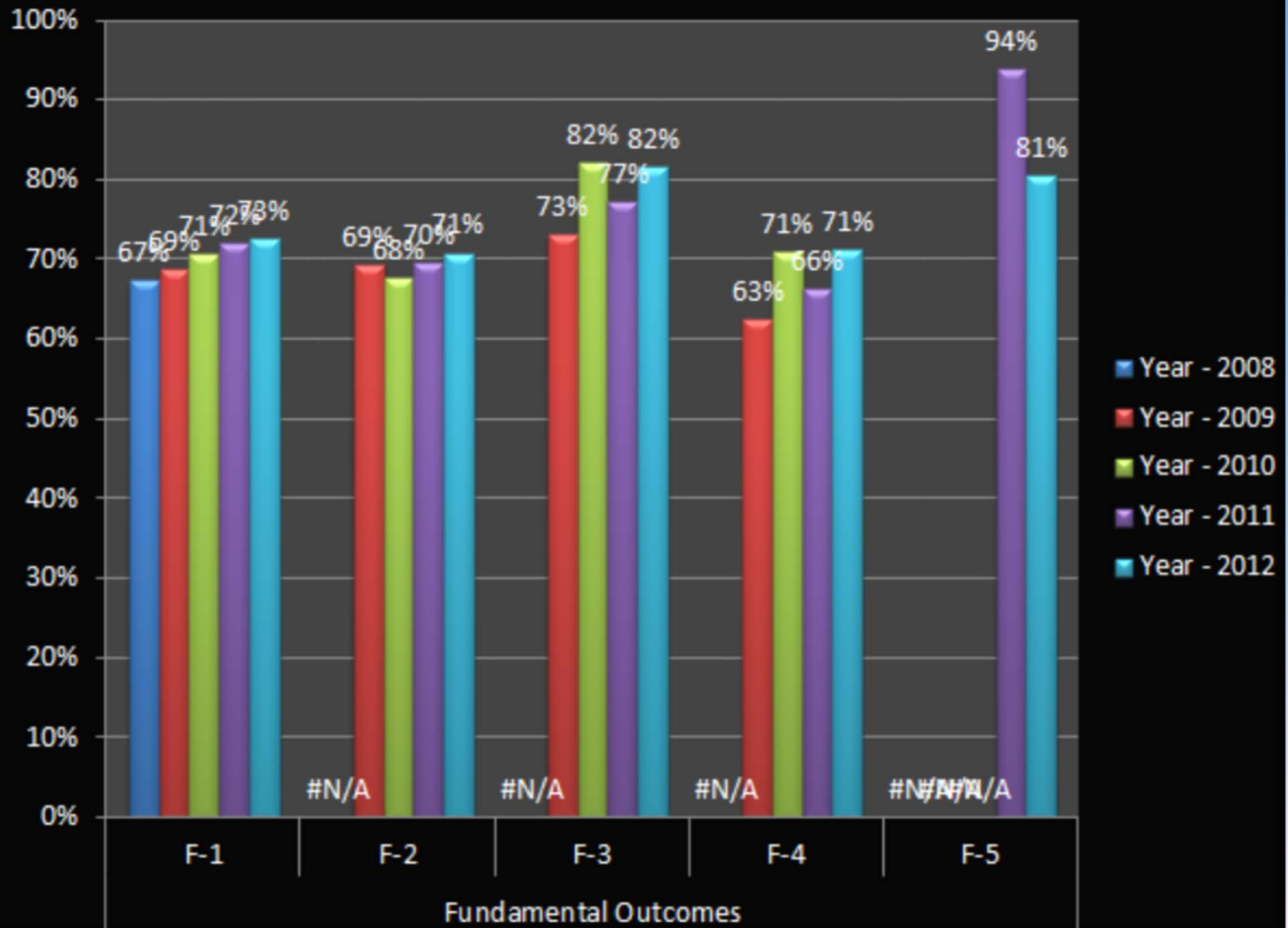
- F-1. Study a given subject critically, including processes to analyze and synthesize important parts of the subject, to ask appropriate and useful questions about the study of this subject, and to solve problems within the subject area.
- F-2. Relate the relevance of a given subject to the individual student's life, to develop habits that encourage life-long, responsible and independent learning, and to apply appropriate and useful knowledge of the values, conventions, and institutions within an academic discipline.
- F-3. Describe how history works, including how historical perspective can strengthen understanding of a given academic subject, and how the history of human endeavor has helped develop that subject.
- F-4. Explain how technologies affect important parts of human life and how information technologies shape the study of a given subject.
- F-5. Explain how culture develops through various aspects of human endeavor, how culture develops understanding of a given subject, and how a given subject develops within different cultures.

Assessment of the General Education Outcomes will serve as an indicator of the essential skills retained by our students and their ability to lead productive lives.

