

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
- Klein, Benjamin, Shavelson, Bolus. White Paper: The Collegiate Learning Assessment: Facts and Fantasies. 2007 <http://www.cae.org/content/pdf/CLA.Facts.n.Fantasies.pdf>

Other institutions that are using CLA (n=210)

Alaska Pacific University AK	Hannibal LaGrange College MO	The College of New Jersey NJ
Albertson College of Idaho ID	Heritage University WA	The College of New Rochelle NY
Allegheny College PA	Hiram College OH	The College of St. Scholastica MN
Appalachian State University NC	Houghton College NY	The George Washington University DC
Arkansas State University AR	Howard Community College MD	The Metropolitan Community Colleges MO
Auburn University AL	Humboldt State University CA	The Ohio State University OH
Auburn University Montgomery AL	Illinois College IL	The University of Nebraska at Omaha NE
Aurora University IL	Indiana University of Pennsylvania PA	Toccoa Falls College GA
Austin College TX	Indiana Wesleyan University IN	Towson University MD
Averett University VA	Jackson State University LA	Truman State University MO
Barton College NC	Juniata College PA	University of Alabama AL
Belmont University TN	Kalamazoo College MI	University of Arkansas - Fort Smith AR
Bethel University MN	Kentucky State University KY	University of California, Riverside CA
Bloomfield College NJ	Lewis & Clark College OR	University of Central Florida FL
Bluefield State College WV	Louisiana State University LA	University of Charleston WV
Bob Jones University SC	Loyola University of Chicago IL	University of Evansville IN
Bowling Green State University OH	Loyola University, New Orleans LA	University of Findlay IN
Cabrini College PA	Lynchburg College VA	University of Great Falls MT
California Baptist University CA	Macalester College MN	University of Kentucky KY
California Maritime Academy CA	Marian College of Fond du Lac WI	University of Missouri-St. Louis MO
California Polytechnic State University, Pomona CA	Marshall University WV	University of North Carolina at Asheville NC
California Polytechnic State University, San Luis Obispo CA	Marywood University PA	University of North Carolina at Chapel Hill NC
California State University, Bakersfield CA	Metropolitan State University MN	University of North Carolina at Charlotte NC
California State University, Channel Islands CA	Millersville University of Pennsylvania PA	University of North Carolina at Greensboro NC
California State University, Chico CA	Missouri Southern State University - Joplin MO	University of North Carolina at Pembroke NC
California State University, Dominguez Hills CA	Missouri State University-West Plains MO	University of North Carolina at Wilmington NC
California State University, East Bay CA	Missouri Western State University MO	University of North Texas TX
California State University, Fresno CA	Monmouth University NJ	University of Pittsburgh PA
California State University, Fullerton CA	Morehead State University KY	University of Saint Thomas TX
California State University, Long Beach CA	Mount Saint Mary College NY	University of San Diego CA
California State University, Los Angeles CA	Nicholls State University LA	University of South Alabama AL
California State University, Monterey Bay CA	Norfolk State University VA	University of St. Thomas MN
California State University, Northridge CA	North Carolina A&T State University NC	University of Texas - Pan American TX
California State University, Sacramento CA	North Carolina Central University NC	University of Texas at Arlington TX
California State University, San Bernardino CA	North Carolina State University NC	University of Texas at Austin TX
California State University, San Marcos CA	North Dakota State University ND	University of Texas at Brownsville TX
California State University, Stanislaus CA	North Park University IL	University of Texas at Dallas TX
Capital University OH	Northern Arizona University AZ	University of Texas at El Paso TX
Carleton College MN	Ohio Northern University OH	University of Texas at San Antonio TX
Cecil Community College MD	Oklahoma State University OK	University of Texas at Tyler TX
Centenary College NJ	Our Lady of the Lake University TX	University of Texas of the Permian Basin TX
Central Connecticut State University CT	Pace University NY	University of the Pacific CA
Central Michigan University MI	Pacific University OR	University of the Virgin Islands VI
Champlain College VT	Peace College NC	University of Virginia's College at Wise VA
Charleston Southern University SC	Pepperdine University CA	University of Wisconsin La Crosse WI
Clemson University SC	Presbyterian College SC	University of Wyoming WY
Cleveland State University OH	Rhode Island College RI	Upper Iowa University IA
College of Saint Benedict/Saint John's University MN	Rhodes College TN	Ursinus College PA
Collin County Community College District TX	Richard Stockton College of New Jersey NJ	Ursuline College OH
Colorado College CO	Rollins College FL	Wagner College NY
Colorado Mountain College CO	Saint Louis University in Madrid ES	Walsh College MI
Colorado State University CO	Saint Olaf College MN	Warner Southern College FL
Concord University WV	Saint Xavier University IL	Wartburg College IA
CUNY City College NY	San Diego State University CA	Washburn University KS
CUNY Herbert H. Lehman College NY	San Francisco State University CA	Washington & Jefferson College PA
Delaware State University DE	San Jose State University CA	Washington & Lee University VA
Dominican University of California CA	Seton Hill University PA	Weber State University UT
East Carolina University NC	Shepherd University WV	Wesley College DE
Eckerd College FL	Slippery Rock University PA	West Liberty State College WV
Elizabeth City State University NC	Sonoma State University CA	West Virginia State University WV
Emory & Henry College VA	Southern Virginia University VA	West Virginia University WV
Endicott College MA	Southwestern University TX	West Virginia University Institute of Technology WV
Fairmont State University WV	Spelman College GA	Western Carolina University NC
Fayetteville State University NC	St. Cloud State University MN	Westminster College MO
Florida State University FL	Stonehill College MA	Westminster College UT
Fort Hays State University KS	Syracuse University NY	Wichita State University KS
Franklin Pierce College NH	Tarleton State University TX	William Woods University MO
Furman University SC	Texas A&M International University TX	Winston-Salem State University NC
Glennville State College WV	Texas Lutheran University TX	Winthrop University SC
Grand Valley State University MI	Texas Tech University TX	Wofford College SC