2009-2010 CLA INSTITUTIONAL REPORT

Indiana University of Pennsylvania

Your 2009-2010 Results consist of two components:

- CLA Institutional Report and Appendices
- CLA Student Data File

Report

The report introduces readers to the CLA and its methodology (including an enhanced value-added equation), presents your results, and offers guidance on interpretation and next steps.

Appendices

Appendices offer more detail on CLA tasks, scoring and scaling, value-added equations, and the Student Data File.

Student Data File

Your Student Data File was distributed separately as a password-protected Excel file. Your Student Data File may be used to link with other data sources and to generate hypotheses for additional research.

The Collegiate Learning Assessment (CLA) offers an authentic approach to assessment and improvement of teaching and learning in higher education. Over 500 institutions and 200,000 students have participated to date. Growing commitment on the part of higher education to assess student learning makes this a good time to review the distinguishing features of the CLA and how it connects to improving teaching and learning on your campus.

The CLA is intended primarily to assist faculty, department chairs, school administrators and others interested in programmatic change to improve teaching and learning, particularly with respect to strengthening higher order skills.

The CLA helps campuses follow a continuous improvement model that positions faculty as central actors. CLA Education empowers faculty by focusing on curriculum and pedagogy and the link between assessment and teaching and learning.

The continuous improvement model also requires multiple assessment indicators beyond the CLA because no single test can serve as the benchmark for all student learning in higher education.

This, however, does not mean certain skills judged to be important by most faculty and administrators across virtually all institutions cannot be measured; indeed, the higher order skills the CLA focuses on fall into this measurable category.

The CLA presents realistic problems that require students to analyze complex materials. Several different types of materials are used that vary in relevance to the task, credibility, and other characteristics. Students' written responses to the task are graded to assess their abilities to think critically, reason analytically, solve problems, and communicate clearly and cogently.

The institution—not the student—is the initial primary unit of analysis. The CLA is designed to measure an institution's contribution, or value added, to the development of these competencies, including the effects of changes to curriculum and pedagogy.

The CLA uses detailed scoring guides to accurately and reliably evaluate student responses. It also encourages institutions to compare their student learning results on the CLA with learning at other institutions and on other assessments.

The signaling quality of the CLA is important because institutions need to benchmark (have a frame of reference for) where they stand and how much progress their students have made relative to the progress of students at other colleges. Otherwise, how do institutions know how well they are doing?

Yet, the CLA is not about ranking institutions. Rather, it is about highlighting differences between them that can lead to improvements in teaching and learning.

While the CLA is indeed an assessment instrument, it is deliberately designed to contribute directly to the improvement of teaching and learning. In this respect it is in a league of its own.

The CLA uses constructed-response tasks and value-added methodology to measure your students' performance in higher-order skills: critical thinking, analytic reasoning, problem solving, and written communication.

Starting with the 2009–2010 CLA administration, your institutional results reflect an enhancement in the CLA value-added methodology. Institutional value added is no longer estimated as the difference between freshman and senior deviation scores through an ordinary least squares (OLS) regression model. Rather, it is estimated through a statistical technique known as hierarchical linear modeling (HLM), which accounts for CLA score variation within and between schools.

Under the enhanced model, a school's value-added score indicates the degree to which the observed senior mean CLA score meets, exceeds, or falls below expectations established by (1) seniors' Entering Academic Ability (EAA) scores* and (2) the mean CLA performance of freshmen at that school, which serves as a control for selection effects not covered by EAA. Only students with EAA scores were included in institutional analyses.

* SAT Math + Verbal, ACT Composite, or Scholastic Level Exam (SLE) scores on the SAT scale. Hereinafter referred to as Entering Academic Ability (EAA).

While this approach does not depend on mean differences between freshmen and seniors like the original CLA approach, it still works as a value-added model because, for example, if the seniors at a particular school performed higher than expected on the CLA, one may infer that greater growth has occurred at that school than at the typical school enrolling students with similar pre-college ability.

Value-added scores are placed on a standardized (z-score) scale and assigned performance levels. Schools that fall between -1.00 and +1.00 are classified as "near expected," between +1.00 and +2.00 are "above expected," between -1.00 and -2.00 are "below expected," above +2.00 are "well above expected," and below -2.00 are "well below expected."

Value-added scores produced by the old and new approaches are highly correlated and would be essentially identical if large samples of students were assessed at all schools. Analyses reveal that the enhanced approach produces value-added scores that are slightly more reliable and have substantially greater consistency across test administrations than those generated by the original approach (without increasing sample size). Appendix G provides additional details on the derivation and interpretation of the value-added results.

Value-added estimates are also accompanied by confidence intervals, which provide information on the precision of the estimates; narrow confidence intervals indicate that the estimate is more precise, while wider intervals indicate less precision.

In addition, CLA results no longer separately report “unadjusted” and “adjusted” comparisons for each class, because the adjustment came from an OLS regression equation that is no longer used. In a sense, the new value-added estimates correspond to the old “adjusted” estimates, since they take into account freshman CLA performance and Entering Academic Ability (EAA). We also provide “unadjusted” performance information for both seniors and freshmen, including means (averages), standard deviations (a measure of the variation in the sample), and percentile ranks (the percentage of schools that had lower performance than yours).

Our analyses include results from all institutions, regardless of sample size and sampling strategy. Therefore, we encourage you to apply due caution when interpreting your results if you tested a very small sample of students or believe that the students in your institution’s sample are not representative of the larger student body.

Moving forward, we will continue to employ methodological advances to maximize the precision of our value-added estimates. We will also continue developing ways to augment the value of CLA results for the improvement of teaching and learning.

3.1 Value-Added and Precision Estimates

	Performance Level	Value-Added Score	Value-Added Percentile Rank	Confidence Interval Lower Bound	Confidence Interval Upper Bound
Total CLA Score	Near	-0.04	48	-0.74	0.66
Performance Task	Near	0.17	52	-0.62	0.96
Analytic Writing Task	Near	-0.21	39	-0.98	0.56
Make-an-Argument	Near	0.38	61	-0.44	1.2
Critique-an-Argument	Near	-0.72	24	-1.55	0.11

3.2 Seniors: Unadjusted Performance

	Number of Seniors	Mean Score	Mean Score Percentile Rank	25th Percentile Score	75th Percentile Score	Standard Deviation
Total CLA Score	80	1181	42	1046	1283	156
Performance Task	40	1160	50	1019	1275	163
Analytic Writing Task	40	1203	40	1075	1324	147
Make-an-Argument	40	1223	51	1064	1353	158
Critique-an-Argument	40	1182	31	1043	1288	178
EAA	80	1024	35	895	1160	174

3.3 Freshmen: Unadjusted Performance

	Number of Freshmen	Mean Score	Mean Score Percentile Rank	25th Percentile Score	75th Percentile Score	Standard Deviation
Total CLA Score	83	1120	63	1011	1226	162
Performance Task	40	1095	63	986	1204	179
Analytic Writing Task	43	1143	60	1046	1252	143
Make-an-Argument	43	1151	60	1022	1243	155
Critique-an-Argument	43	1134	61	979	1257	187
EAA	83	1044	52	940	1130	135