% of correct responses within BARTON's Course Assessments



% of correct responses within BARTON's Course Assessments





So how can you (BARTON's Faculty) improve Student Learning with respect to say, F-1?:


Study a given subject critically, including processes to analyze and synthesize important parts of the subject, to ask appropriate and useful questions about the study of this subject, and to solve problems within the subject area

The challenge with measuring this outcome is that it addresses a very broad topic which can be difficult to address, assess, or measure on a day-to-day basis in the classroom. Instead, course assessment narrows it down for you to a more course specific topic where you can focus your efforts.

Degree Level
to
Course Level
Assessment



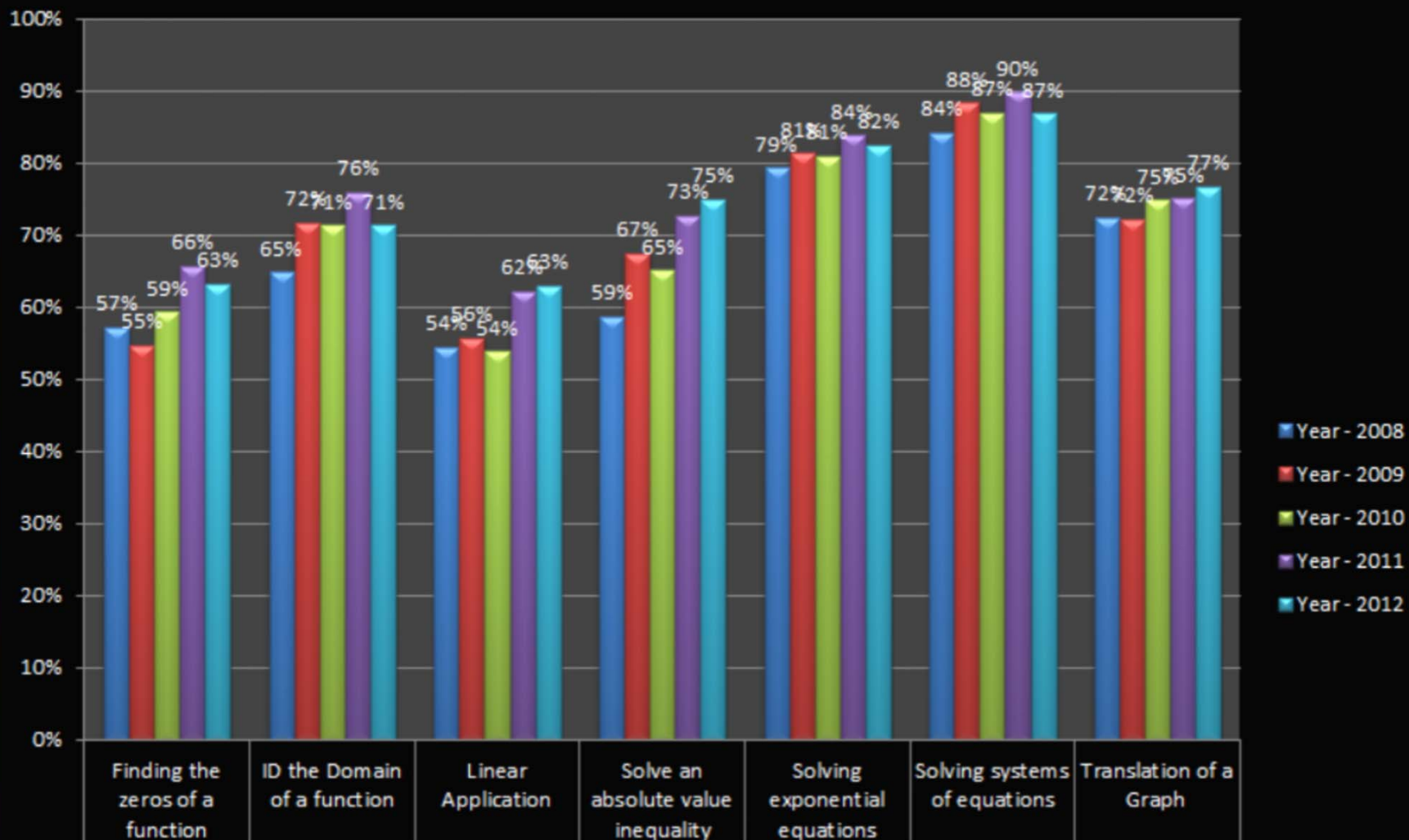
ASSESSMENT
Spotlight:
College Algebra



In this case, we have the College Algebra Course Assessment which has identified seven specific competencies from the course that tie directly to F-1.

It will be much easier to focus in on this outcome and make improvements. As a result, any improvements will travel back up to improvements in the Fundamental Outcome (F1) as a whole.

% of correct responses for College Algebra's Course Assessment




Competencies

College Algebra


F-1

Fundamental Outcome




Clearly, the data-driven adjustments made by the College Algebra instructors have resulted in improvements in student learning.

What are some of the ways faculty have used this data to enact change in the classroom?




Faculty Documented
Adjustments/
Improvements as a
result of the Course
Assessment Project
(CAP):



“I always look at the lowest score on the assessment data and make an effort to improve my student’s comprehension of the given competency.


