Assessing Critical Thinking: A Quest for Efficiency and Quality

Preamble

Critical thinking is considered a “broad ability” developed over-time by the interplay between discipline-oriented education, general education, and the general abilities students have developed and bring to higher education. Shavelson, 2007.

The best example of direct value-added assessment is the CLA, an outgrowth of RAND’s Value Added Assessment Initiative that has been available to college’s and universities since spring 2004. The test goes beyond a multiple-choice format and poses real-world performance tasks that require students to analyze complex material and provide written responses (such as preparing a memo or policy recommendation). The American Association of State Colleges and Universities (AASCU) (2006, p.4).

Spelling’s Commission identified the CLA as one of “the most comprehensive national efforts to measure how much students actually learn at different campuses” and CLA “promotes a culture of evidence-based assessment in higher education (p. 22).” “Higher education institutions should measure student learning using quality assessment data from instruments such as CLA.” P.23.

Background

In order to meet the requirements of Strengthened Campus-Based Assessment (SCBA) of General Education mandated by SUNY System Administration the SUNY College at Oneonta Senate passed the following resolution on February 6, 2006 regarding the assessment of Critical Thinking at Oneonta:

Whereas, SUNY is moving ahead with strengthened Campus based assessment of General education:

Therefore, Be it resolved, SUNY College at Oneonta will assess critical thinking learning outcomes of juniors and seniors in upper division general education courses using the rubrics and standards of the Discipline-Based Panel on Critical Thinking.

During the Fall 2007 semester, the Council of Chairs (COC) began a discussion of the above resolution and determined implementation would be difficult for several reasons including:

1. Workload
   Significant amounts of faculty resources being spent on assessing CT rather than teaching CT (approximately eighty faculty members and over one hundred sections of upper-level GenEd courses could be involved with CT assessment under our current model). Each faculty using the rubrics would need to:
   1. Be trained to appropriately apply the rubrics
   2. Administer CT assessment in upper division general education courses
   3. Evaluate student’s CT ability using the rubrics (requires a second faculty as a reader to cross-check assessment validity)
The burden will fall heavily on a few departments with upper division general education classes. Getting adjuncts to participate would be problematic since the extra work is not included in their contract.

2. Implementation
   a) Difficult for some departments to apply the rubrics (Physics, Foreign Languages, among others)

3. Hidden costs: While the College will receive money from System Administration for CT assessment, rubric training, etc., individual faculty will not be compensated for the extra work required.

Consequently, the Council of Chairs (COC) began considering other options for assessing CT in an efficient and effective manner while reducing faculty workload. The COC identified the Collegiate Learning Assessment (CLA) tool as a viable alternative to using rubrics (Note: CLA will be reviewed by GEAR this semester as an acceptable measure for assessing CT and Writing for SCBA)

Information about CLA

CLA focuses on institution (rather than student) as the unit of analysis. Its goal is to provide a summative assessment of the value added by the school’s instructional and other programs (taken as a whole) with respect to certain learning outcomes.

The CLA is but one of many important indicators of student learning. Ideally, it will be used in conjunction with other direct measures of learning outcomes, indirect measures of institutional support for learning, and other indicators that are important to the policy community and the public.

- Developed by the Council for Aid to Education in collaboration with the RAND Corporation.
- It is designed to simulate complex, ambiguous situations that every successful college graduate may one day face.
- Students are asked to analyze complex material and provide written responses which assess reasoning and communications skills.
- Most adopters of CLA assess their institution cross-sectionally, testing a random sample (n=100) of first year students in the fall and a random sample (n=100) of seniors in the spring.
- Performance tests are hand scored by highly trained readers. A random sample of 10% of the hand graded answers are independently graded by a second reader (median correlation between 2 readers scores is 0.80)
- The institution receives two reports, the first after fall testing that looks at how the institution’s entering class compares to other CLA participants (adjusted for SAT or ACT scores).
- Then after testing of seniors in the spring, the institution receives a full institutional report that provides value-added assessment on a comparative basis.
  - Reports whether an institutions students are doing better, worse or about the same as would be expected given the level of their entering competencies
  - Also examines whether the improvement in average student performance between entry and graduation at the school is in line with the gains of comparable students at other colleges (benchmarking).
Administration of CLA

- A representative sample of 100 freshmen and 100 seniors are assessed.
- Total testing time for each group is 90 minutes.
- Test occurs in a computer lab(s) and not in courses
- The campus
  - Identifies an appropriate representative sample of students.
  - Recruits the students (materials including recruitment suggestions will be provided by CAE)
  - Proctors the CLA in a computer lab with Internet access (no special software is needed)
  - Provides CAE with data including SAT or ACT scores