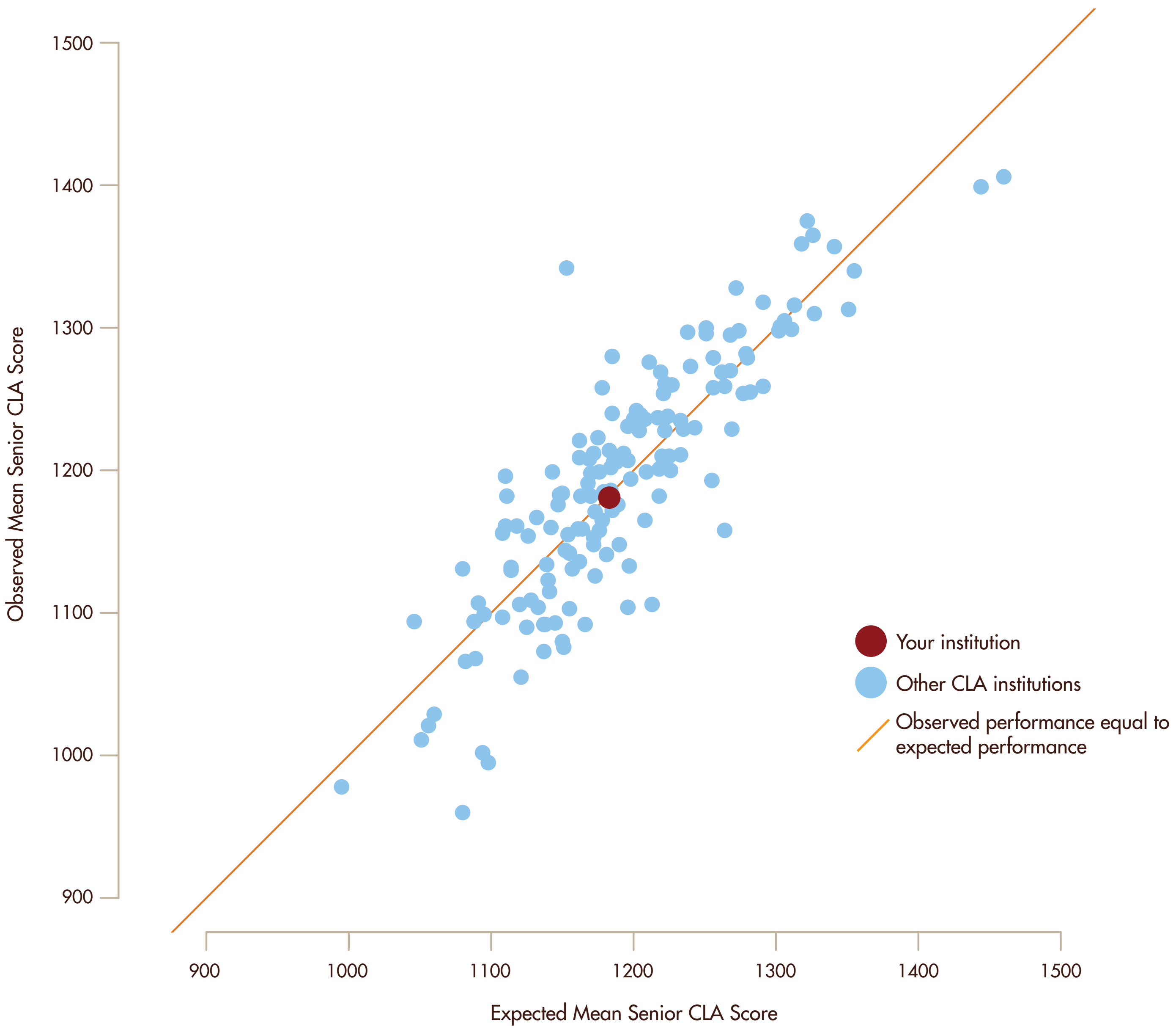
3.4 Student Sample Summary

	Number of Freshmen	Number of Seniors	Freshman Percentage	Senior Percentage	Percentage Difference
Transfer					
Transfer Students	0	0	0	0	0
Non-Transfer Students	83	80	100	100	0
Gender					
Male	21	17	25	21	-4
Female	62	63	75	79	4
Decline to State	0	0	0	0	0
Primary Language					
English Primary Language	82	73	99	91	-8
Other Primary Language	1	7	1	9	8
Field of Study					
Sciences and Engineering	8	10	10	13	3
Social Sciences	7	14	8	18	10
Humanities and Languages	12	10	14	13	-1
Business	13	11	16	14	-2
Helping / Services	27	26	33	33	0
Undecided / Other / N/A	16	9	19	11	-8
Race / Ethnicity					
American Indian / Alaska Native	0	0	0	0	0
Asian / Pacific Islander	0	1	0	1	1
Black, Non-Hispanic	7	9	8	11	3
Hispanic	1	7	1	9	8
White, Non-Hispanic	73	58	88	73	-15
Other	1	3	1	4	3
Decline to State	1	2	1	3	2
Parent Education					
Less than High School	2	1	2	1	-1
High School	23	17	28	21	-7
Some College	18	23	22	29	7
Bachelor's Degree	34	19	41	24	-17
Graduate or Professional Degree	6	20	7	25	18

Performance Compared to Other Institutions

Figure 3.5 shows the performance of all four-year colleges and universities, relative to their expected performance as predicted by the value-added model. The vertical distance from the diagonal line indicates the value added by the institution; institutions falling above the diagonal line are those that add more value than expected based on the model. Your institution is highlighted in red. See Appendix G for details on how the CLA total score value-added estimates displyed in this figure were computed.

3.5 Observed CLA Scores vs. Expected CLA Scores



Performance Distributions

Tables 4.1 and 4.2 show the distribution of performance on the CLA across participating institutions. Note that the unit of analysis in both tables is schools, not students. Figure 4.3 shows various comparisons of different groups of institutions. Depending on which factors you consider to define your institution's peers, these comparisons may show you how your institution's value added compares to those of institutions similar to yours.

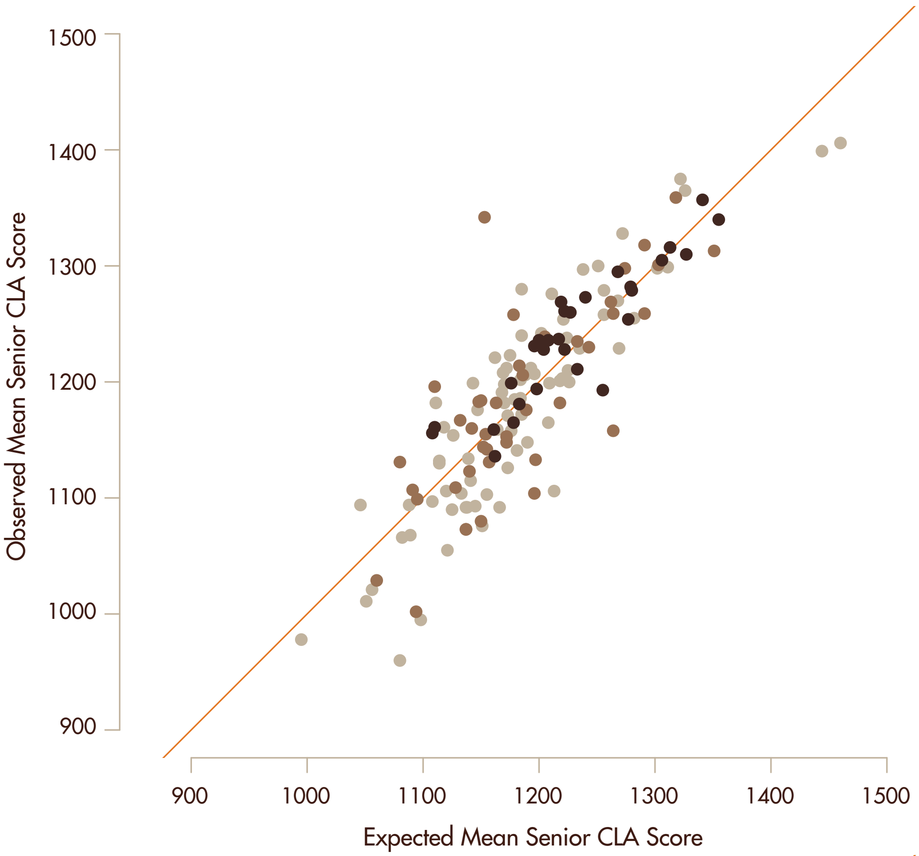
4.1 Seniors

	Number of Schools	Mean Score	25th Percentile Score	75th Percentile Score	Standard Deviation
Total CLA Score	159	1191	1133	1255	90
Performance Task	159	1156	1113	1204	89
Analytic Writing Task	159	1226	1155	1287	95
Make-an-Argument	159	1215	1155	1280	97
Critique-an-Argument	159	1235	1164	1302	97
EAA	159	1071	994	1130	107

4.2 Freshmen

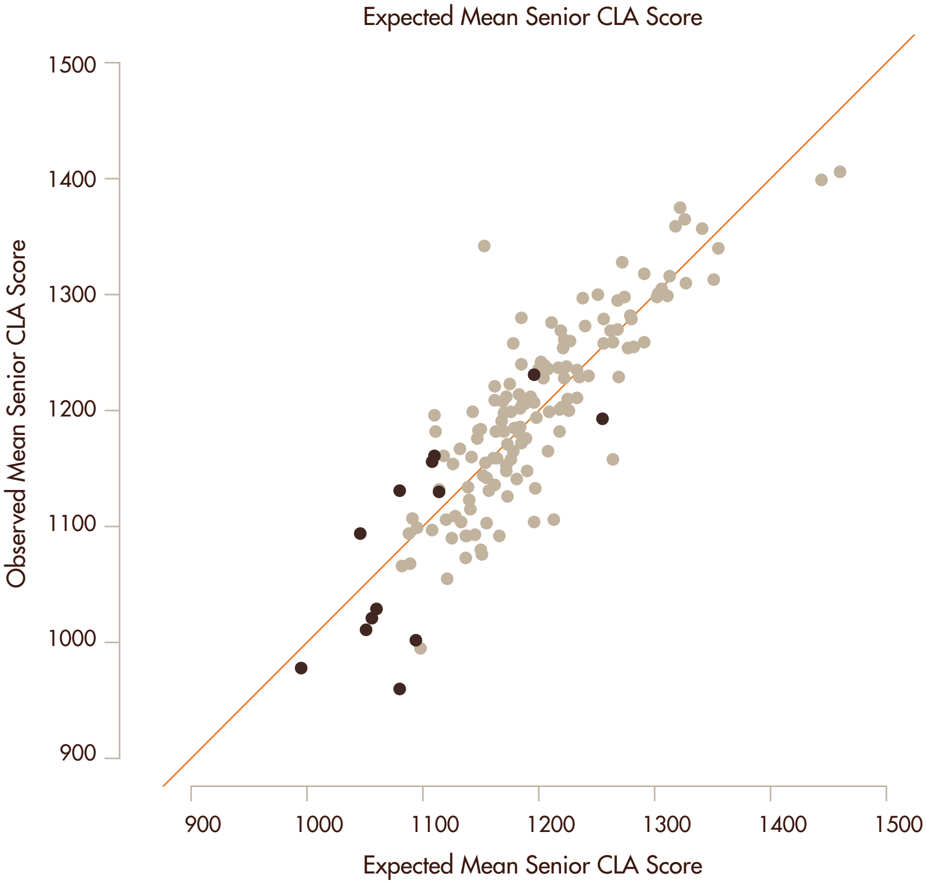
	Number of Schools	Mean Score	25th Percentile Score	75th Percentile Score	Standard Deviation
Total CLA Score	153	1092	1033	1156	93
Performance Task	153	1070	1010	1128	89
Analytic Writing Task	153	1115	1049	1183	101
Make-an-Argument	153	1118	1056	1194	108
Critique-an-Argument	153	1111	1040	1177	97
EAA	153	1054	979	1124	115