Using CATs I try and isolate the specific issue that is holding my students back and make every effort to improve my presentation of the topic. This way, I always have something new and exciting to try each year.”



“I generally put a Muddiest Moment inside my courses in a Unit where I have noticed that the exam scores were low and where the majority of the questions seem to come from.


Based on the students feed back, I add additional material to the course (Doc Sharing, Webliography, notes) or send out additional examples. I continue to keep the muddiest moment in that Unit until I see improvement.

After I see improvement, I will move the muddiest moment to another Unit for a different session. Each session contains students with different problems and questions, and I think this has helped to see where additional material is needed in the course.”




“When I look at my data from the (CAP) after each session I typically find my lowest scoring competency and then try to find a “fix” or an improvement for that competency. The one that appeared for several cycles/sessions was the solving an absolute value equation...I then moved onto other competencies until I thought I had improved it enough.

The one I’m working on now is the translations of functions by working on inserting a java applet with steps to help them visualize what happens to a graph when the coefficients change. As an instructor I try to impact one competency at a time by making changes to my lecture, notes, or activities to help the students comprehend better.”




“After studying the data and finding the weakest competencies, my main adjustment was not changing the way I taught it, but more assigning practice problems at different intervals during the semester. I found that by providing more frequent practice dispersed over time it helped with the retention of the competency.”



“My College Algebra classes don't always show improvement from year to year because the educational effort of the students varies greatly in such a small school. In general a larger percentage of our seniors now enroll in CA, but that means that some of the CA students I now get may have struggled early on in their high school math courses. However my students are now generally better prepared for the (CAP) because of the CAT's results telling me when I need to go back and when I can move on.


Because so many of my students are involved in every sport and every activity and therefore miss class frequently for school events, the CAT's help me use class time more effectively by not repeating what they have already learned, and by not moving on when they are not ready. I have also been using more student presentation opportunities (like letting each student describe the nature of a function verbally to the class after being presented with a graph).

CAT's let me see where lapses in understanding occur and makes immediate feedback possible. I have learned to really stress the form of the required answer: a relative maximum/minimum is an ordered pair while increase/decrease are intervals of the independent variable. Student's sometimes intuitively see them as the same thing through casual observation, and using CAT's in the past has shown me that this is a potential problem area so I deal with it head-on in the lessons.”




“At the end of the term I look at my course assessment results, I identify an area or two that I would want to try and improve. I look at how I teach that material currently and make changes to the learning experience; use CATs to measure the effectiveness, and hopefully that will impact the course assessment results in a positive manner.”

Course Level
to
Classroom Level
Assessment




Many times you can look at a competency itself and think, “this competency really isn’t narrowed down enough for me.” So how can you break down a competency to the real heart of the issue, when the competency itself may take weeks or more to cover? More importantly, how can you make adjustments/improvements to student learning on a day to day basis?


The answer to that is Classroom Assessment Techniques (CATs).



Faculty Documented Classroom Assessment Techniques (CATs):



“I did a Background Knowledge Probe to see what the students remembered about operations with functions, specifically composition of functions. Since I was also their Algebra 2 teacher, I knew they had worked with composition, but I didn't know how much they remembered.”




“We have been discussing the relationship between inverse equations and inverse function in college algebra. I was trying to determine how deep of an understanding they had between an equation and its inverse.


During the lesson, as we were looking at a specific graph that had both a function and its inverse, I made the comment, "So an inverse is just a reflection of the function over the x-axis, right?" The students looked at the graph for a minute and a few quickly agreed with me (and then got a perplexed look!).

Then most of the students said, "No, that's not right." Then I said, "So, it must be a reflection over the y-axis." Of which case they said, "No, that's not right, either!" The students could tell that some sort of reflection was happening, but they weren't sure how.


We did further investigation comparing the table of values (T-Chart) for each graph, and talked about how inverses reflect over the line $y = x$. We were also able to flow into the discussion of the horizontal line test to determine if a function's inverse is a function or not.”



“At the beginning of each class meeting, we spent the first 5-10 minutes addressing any questions that the students had over the previous lecture. When several students had the same question or difficulty understanding a specific topic, I would re-teach the material using a different method. This occurred twice in the semester. Once with completing the square and again with logarithms. The second method helped clear up the topic and students were pleased.”




“(Based on a CAT) I implemented how to graph lines with a calculator on the first day of class as opposed to the second class.”



“I used a progressive study guide for my C.A.T. This involves making a study guide that only covers the objectives we have covered up to this point in the chapter.

Students worked on the study guide in class under my direct supervision and questions were answered as they came up. As we cover more of the chapter they will continue working toward proficiency on the whole chapter.”

Classroom Level
All the way Back
up to
BOT ENDS



BARTON's assessment model supports the Board of Trustee's Ends statement by connecting the concepts within BARTON's degree level General Education Outcomes to course specific competences thereby giving faculty specific information relative to their courses (as opposed to a more general outcome) ultimately enabling faculty to more readily effect changes to improve student learning in the classroom which can then filter back up to improvements in the course and general education as a whole.