Benefits of CLA

1. Addresses workload and implementation issues inherent in the current rubric-based system by reducing or eliminating issues or problems related to:
   a) Applying CT assessment rubrics in disciplines for which they are poor fits,
   b) Separating juniors and seniors from freshmen and sophomores in 200-level GenEd classes (for assessment purposes)
   c) Having second readers cross-check assessment validity
   d) Workload and validity issues occasioned by departments having far more upper division GenEd courses (and thus potentially far more CT evaluations) than others
   e) Significant amounts of faculty resources being spent on assessing CT rather than teaching CT (approximately eighty faculty members and over one hundred sections of upper-level GenEd courses could be involved with CT assessment under our current model)
   f) No need to involve adjuncts

2. Quality of information from CLA:
   a) Is inherently value added
   b) Takes into account where each student is and where they should be
   c) It tests process not content, eliminating “teaching to the test” concerns
   d) It provides meaningful results that can be used to improve learning at the institution

3. If approved by GEAR, CLA might also turn out to be an acceptable assessment for writing which would significantly reduce workload related to writing assessment.

4. Reasonable cost of $6500.00 (would be paid by SUNY System Administration if CLA is approved by GEAR for CT assessment in the years following its approval. This may not, however, apply to next year).

Sources

- Collegiate Learning Assessment (CLA) website http://www.cae.org/content/pro_collegiate.htm
Other institutions that are using CLA (n=210)

Hannibal-LaGrange College MO
Heritage University WA
Hiram College OH
Houghton College NY
Howard Community College MD
Humboldt State University CA
Illinois College IL
Indiana University of Pennsylvania PA
Indiana Wesleyan University IN
Jackson State University LA
Johnson C. Smith University NC
Kalamazoo College MI
Kentucky State University KY
Lewis & Clark College OR
Louisiana State University LA
Loyola University of Chicago IL
Loyola University, New Orleans LA
Lynchburg College VA
Macon State College GA
Marist College NY
Mary Baldwin College VA
Maryland College of Art & Design MD
Marywood University PA
Metropolitan State University MN
Millersville University of Pennsylvania PA
Missouri Southern State University - Joplin MO
Missouri State University-West Plains MO
Missouri Western State University MO
Monmouth University NJ
Morehead State University KY
Mount Saint Mary College NY
Nicholls State University LA
Norfolk State University VA
North Carolina A&T State University NC
North Carolina Central University NC
North Carolina State University NC
North Dakota State University ND
North Park University IL
Northern Arizona University AZ
Ohio Northern University OH
Oklahoma State University OK
Our Lady of the Lake University TX
Pace University NY
Pacific University OR
Peace College NC
Pepperdine University CA
Presbyterian College SC
Rhode Island College RI
Rhodes College TN
Richard Stockton College of New Jersey NJ
Robbins College FL
Saint Louis University in Madrid ES
Saint Olaf College MN
Saint Xavier University IL
San Diego State University CA
San Francisco State University CA
San Jose State University CA
Seton Hill University PA
Shepherd University WV
Slippery Rock University PA
Somona State University CA
Southern Virginia University VA
Southwestern University TX
Spelman College GA
St. Cloud State University MN
Stonehill College MA
Syracuse University NY
Tarleton State University TX
Texas A&M International University TX
Texas Lutheran University TX
Texas Tech University TX
The College of New Jersey NJ
The College of New Rochelle NY
The College of St. Scholastica MN
The George Washington University DC
The Metropolitan Community Colleges MO
The Ohio State University OH
The University of Nebraska at Omaha NE
Toccoa Falls College GA
Towson University MD
Truman State University MO
University of Alabama AL
University of Arkansas - Fort Smith AR
University of California, Riverside CA
University of Central Florida FL
University of Charleston WV
University of Evansville IN
University of Findlay OH
University of Great Falls MT
University of Kentucky KY
University of Missouri-St. Louis MO
University of North Carolina at Chapel Hill NC
University of North Carolina at Charlotte NC
University of North Carolina at Greensboro NC
University of North Carolina at Pembroke NC
University of North Carolina at Wilmington NC
University of North Texas TX
University of Pittsburgh PA
University of Saint Thomas TX
University of San Diego CA
University of South Alabama AL
University of St. Thomas MN
University of Texas - Pan American TX
University of Texas at Arlington TX
University of Texas at Austin TX
University of Texas at Brownsville TX
University of Texas at Dallas TX
University of Texas at El Paso TX
University of Texas at San Antonio TX
University of Texas at Tyler TX
University of the Permian Basin TX
University of the Pacific CA
University of the Virgin Islands VI
University of Virginia’s College at Wise VA
University of Wisconsin - La Crosse WI
University of Wyoming WY
Upper Iowa University IA
Ursinus College PA
Ursuline College OH
Wagner College NY
Walsworth College MI
Wartburg College IA
Washington & Jefferson College PA
Washington & Lee University VA
Webber State University UT
Wellesley College MA
West Liberty State College WV
West Virginia Institute of Technology WV
West Virginia University WV
Western Carolina University NC
Western Michigan University MI
Western State College CO
Western State Colorado University CO
Wofford College SC