4.3 Peer Group Comparisons



Insitution Size
(Number of FTE undergraduates)

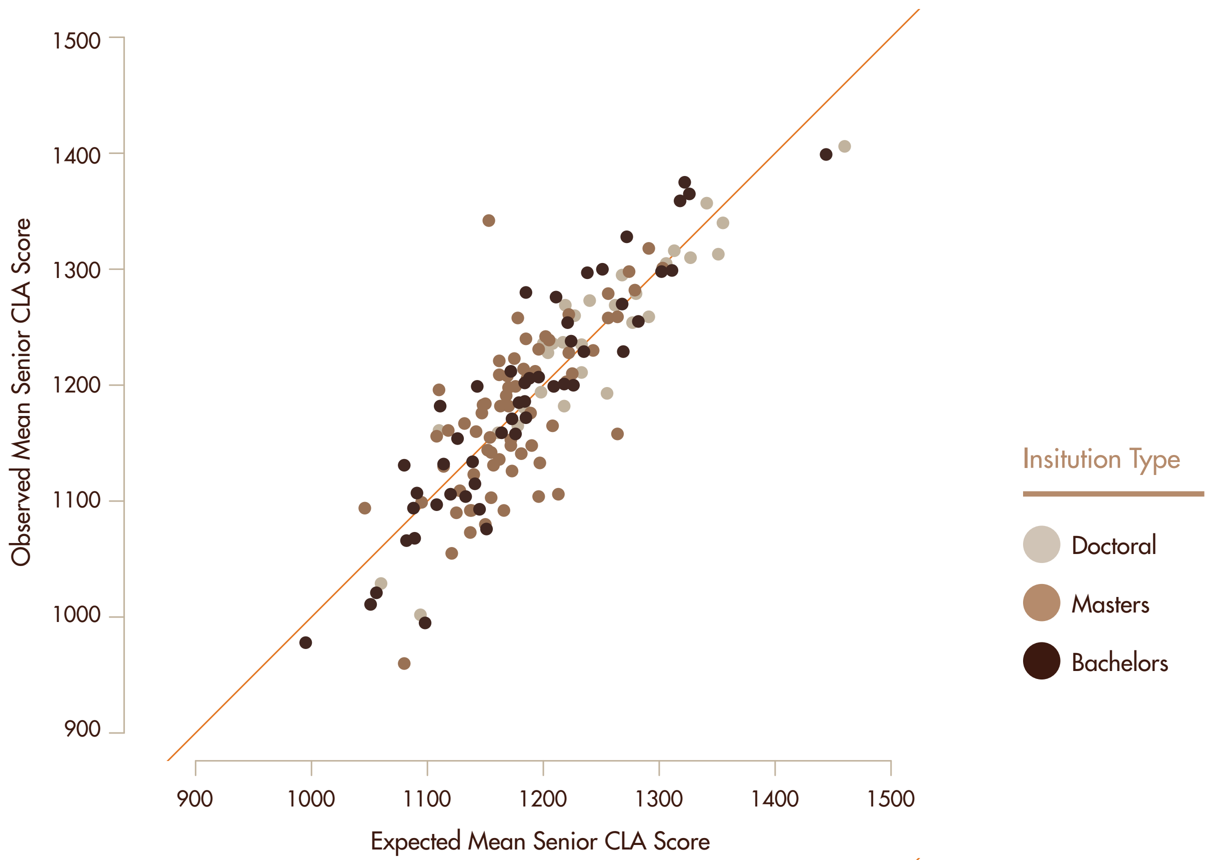
- Small (up to 3,000)
- Midsized (3,001-10,000)
- Large (10,001 or more)

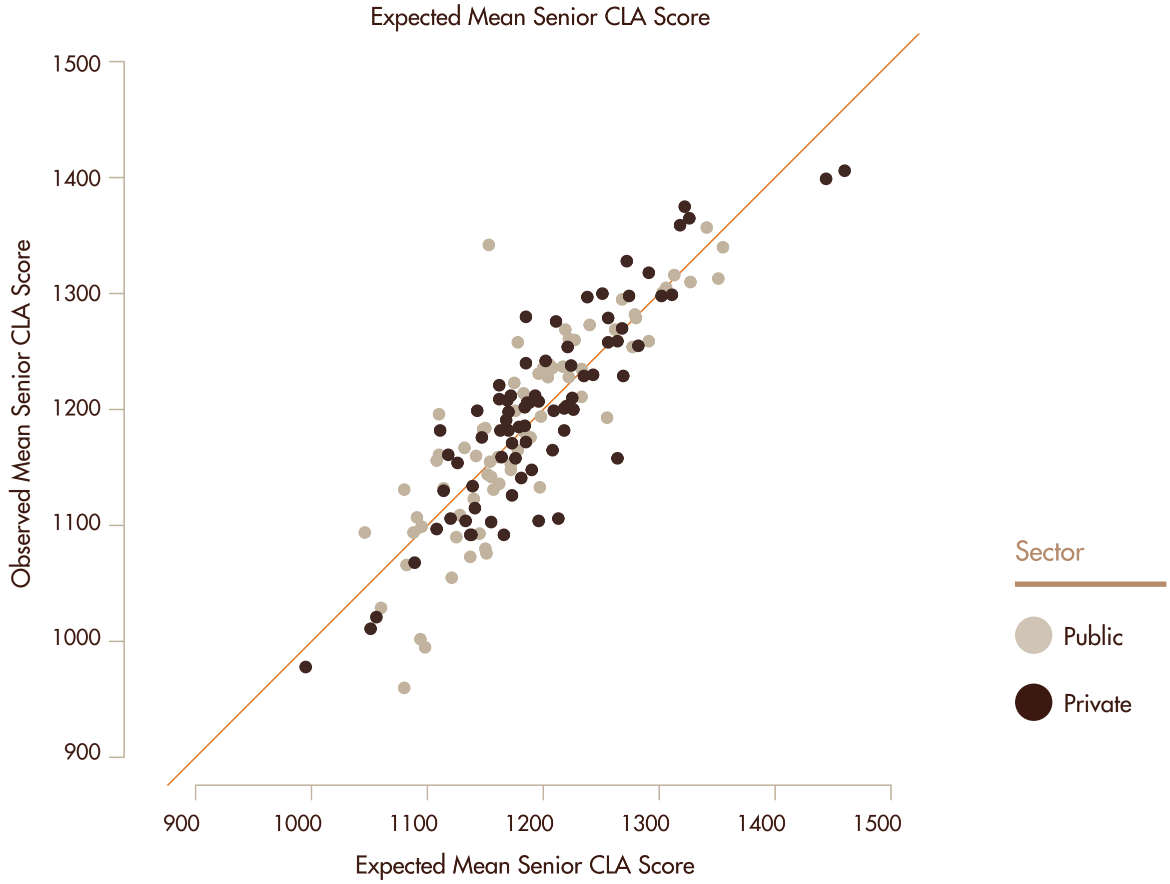


Minority-Serving Institutions

- Non-minority-serving institutions
- Minority-serving institutions

4.3 Peer Group Comparisons (continued)





Sample Representativeness

CLA-participating students appeared to be generally representative of their classmates with respect to entering ability levels as measured by Entering Academic Ability (EAA) scores.

Specifically, across institutions, the average EAA score of CLA seniors (as verified by the registrar) was only 11 points higher than that of the entire senior class*: 1071 versus 1060 (n = 155 institutions). Further, the correlation between the average EAA score of CLA seniors and their classmates was extremely high (r = .94, n = 155 institutions).

The pattern for freshmen was similar. The average EAA score of CLA freshmen was only 4 points higher than that of the entire freshman class (1050 versus 1046, over n = 153 institutions), and the correlation between the average EAA score of CLA freshmen and their classmates was similarly high (r = .90, n = 153 institutions).

These data suggest that as a group, CLA participants were similar to all students at participating schools. This correspondence increases confidence in the inferences that can be made from the results with the samples of students that were tested at a school to all the students at that institution.

* As reported by 155 school registrars.

Carnegie Classification

Table 5.1 shows CLA schools grouped by Basic Carnegie Classification. The spread of schools corresponds fairly well with that of the 1,713 four-year institutions across the nation.

Table 5.1 counts exclude some institutions that do not fall into these categories, such as Special Focus Institutions and institutions based outside of the United States.

5.1 Carnegie Classification of Institutional Sample

	Nation (n = 1,713)		CLA (n = 148)	
Carnegie Classification	Number	Percentage	Number	Percentage
Doctorate-granting Universities	283	17	30	20
Master's Colleges and Universities	663	39	68	46
Baccalaureate Colleges	767	45	50	34

Source: Carnegie Foundation for the Advancement of Teaching, Carnegie Classifications Data File, February 11, 2010.

School Characteristics

Table 5.2 provides comparative statistics on some important characteristics of colleges and universities across the nation with those of the CLA schools, and suggests that these CLA schools are fairly representative of four-year, not-for-profit institutions nationally. Percentage public is one exception.

5.2 School Characteristics of Institutional Sample

School Characteristic	Nation	CLA
Percentage public	33	49
Percentage Historically Black College or University (HBCU)	5	5
Mean percentage of undergraduates receiving Pell grants	35	32
Mean six-year graduation rate	52	53
Mean Barron's selectivity rating	3.6	3.2
Mean estimated median SAT score	1061	1052
Mean number of FTE undergraduate students (rounded)	3,849	5,985
Mean student-related expenditures per FTE student (rounded)	$12,165	$11,699

Source: College Results Online dataset, managed by and obtained with permission from the Education Trust, covers most 4-year Title IV-eligible higher-education institutions in the United States. Data were constructed from IPEDS and other sources. Because all schools did not report on every measure in the table, the averages and percentages may be based on slightly different denominators.

School List

The institutions listed here in alphabetical order agreed to be identified as participating schools and may or may not have been included in comparative analyses.

CLA Schools

Alaska Pacific University
Allegheny College
Amherst College
Arizona State University
Ashland University
Auburn University
Aurora University
Averett University
Barton College
Beloit College
Bethel University
Bluefield State College
Bradley University
Cabrini College
California Baptist University
California State University, Fresno
Carlow University
Cedar Crest College
Central Connecticut State University
Champlain College
Claflin University
Clarke University
College of Notre Dame of Maryland
College of Saint Benedict / St. John's University
Colorado State University
Concord University
Concordia College
Coppin State University
Dillard University
Dominican University
Dominican University of California
Drake University
Eastern Connecticut State University
Eastern Illinois University
Eckerd College
Emory & Henry College
Emporia State University
Eureka College
Fairmont State University
Fayetteville State University
Florida State University
Fort Hays State University
Franklin Pierce University
Frostburg State University
Glenville State College
Grand Canyon University
Greenville College
Hardin-Simmons University
Hastings College
Hilbert College
Illinois College
Indiana University Kokomo
Indiana University of Pennsylvania
Indiana Wesleyan University
Jackson State University
Jacksonville State University
Jamestown College
Juniata College
Keene State College
Kent State University
LaGrange College
Lane College
Loyola University New Orleans
Lynchburg College
Lynn University
Marian University
Marshall University
Marywood University
Mayville State University
Minot State University
Misericordia University
Mississippi University for Women
Morgan State University
Morningside College
Mount Saint Mary College
Nebraska Wesleyan University
North Park University
Nyack College
Ouachita Baptist University
Pacific Lutheran University
Peace College
Pittsburg State University
Presbyterian College
Randolph Macon College
Rice University
Richard Stockton College of New Jersey
Ripon College
Robert Morris University
Saginaw Valley State University
Saint Anselm College
Seton Hill University
Slippery Rock University
Southern Connecticut State University
Southern Oregon University
Southwest Minnesota State University
Southwestern University
Springfield College
St. Olaf College
Stephens College
Stonehill College
Sul Ross State University
Tarleton State University
Texas Lutheran University
Texas Southern University
Texas State University San Marcos
Texas Tech University
The College of St. Scholastica
The Ohio State University
The University of Kansas
The University of Toledo
Towson University
Trinity Christian College
Truman State University

School List

The institutions listed here in alphabetical order agreed to be identified as participating schools and may or may not have been included in comparative analyses.

CLA Schools (continued)

University of Charleston
University of Colorado at Colorado Springs
University of Colorado, Boulder
University of Evansville
University of Findlay
University of Georgia
University of Great Falls
University of Hartford
University of Houston
University of Louisiana at Lafayette
University of Missouri - Kansas City
University of Missouri - St. Louis
University of New Mexico
University of North Dakota
University of Northern Colorado
University of Pittsburgh
University of Texas at Arlington
University of Texas at Austin
University of Texas at Dallas
University of Texas at El Paso
University of Texas at San Antonio
University of Texas at Tyler
University of Texas of the Permian Basin
University of Texas-Pan American
University of Washington Tacoma
University of West Georgia
University of Wisconsin - Milwaukee
University of Wisconsin - Oshkosh
Upper Iowa University
Ursinus College
Ursuline College
Wagner College
Weber State University
Wesley College
West Chester University
West Liberty University
West Virginia University
West Virginia University Institute of Technology
Western Kentucky University
Western Michigan University
Western Oregon University
Western Washington University
Westminster College (MO)
Westminster College (UT)
Wichita State University Fairmount College
Willamette University
William Woods University
Winston-Salem State University
Wofford College
Youngstown State University

CCLA Schools

Bellevue College
Collin College
Colorado Mountain College
Howard Community College
Missouri State University West Plains
Northern Marianas College

CWRA Schools

A&M Consolidated High School
Akins High School
Anson New Tech School
Asheville School
Aynor High School
Bayside High
Brimmer & May School
First Colonial High
Floyd Kellam High
Frank W. Cox High
Gilmour Academy
Green Run High
Heritage Hall
Herricks High School
Hillside New Tech High School
Holland Hall
Ke Kula O Samuel M Kamakau
Kempsville High
Kimball Union Academy
Landstown High
Mason High School
Metairie Park Country Day School
Mid-Pacific Institute
Moses Brown School
Nanakuli High School
Napa New Tech High School
Ocean Lakes High
Princess Anne High
Ramsey High School
Randolph-Henry High School
Riverdale Country School
Sacramento New Tech High School
Salem High School
School of IDEAS
Severn School
Socastee High School
Sonoma Academy
St. Andrew's School
St. Gregory College Prep
Tallwood High
Tech Valley High School
The Bronxville School
The Hotchkiss School
The Lawrenceville School
The Scholar's Academy
Waianae High School
Warren New Tech High School
Watershed School
Wildwood School

We encourage institutions to examine performance across CLA tasks and communicate results across campus, link student-level CLA results with other data sources, pursue in-depth sampling, stay informed through the CLA Spotlight series, and participate in CLA Education offerings.

Student-level CLA results are provided for you to link to other data sources (e.g., course-taking patterns, grades, portfolios, student satisfaction and engagement, major-specific tests, etc.).

These internal analyses can help you generate hypotheses for additional research, which you can pursue through CLA in-depth sampling in experimental areas (e.g., programs or colleges within your campus) in subsequent years or simultaneously.

We welcome and encourage your participation in the CLA Spotlight—a series of free informational web conferences. Each CLA Spotlight features campuses doing promising work using the CLA, guest-speakers from the larger world of assessment, and/or CLA staff members who provide updates or insights to CLA-related programs and projects.

CLA Education focuses on curriculum and pedagogy, and embraces the crucial role that faculty play in the process of assessment.

The flagship program of CLA Education is the Performance Task Academy, which shifts the focus from general assessment to the course-level work of faculty. The Performance Task Academy provides an opportunity for faculty members to learn to diagnose their individual students' work and to receive guidance in creating their own performance tasks, which are designed to supplement the educational reform movement toward a case and problem approach in learning and teaching.

A CLA Education website also has been created to serve as a library for performance tasks developed by faculty. For more information, visit www.claintheclassroom.org, or contact Director of CLA Education, Dr. Marc Chun at mchun@cae.org.

Through the steps noted above we encourage institutions to move toward a continuous system of improvement in teaching and learning stimulated by the CLA. Without your contributions, the CLA would not be on the exciting path that it is today. We look forward to your continued involvement!

Introduction

The CLA consists of three types of prompts within two types of task: the Performance Task and the Analytic Writing Task. Most students take one task or the other. The Analytic Writing Task includes a pair of prompts called Make-an-Argument and Critique-an-Argument.

The CLA uses direct measures of skills in which students perform cognitively demanding tasks. All CLA measures are administered online and contain open-ended prompts that require constructed responses. There are no multiple-choice questions.

The CLA tasks require that students integrate critical thinking, analytic reasoning, problem solving, and written communication skills. The holistic integration of these skills on the CLA tasks mirrors the requirements of serious thinking and writing tasks faced in life outside of the classroom.

Performance Task

Each Performance Task requires students to use an integrated set of critical thinking, analytic reasoning, problem solving, and written communication skills to answer several open-ended questions about a hypothetical but realistic situation. In addition to directions and questions, each Performance Task also has its own document library that includes a range of information sources, such as letters, memos, summaries of research reports, newspaper articles, maps, photographs, diagrams, tables, charts, and interview notes or transcripts. Students are instructed to use these materials in preparing their answers to the Performance Task's questions within the allotted 90 minutes.

The first portion of each Performance Task contains general instructions and introductory material. The student is then presented with a split screen. On the right side of the screen is a list of the materials in the Document Library. The student selects a particular document to view by using a pull-down menu. On the left side of the screen are a question and a response box. There is no limit on how much a student can type. Upon completing a question, students then select the next question in the queue.

No two Performance Tasks assess the exact same combination of skills. Some ask students to identify and then compare and contrast the strengths and limitations of alternative hypotheses, points of view, courses of action, etc. To perform these and other tasks, students may have to weigh different types of evidence, evaluate the credibility of various documents, spot possible bias, and identify questionable or critical assumptions.

Performance Tasks may also ask students to suggest or select a course of action to resolve conflicting or competing strategies and then provide a rationale for that decision, including why it is likely to be better than one or more other approaches. For example, students may be asked to anticipate potential difficulties or hazards that are associated with different ways of dealing with a problem, including the likely short- and long-term consequences and implications of these strategies. Students may then be asked to suggest and defend one or more of these approaches. Alternatively, students may be asked to review a collection of materials or a set of options, analyze and organize them on multiple dimensions, and then defend that organization.

Performance Tasks often require students to marshal evidence from different sources; distinguish rational arguments from emotional ones and fact from opinion; understand data in tables and figures; deal with inadequate, ambiguous, and/or conflicting information; spot deception and holes in the arguments made by others; recognize information that is and is not relevant to the task at hand; identify additional information that would help to resolve issues; and weigh, organize, and synthesize information from several sources.

Analytic Writing Task

Students write answers to two types of essay prompts: a Make-an-Argument question that asks them to support or reject a position on some issue; and a Critique-an-Argument question that asks them to evaluate the validity of an argument made by someone else. Both of these tasks measure a student's skill in articulating complex ideas, examining claims and evidence, supporting ideas with relevant reasons and examples, sustaining a coherent discussion, and using standard written English.

Make-an-Argument

A Make-an-Argument prompt typically presents an opinion on some issue and asks students to write, in 45 minutes, a persuasive analytic essay to support a position on the issue. Key elements include: establishing a thesis or a position on an issue; maintaining the thesis throughout the essay; supporting the thesis with relevant and persuasive examples (e.g., from personal experience, history, art, literature, pop culture, or current events); anticipating and countering opposing arguments to the position, fully developing ideas, examples, and arguments; crafting an overall response that generates interest, provokes thought, and persuades the reader; organizing the structure of the essay (e.g., paragraphing, ordering of ideas and sentences within paragraphs); employing transitions and varied sentence structure to maintain the flow of the argument; and utilizing sophisticated grammar and vocabulary.

Critique-an-Argument

A Critique-an-Argument prompt asks students, in 30 minutes, to critique an argument by discussing how well reasoned they find it to be (rather than simply agreeing or disagreeing with the position presented). Key elements of the essay include: identifying a variety of logical flaws or fallacies in a specific argument; explaining how or why the logical flaws affect the conclusions in that argument; and presenting a critique in a written response that is a grammatically correct, organized, well-developed, logically sound, and neutral in tone.

Example Performance Task

You advise Pat Williams, the president of DynaTech, a company that makes precision electronic instruments and navigational equipment. Sally Evans, a member of DynaTech's sales force, recommended that DynaTech buy a small private plane (a SwiftAir 235) that she and other members of the sales force could use to visit customers. Pat was about to approve the purchase when there was an accident involving a SwiftAir 235. Your document library contains the following materials:

Example Document Library

- Newspaper article about the accident
- Federal Accident Report on in-flight breakups in single-engine planes
- Internal Correspondence (Pat's e-mail to you and Sally's e-mail to Pat)
- Charts relating to SwiftAir's performance characteristics
- Excerpt from magazine article comparing SwiftAir 235 to similar planes
- Pictures and descriptions of SwiftAir Models 180 and 235

Example Questions

- Do the available data tend to support or refute the claim that the type of wing on the SwiftAir 235 leads to more in-flight breakups?
- What is the basis for your conclusion?
- What other factors might have contributed to the accident and should be taken into account?
- What is your preliminary recommendation about whether or not DynaTech should buy the plane and what is the basis for this recommendation?

Example Make-an-Argument

There is no such thing as "truth" in the media. The one true thing about the information media is that it exists only to entertain.

Example Critique-an-Argument

A well-respected professional journal with a readership that includes elementary school principals recently published the results of a two-year study on childhood obesity. (Obese individuals are usually considered to be those who are 20 percent above their recommended weight for height and age.) This study sampled 50 schoolchildren, ages 5-11, from Smith Elementary School. A fast food restaurant opened near the school just before the study began. After two years, students who remained in the sample group were more likely to be overweight—relative to the national average. Based on this study, the principal of Jones Elementary School decided to confront her school's obesity problem by opposing any fast food restaurant openings near her school.

CLA results operate as a signaling tool of overall institutional performance on tasks that measure higher order skills holistically. However, the three types of CLA tasks—Performance, Make-an-Argument and Critique-an-Argument—differ slightly in the combination of skills necessary to perform well.

Indeed, some schools score significantly lower on one type than on another. Examining performance across CLA task types can serve as an initial diagnostic exercise. Specifically, cases of lower performance (e.g., relative to the other task types or to incoming academic ability) on a particular task type indicate that students are not demonstrating the expected level of skill at analyzing complex, realistic scenarios; writing a persuasive, analytic essay to support a position on an issue; and/or critiquing written arguments.

Performance Task

Analyzing complex, realistic scenarios

Synthesizing information from multiple sources; recognizing conflicting evidence, weighing the credibility of different sources of evidence; identifying logical fallacies, interpreting data, tables, and figures correctly; drawing reasonable and logical inferences from the available information; developing sound conclusions based on all available evidence; and utilizing the most relevant and credible evidence available to justify their conclusion.

Make-an-Argument

Writing a persuasive, analytic essay

Establishing a thesis or a position on an issue; maintaining the thesis throughout the essay; supporting the thesis with relevant and persuasive examples (e.g., from personal experience, history, art, literature, pop culture, or current events); anticipating and countering opposing arguments to the position, fully developing ideas, examples, and arguments; crafting an overall response that generates interest, provokes thought, and persuades the reader; organizing the structure of the essay (e.g., paragraphing, ordering of ideas and sentences within paragraphs); employing transitions and varied sentence structure to maintain the flow of the argument; and utilizing sophisticated grammar and vocabulary.

Critique-an-Argument

Critiquing written arguments

Identifying a variety of logical flaws or fallacies in a specific argument; explaining how or why the logical flaws affect the conclusions in that argument; and presenting their critique in a written response that is a grammatically correct, organized, well-developed, logically sound, and neutral in tone.

Iterative Development Process

A team of researchers and writers generate ideas for Make-an-Argument and Critique-an-Argument prompts and Performance Task storylines, and then contribute to the development and revision of the prompts and Performance Task documents.

For Analytic Writing Tasks, multiple prompts are generated, revised and pre-piloted, and those prompts that elicit good critical thinking and writing responses during pre-piloting are further revised and submitted to more extensive piloting.

During the development of Performance Tasks, care is taken to ensure that sufficient information is provided to permit multiple reasonable solutions to the issues present in the Performance Task. Documents are crafted such that information is presented in multiple formats (e.g., tables, figures, news articles, editorials, letters, etc.).

While developing a Performance Task, a list of the intended content from each document is established and revised. This list is used to ensure that each piece of information is clearly reflected in the document and/or across documents, and to ensure that no additional pieces of information are embedded in the document that were not intended. This list serves as a draft starting point for the analytic scoring items used in the Performance Task scoring rubrics.

During revision, information is either added to documents or removed from documents to ensure that students could arrive at approximately three or four different conclusions based on a variety of evidence to back up each conclusion. Typically, some conclusions are designed to be supported better than others.

Questions for the Performance Task are also drafted and revised during the development of the documents. The questions are designed such that the initial questions prompt the student to read and attend to multiple sources of information in the documents, and later questions require the student to evaluate the documents and then use their analysis to draw conclusions and justify those conclusions.

After several rounds of revision, the most promising of the Performance Tasks and the Make-an-Argument and Critique-an-Argument prompts are selected for pre-piloting. Student responses from the pilot test are examined to identify what pieces of information are unintentionally ambiguous, what pieces of information in the documents should be removed, etc. After revision and additional pre-piloting, the best-functioning tasks (i.e., those that elicit the intended types and ranges of student responses) are selected for full piloting.

During piloting, students complete both an operational task and one of the new tasks. At this point, draft scoring rubrics are revised and tested in grading the pilot responses, and final revisions are made to the tasks to ensure that the task is eliciting the types of responses intended.

Introduction

This section summarizes the types of questions addressed by CLA scoring of all task types. Because each CLA task and their scoring rubrics differ, not every item listed is applicable to every task. The tasks cover different aspects of critical thinking, analytic reasoning, problem solving, and writing and in doing so can, in combination, better assess the entire domain of performance.

Assessing Critical Thinking, Analytic Reasoning and Problem Solving

Applied in combination, critical thinking, analytic reasoning and problem solving skills are required to perform well on CLA tasks. We define these skills as how well students can evaluate and analyze source information, and subsequently draw conclusions and present an argument based upon that analysis. In scoring, we specifically consider the following items to be important aspects of these skills.

(See next pages for detail.)

Assessing Writing

Analytic writing skills invariably depend on clarity of thought. Therefore, analytic writing and critical thinking, analytic reasoning, and problem solving are related skills sets. The CLA measures critical thinking performance by asking students to explain in writing their rationale for various conclusions. In doing so, their performance is dependent on both writing and critical thinking as integrated rather than separate skills. We evaluate writing performance using holistic scores that consider several aspects of writing depending on the task. The following are illustrations of the types of questions we address in scoring writing on the various tasks.

(See next pages for detail.)

Assessing Critical Thinking, Analytic Reasoning and Problem Solving

Evaluation of evidence

How well does the student assess the quality and relevance of evidence, including:

- Determining what information is or is not pertinent to the task at hand
- Distinguishing between rational claims and emotional ones, fact from opinion
- Recognizing the ways in which the evidence might be limited or compromised
- Spotting deception and holes in the arguments of others
- Considering all sources of evidence

Analysis and synthesis of evidence

How well does the student analyze and synthesize data and information, including:

- Presenting his/her own analysis of the data or information (rather than "as is")
- Committing or failing to recognize logical flaws (e.g., distinguishing correlation from causation)
- Breaking down the evidence into its component parts
- Drawing connections between discrete sources of data and information
- Attending to contradictory, inadequate or ambiguous information

Drawing conclusions

How well does the student form a conclusion from his/her analysis, including:

- Constructing cogent arguments rooted in data/information rather than speculation/opinion
- Selecting the strongest set of supporting data
- Prioritizing components of the argument
- Avoiding overstated or understated conclusions
- Identifying holes in the evidence and subsequently suggesting additional information that might resolve the issue

Acknowledging alternative explanations/viewpoints

How well does the student acknowledge additional perspectives and consider other options, including:

- Recognizing that the problem is complex with no clear answer
- Proposing other options and weighing them in the decision
- Considering all stakeholders or affected parties in suggesting a course of action
- Qualifying responses and acknowledging the need for additional information in making an absolute determination

Assessing Writing

Interest

How well does the student maintain the reader's interest? Does the...

- Student use creative and engaging examples or descriptions
- Structure, syntax and organization add to the interest of their writing
- Student use colorful but relevant metaphors, similes, etc.
- Writing engage the reader
- Writing leave the reader thinking

Presentation

How clear and concise is the argument? Does the student...

- Clearly articulate the argument and the context for that argument
- Correctly and precisely use evidence to defend the argument
- Comprehensibly and coherently present evidence

Development

How effective is the structure? Does the student...

- Logically and cohesively organize the argument
- Avoid extraneous elements in the argument's development
- Present evidence in an order that contributes to a persuasive and coherent argument

Persuasiveness

How well does the student defend the argument? Does the student...

- Effectively present evidence in support of the argument
- Draw thoroughly and extensively from the available range of evidence
- Analyze the evidence in addition to simply presenting it
- Consider counterarguments and address weaknesses in his/her own argument

Mechanics

What is the quality of the student's writing?

- Is vocabulary and punctuation used correctly
- Is the student's understanding of grammar strong
- Is the sentence structure basic, or more complex and creative
- Does the student use proper transitions
- Are the paragraphs structured logically and effectively

Score Sheet

There are two types of items that appear on a CLA score sheet: analytic and holistic. Analytic scoring items are particular to each prompt and holistic items refer to general dimensions, such as evaluation of evidence, drawing conclusions, acknowledging alternative explanations and viewpoints, and overall writing. We compute raw scores for each task by adding up all points on all items (i.e., calculating a unit-weighted sum).

Performance Task scoring is tailored to each specific prompt and includes a combination of both holistic and analytic scoring items. Though there are many types of analytic items on the Performance Task score sheets, the most common represent a list of the possible pieces of information a student could or should raise in their response. These cover the information presented in the Performance Task documents as well as information that can be deduced from comparing information across documents. The analytic items are generally given a score of 0 if the student did not use the information in their response, or 1 if they did. The number of analytic items varies by prompt.

Performance Task holistic items are scored on four or seven-point scales (i.e., 1-4 or 1-7). There are multiple holistic items per Performance Task that require graders to provide an evaluation of different aspects of critical thinking and reasoning in the student responses. These holistic items include areas such as the student's use of the most relevant information in the Performance Task, their recognition of strengths and weaknesses of various pieces of information, overall critical thinking, and overall writing.

Critique-an-Argument score sheets also include a combination of analytic and holistic scores. Critique-an-Argument analytic items are a list of possible critiques of the argument presented in the prompt. In addition, a few holistic items are used to rate the overall quality, critical thinking and writing over the entire response.

Make-an-Argument score sheets contain only holistic items scored on four or seven-point scales (i.e., 1-4 or 1-7). The holistic items include ratings for various aspects of writing (e.g., organization, mechanics, etc.) and critical thinking (e.g., reasoning and logic, sophistication and depth of treatment of the issues raised in the prompt) as well as two overall assessments of writing and critical thinking.

For all task types, blank responses or responses that are entirely unrelated to the task (e.g., writing about what they had for breakfast) are assigned a 0 and are flagged for removal from the school-level results.

Scoring Procedure

All scorer candidates undergo rigorous training in order to become certified CLA scorers. Training includes an orientation to the prompt and score sheet, instruction on how to evaluate the scoring items, repeated practice grading a wide range of student responses, and extensive feedback and discussion after scoring each response.

After participating in training, scorers complete a reliability check where they score the same set of student responses. Scorers with low agreement or reliability (determined by comparisons of raw score means, standard deviations and correlations among the scorers) are either further coached or removed from scoring.

In fall 2009 and spring 2010, a combination of automated and human scoring was used for the Analytic Writing Task.

The CLA utilizes Pearson Knowledge Technology's Intelligent Essay Assessor program for evaluating responses to the Make-an-Argument and Critique-an-Argument prompts.

The automated scoring engine was developed and tested using scores from a broad range of responses that were previously scored by humans. In some cases the automated scoring engine is unable to score off-topic or abnormally short/long responses. These student responses are scored by certified CLA scorers.

To facilitate reporting results across schools, ACT scores were converted (using the ACT-SAT crosswalk to the right) to the scale of measurement used to report SAT scores.

For institutions where a majority of students did not have ACT or SAT scores (e.g., two-year institutions and open admission schools), we make available the Scholastic Level Exam (SLE), a short-form cognitive ability measure, as part of the CLA. The SLE is produced by Wonderlic, Inc. SLE scores were converted to SAT scores using data from 1,148 students participating in spring 2006 that had both SAT and SLE scores. These converted scores (both ACT to SAT and SLE to SAT) are referred to simply as entering academic ability (EAA) scores.

Standard ACT to SAT Crosswalk

ACT	to SAT
36	1600
35	1560
34	1510
33	1460
32	1420
31	1380
30	1340
29	1300
28	1260
27	1220
26	1190
25	1150
24	1110
23	1070
22	1030
21	990
20	950
19	910
18	870
17	830
16	790
15	740
14	690
13	640
12	590
11	530

Source:

ACT (2008). *ACT/College Board Joint Statement*. Retrieved from http://www.act.org/aap/concordance/pdf/report.pdf

Each Performance Task and Analytic Writing Task has a unique scoring rubric, and the maximum number of reader-assigned raw score points differs across tasks. Consequently, a given reader-assigned raw score, such as 15 points, may be a relatively high score on one task but a low score on another task.

To adjust for such differences, reader-assigned raw scores on the different tasks are converted to a common scale of measurement. This process results in scale scores that reflect comparable levels of proficiency across tasks. For example, a given CLA scale score indicates approximately the same percentile rank regardless of the task on which it was earned. This feature of the CLA scale scores allows combining scores from different tasks to compute a school's mean scale score for each task type as well as a total average scale score across types.

A linear scale transformation is used to convert reader-assigned raw scores to scale scores. This process results in a scale score distribution with the same mean and standard deviation as the Entering Academic Ability (EAA) scores of the freshmen who took that measure. This type of scaling preserves the shape of the raw score distribution and maintains the relative standing of students. For example, the student with the highest raw score on a task will also have the highest scale score on that task, the student with the next highest raw score will be assigned the next highest scale score, and so on.

This type of scaling generally results in the highest raw score earned on a task receiving a scale score of approximately the same value as the maximum EAA score of any freshman who took that task. Similarly, the lowest raw score earned on a task would be assigned a scale score value that is approximately the same as the lowest EAA score of any freshman who took that task. On very rare occasions, a student may achieve an exceptionally high or low raw score (i.e., well above or below the other students taking that task). When this occurs, it results in assigning a student a scale score that is outside of the normal EAA range. Prior to the spring of 2007, scores were capped at 1600. Capping was discontinued starting in fall 2007.

In the past, CAE revised its scaling equations each fall. However, many institutions would like to make year-to-year comparisons (i.e., as opposed to just fall to spring). To facilitate this activity, in fall 2007 CAE began using the same scaling equations it developed for the fall 2006 administration and has done so for new tasks introduced since then. As a result of this policy, a given raw score on a task will receive the same scale score regardless of when the student took the task.

Modeling Student-Level Scores

Within each school, an equation like the following is used to model the relationship between senior students' EAA scores and their CLA scores:

$$CLA_{ij} = \overline{CLA}_j + 0.43(EAA_{ij} - \overline{EAA}_j) + r_{ij}$$

(Note that coefficients are for illustrative purposes only; see p. 35 for the coefficients used in this year's analysis.)

In this equation, CLA_{ij} is student *i* in school *j*'s CLA score, and this is modeled as a function of school *j*'s average senior CLA score ($\overline{CLA}_j$) and student *i*'s EAA score (EAA_{ij}) minus the average EAA score of participating seniors at school *j*. Specifically, a student's CLA score equals (a) the school's average senior CLA score plus (b) an adjustment based on the student's EAA score relative to the average among senior participants in school *j* and (c) a residual term r_{ij} equal to the difference between a student's observed and expected CLA performance, with positive numbers meaning "better than expected." Here, the student-level slope coefficient for EAA is 0.43, which indicates that for every 1 point difference in EAA, one would expect a 0.43 point difference in CLA performance. To illustrate the use of this equation for computing a student's expected CLA score, consider a school with an average senior CLA score of 1200 and an average EAA score of 1130. A senior student in this school with an EAA score of 1080 would be expected to have a CLA score of 1200 + 0.43(1080 - 1130) = 1179. If this student actually scored a 1210 on the CLA, the residual term r_{ij} would be +31 because this student scored 31 points higher than one would expect given his or her EAA. Using the equation described here would produce student-level deviation scores that differ slightly from those that inform the performance levels reported in your Student Data File.

Modeling School-Level Scores

Institutional value-added scores are derived from the school-level equation of the HLM, which takes the form

$$\overline{CLA}_j = 355 + 0.32(\overline{EAA}_j) + 0.45(\overline{CLA}_{\mathrm{fr},j}) + u_j$$

where $\overline{CLA}_{\mathrm{fr},j}$ is the average CLA score of participating freshmen at school *j*, and u_j is that school's value-added score estimate ($\overline{CLA}_j$ and $\overline{EAA}_j$ are defined the same as in the student-level equation). Specifically, u_j is the difference between a school's observed and expected average senior CLA performance. In this equation, 355 is the school-level intercept, 0.32 is the school-level slope coefficient for average EAA, and 0.45 is the school-level slope coefficient for average freshman CLA. Combined with average EAA and average freshman CLA scores, these coefficients allow for computing expected senior average CLA scores.

It may seem unconventional to use the average freshman CLA score from a different group of students as a predictor of the average senior CLA score, but analyses of CLA data consistently indicate that average freshman CLA performance adds significantly to the model. That is, average EAA and average freshman CLA account for different but nevertheless important characteristics of students as they enter college. Moreover, this model would not be credible as a value-added model for CLA scores if there was no control for CLA performance at the start of college.

As a conceptual illustration of the new approach, consider several schools administering the CLA to groups of seniors that had similar academic skills upon entering college—as indicated by average SAT or ACT scores and average freshman CLA scores. If, at the time of graduation, average CLA performance at one school is greater than average performance at the other schools testing groups of students with similar entering characteristics, one can infer that greater gains in critical thinking and written communication skills occurred at this school. That is, this school has greater value added than the other schools.

To illustrate the use of the school-level equation for estimating value-added scores, consider a school with an average freshman CLA score of 1050, an average senior CLA score of 1200, and an average senior EAA score of 1130. According to the school-level equation, one would expect the senior average CLA performance at this school to be $355 + 0.32(1130) + 0.45(1050) = 1189$. The observed senior average CLA performance was 1200, which is 11 points higher than the typical school testing students with similar EAA and freshman CLA scores. Converted to a standard scale, the value-added score would be 0.28, which would place the school in the "Near Expected" performance category of value added.

Value-added scores are properly interpreted as senior average CLA performance relative to the typical school testing students with similar academic skills upon entering college. The proper conditional interpretation of value-added scores is essential. First, it underscores the major goal of value-added modeling: obtaining a benchmark for performance based on schools admitting similar students. Second, a high value-added score does not necessarily indicate high absolute performance on the CLA. Schools with low absolute CLA performance may obtain high value-added scores by performing well relative to expected (i.e., relative to the typical school testing students with similar academic skills upon entering college). Likewise, schools with high absolute CLA performance may obtain low value-added scores by performing poorly relative to expected. Though it is technically acceptable to interpret value-added scores as relative to all other schools participating in the CLA after controlling for entering student characteristics, this is not the preferred interpretation because it encourages comparisons among disparate institutions.

Interpreting Confidence Intervals

It is important to keep in mind that value-added scores are estimates of unknown quantities. Put another way, the value-added score each school receives is a "best guess" based on the available information. Given their inherent uncertainty, value-added scores must be interpreted in light of available information about their precision. HLM estimation provides standard errors for value-added scores, which can be used to compute a unique 95% confidence interval for each school. These standard errors reflect within- and between-school variation in CLA and EAA scores, and they are most strongly related to senior sample size. Schools testing larger samples of seniors obtain more precise estimates of value added and therefore have smaller standard errors and corresponding 95% confidence intervals.

With a senior sample size near 100, our example school has a standard error of 0.35 (on the standardized value-added score scale). This school's 95% confidence interval has a range from -0.41 to 0.97, which was calculated as the value-added estimate plus or minus 1.96 multiplied by the standard error.

To provide some perspective, consider that the confidence interval would have been about 30% larger (from -0.60 to 1.16) if this school tested half as many students. If this school tested twice as many students, the confidence interval would have been about 20% smaller (from -0.26 to 0.83).

Unfortunately, inaccurate interpretations of confidence intervals are common. It is **not** correct to say that "there is a 95% chance that my school's 'true' value-added score is somewhere between -0.41 and 0.97" because it is either in the interval or it is not in the interval. Unfortunately, we cannot know which. The confidence interval reflects uncertainty in the estimate of the true score (due to sampling variation), not uncertainty in the true score itself. Correctly interpreted, a 95% confidence interval indicates the variation in value-added scores we should expect if we repeated testing with different samples of students a large number of times. It may be stated that, "if testing were repeated 100 times with different samples of students, about 95 out of the 100 resulting confidence intervals would include my school's 'true' value-added score."

Using conventional rules for judging statistical significance, one could draw several inferences from this school's 95% confidence interval. First, it can be said that this school's value-added score is significantly different from value-added scores lower than -0.41 and greater than 0.97. Second, because 0 is within the range of the 95% confidence interval, it may be said that this school's value-added score is not significantly different from 0. Note that a value-added score of 0 does **not** indicate zero learning; it instead indicates typical (or "near expected") senior average CLA performance, which implies learning typical of schools testing students with similar academic skills upon entering college.

Statistical Specification of the CLA Value-Added Model

Level 1 (Student Level): $CLA_{ij} = \beta_{0j} + \beta_{1j}(EAA_{ij} - \overline{EAA}_j) + r_{ij}$

- CLA_{ij} is the CLA score of student *i* at school *j*.
- EAA_{ij} is the Entering Academic Ability score of student *i* at school *j*.
- $\overline{EAA}_j$ is the mean EAA score at school *j*.
- β_{0j} is the student-level intercept (equal to the mean CLA score at school *j*).
- β_{1j} is the student-level slope coefficient for EAA at school *j* (assumed to be the same across schools).
- r_{ij} is the residual for student *i* in school *j*, where $r_{ij} \sim N(0, \sigma^2)$ and σ^2 is the variance of the student-level residuals (the pooled within-school variance of CLA scores after controlling for EAA).

Level 2 (School Level): $\beta_{0j} + \gamma_{00} + \gamma_{01}(\overline{EAA}_j) + \gamma_{02}(\overline{CLA}_{\mathrm{fr},j}) + u_{0j}$ and $\beta_{1j} = \gamma_{10}$

- $\overline{CLA}_{\mathrm{fr},j}$ is the mean freshman CLA score at school *j*.
- γ_{00} is the school-level value-added equation intercept.
- γ_{01} is the school-level value-added equation slope coefficient for senior mean EAA.
- γ_{02} is the school-level value-added equation slope coefficient for freshman mean CLA.
- γ_{10} is the student-level slope coefficient for EAA (assumed to be the same across schools).
- u_{0j} is the value-added equation residual for school j (i.e., the value-added score), where $u_{0j} \sim N\left(\begin{bmatrix}0\\0\end{bmatrix}, \begin{bmatrix}\tau_{00} & 0\\ 0 & 0\end{bmatrix}\right)$ and τ_{00} is the variance of the school-level residuals (the variance in mean CLA scores after controlling for mean EAA and mean freshman CLA scores).

Mixed Model (combining the school- and student-level equations):

$$CLA_{ij} = \gamma_{00} + \gamma_{01}(\overline{EAA}_j) + \gamma_{02}(\overline{CLA}_{\mathrm{fr},j}) + \gamma_{10}(EAA_{ij} - \overline{EAA}_j) + u_{0j} + r_{ij}$$

Estimated Parameters for Value-Added Model

	γ_{00}	γ_{10}	γ_{01}	γ_{02}
Total Score	333.16	0.45	0.41	0.39
Performance Task	344.00	0.46	0.41	0.35
Analytic Writing Task	349.70	0.43	0.40	0.40
Make-an-Argument	357.68	0.42	0.40	0.38
Critique-an-Argument	340.14	0.45	0.43	0.40

The table above shows the estimated parameters for the value-added model. Using these estimated parameters and the statistical models on the previous page, one can compute the expected senior CLA score for a given school. In combination with the observed mean score for seniors at that school, this can be used to compute the school's value-added score. These values can also be used to perform a subgroup analysis.

H.1 Freshman CLA Scores, 50th-99th Percentiles

Percentile	Total CLA Score	Performance Task	Analytic Writing Task	Make-an-Argument	Critique-an-Argument	EAA
99	1376	1350	1407	1414	1420	1445
98	1295	1273	1332	1343	1334	1298
97	1277	1226	1317	1329	1316	1280
96	1253	1222	1306	1304	1291	1266
95	1251	1219	1289	1279	1276	1248
94	1235	1215	1266	1262	1272	1245
93	1228	1205	1257	1257	1271	1235
92	1219	1203	1249	1256	1247	1220
91	1216	1197	1248	1256	1244	1215
90	1209	1191	1242	1255	1240	1203
89	1205	1183	1237	1252	1232	1201
88	1197	1175	1227	1251	1220	1195
87	1196	1174	1222	1239	1214	1189
86	1185	1170	1218	1233	1203	1177
85	1184	1164	1215	1229	1202	1167
84	1184	1161	1214	1222	1201	1156
83	1183	1155	1212	1215	1200	1153
82	1179	1147	1207	1209	1195	1151
81	1176	1144	1206	1208	1194	1150
80	1173	1141	1204	1207	1191	1148
79	1172	1137	1197	1204	1190	1142
78	1160	1132	1192	1203	1189	1137
77	1158	1131	1191	1202	1184	1135
76	1157	1130	1188	1201	1179	1131
75	1156	1129	1186	1196	1177	1124
74	1155	1126	1182	1194	1175	1123
73	1153	1122	1180	1192	1174	1122
72	1150	1121	1179	1190	1170	1117
71	1149	1120	1178	1185	1168	1114
70	1142	1113	1176	1180	1162	1111
69	1140	1112	1171	1177	1161	1107
68	1137	1111	1168	1174	1160	1099
67	1133	1110	1165	1168	1159	1098
66	1129	1102	1160	1166	1153	1095
65	1128	1101	1157	1163	1152	1093
64	1121	1096	1150	1158	1148	1091
63	1120	1095	1149	1157	1139	1087
62	1115	1094	1148	1153	1138	1084
61	1112	1093	1145	1152	1134	1082
60	1111	1090	1142	1140	1130	1078
59	1109	1087	1140	1139	1128	1077
58	1108	1084	1129	1134	1125	1067
57	1105	1083	1127	1133	1124	1064
56	1102	1078	1120	1130	1122	1057
55	1101	1077	1119	1127	1115	1056
54	1100	1075	1117	1125	1110	1048
53	1098	1072	1116	1124	1109	1046
52	1093	1069	1115	1119	1100	1044
51	1091	1068	1109	1117	1098	1043
50	1089	1067	1108	1115	1096	1041

H.2 Freshman CLA Scores, 1st-49th Percentiles

Percentile	Total CLA Score	Performance Task	Analytic Writing Task	Make-an-Argument	Critique-an-Argument	EAA
49	1087	1064	1103	1112	1092	1038
48	1082	1063	1100	1111	1091	1036
47	1081	1061	1098	1109	1090	1035
46	1080	1060	1097	1108	1089	1034
45	1076	1059	1093	1106	1088	1033
44	1070	1054	1091	1105	1086	1030
43	1068	1053	1090	1101	1083	1029
42	1066	1052	1089	1095	1081	1027
41	1062	1051	1088	1091	1078	1023
40	1061	1050	1086	1088	1075	1021
39	1059	1050	1084	1084	1072	1019
38	1058	1049	1082	1080	1070	1013
37	1058	1048	1071	1077	1069	1010
36	1057	1045	1069	1075	1066	1009
35	1052	1036	1066	1072	1064	1002
34	1051	1035	1065	1071	1062	1001
33	1050	1032	1064	1067	1057	1000
32	1049	1028	1063	1066	1055	999
31	1048	1026	1060	1065	1053	997
30	1045	1025	1059	1064	1052	996
29	1044	1023	1058	1063	1050	990
28	1043	1021	1054	1061	1048	988
27	1041	1019	1053	1060	1047	984
26	1038	1014	1051	1059	1042	981
25	1033	1010	1050	1056	1040	979
24	1032	1009	1049	1049	1039	974
23	1025	1007	1047	1042	1037	968
22	1021	1003	1045	1041	1036	967
21	1019	1000	1043	1040	1035	962
20	1017	999	1042	1039	1034	961
19	1015	997	1041	1035	1033	959
18	1014	996	1039	1032	1032	957
17	1012	993	1034	1030	1031	950
16	1012	992	1030	1027	1030	949
15	1011	989	1026	1026	1022	946
14	1007	988	1021	1023	1021	934
13	1006	987	1014	1003	1021	931
12	1002	983	1009	998	1020	929
11	998	975	995	971	1010	925
10	997	972	987	970	1007	922
9	970	962	976	959	983	916
8	966	960	971	946	981	911
7	952	956	954	934	964	907
6	947	936	948	931	962	903
5	929	925	940	928	956	886
4	924	910	934	916	953	884
3	913	901	923	901	947	862
2	910	894	922	893	944	857
1	884	861	911	877	915	780

H.3 Senior CLA Scores, 50th-99th Percentiles

Percentile	Total CLA Score	Performance Task	Analytic Writing Task	Make-an-Argument	Critique-an-Argument	EAA
99	1406	1394	1457	1447	1488	1462
98	1375	1355	1395	1403	1406	1310
97	1365	1347	1394	1386	1404	1306
96	1357	1331	1381	1383	1396	1280
95	1340	1316	1379	1363	1388	1259
94	1328	1310	1369	1361	1380	1257
93	1316	1289	1358	1352	1371	1246
92	1313	1281	1353	1348	1366	1222
91	1305	1272	1352	1344	1364	1217
90	1300	1268	1350	1341	1358	1212
89	1299	1261	1348	1340	1356	1210
88	1298	1257	1346	1333	1354	1199
87	1297	1256	1343	1332	1353	1191
86	1295	1249	1337	1322	1348	1188
85	1293	1245	1335	1320	1344	1183
84	1282	1242	1333	1319	1342	1176
83	1280	1236	1321	1312	1337	1171
82	1279	1235	1316	1303	1334	1167
81	1273	1230	1312	1299	1328	1164
80	1270	1222	1310	1293	1321	1152
79	1269	1220	1305	1291	1317	1149
78	1260	1218	1297	1289	1316	1148
77	1259	1212	1293	1286	1313	1145
76	1257	1210	1289	1281	1307	1140
75	1255	1205	1287	1280	1302	1130
74	1254	1204	1286	1278	1298	1129
73	1242	1203	1285	1278	1296	1128
72	1240	1201	1284	1277	1294	1124
71	1238	1199	1283	1276	1289	1120
70	1237	1197	1282	1275	1287	1110
69	1236	1196	1281	1272	1287	1108
68	1231	1195	1279	1271	1286	1102
67	1230	1194	1278	1265	1285	1100
66	1230	1191	1276	1263	1284	1098
65	1229	1187	1273	1262	1283	1097
64	1228	1182	1272	1261	1282	1094
63	1221	1181	1267	1254	1281	1092
62	1214	1180	1263	1253	1280	1091
61	1212	1178	1262	1251	1278	1088
60	1211	1177	1259	1246	1274	1087
59	1210	1174	1258	1245	1270	1086
58	1208	1172	1257	1243	1268	1083
57	1207	1170	1252	1240	1266	1081
56	1206	1169	1251	1234	1263	1080
55	1203	1167	1248	1228	1259	1078
54	1202	1166	1246	1226	1258	1077
53	1200	1164	1241	1225	1257	1071
52	1200	1163	1239	1224	1254	1068
51	1199	1162	1237	1223	1247	1067
50	1196	1159	1233	1218	1241	1066

H.4 Senior CLA Scores, 1st-49th Percentiles

Percentile	Total CLA Score	Performance Task	Analytic Writing Task	Make-an-Argument	Critique-an-Argument	EAA
49	1194	1158	1231	1217	1240	1065
48	1191	1157	1228	1215	1238	1061
47	1186	1155	1226	1212	1233	1058
46	1184	1152	1225	1207	1231	1057
45	1183	1148	1217	1205	1227	1055
44	1182	1146	1214	1205	1224	1053
43	1182	1144	1213	1204	1220	1052
42	1181	1143	1210	1201	1217	1051
41	1176	1142	1206	1197	1214	1045
40	1171	1140	1202	1194	1208	1034
39	1167	1138	1200	1191	1204	1033
38	1165	1137	1194	1189	1199	1030
37	1161	1134	1192	1187	1197	1027
36	1160	1133	1191	1181	1189	1026
35	1159	1129	1190	1178	1186	1024
34	1158	1128	1187	1178	1185	1022
33	1156	1124	1182	1177	1184	1014
32	1155	1123	1180	1176	1183	1013
31	1153	1120	1177	1172	1181	1012
30	1148	1118	1174	1167	1176	1007
29	1147	1117	1173	1164	1173	1007
28	1142	1116	1170	1160	1171	1006
27	1141	1116	1166	1160	1169	1005
26	1134	1115	1163	1159	1166	1003
25	1133	1114	1155	1155	1164	994
24	1132	1113	1151	1154	1160	994
23	1131	1106	1150	1153	1155	993
22	1130	1105	1149	1141	1154	992
21	1123	1103	1148	1135	1152	990
20	1109	1093	1144	1130	1151	986
19	1107	1088	1143	1128	1149	985
18	1106	1083	1133	1125	1144	983
17	1104	1077	1132	1123	1137	983
16	1103	1074	1131	1120	1136	982
15	1097	1065	1127	1117	1134	976
14	1094	1063	1126	1116	1133	975
13	1093	1061	1124	1114	1120	965
12	1093	1059	1121	1111	1118	962
11	1092	1056	1108	1107	1112	957
10	1080	1053	1103	1097	1102	951
9	1079	1052	1101	1080	1101	950
8	1073	1015	1100	1070	1099	943
7	1068	1011	1093	1063	1096	926
6	1055	995	1079	1060	1086	924
5	1021	972	1067	1051	1067	914
4	1011	966	1057	1037	1066	892
3	995	961	1020	1002	1042	886
2	980	957	1011	997	1037	884
1	947	921	974	911	992	786

H.5 Value-Added Scores, 50th-99th Percentiles

Percentile	Total CLA Score	Performance Task	Analytic Writing Task	Make-an-Argument	Critique-an-Argument
99	4.34	4.48	3.20	2.73	3.21
98	1.98	2.19	1.78	1.97	2.02
97	1.84	1.97	1.76	1.70	1.73
96	1.50	1.75	1.53	1.59	1.46
95	1.35	1.69	1.52	1.52	1.40
94	1.29	1.44	1.47	1.44	1.35
93	1.28	1.40	1.43	1.40	1.31
92	1.23	1.20	1.34	1.36	1.29
91	1.17	1.17	1.28	1.35	1.25
90	1.15	1.09	1.21	1.10	1.22
89	1.12	1.04	1.16	1.09	1.22
88	1.10	1.03	1.10	1.09	1.15
87	1.09	1.01	1.09	1.08	1.15
86	1.03	0.98	1.02	1.02	1.08
85	0.98	0.94	0.99	1.02	1.06
84	0.92	0.92	0.88	1.00	1.00
83	0.91	0.85	0.87	0.99	0.92
82	0.90	0.83	0.86	0.98	0.87
81	0.89	0.82	0.84	0.90	0.87
80	0.81	0.80	0.84	0.89	0.84
79	0.80	0.80	0.82	0.85	0.83
78	0.79	0.76	0.80	0.83	0.80
77	0.78	0.74	0.79	0.82	0.78
76	0.76	0.72	0.74	0.79	0.70
75	0.75	0.71	0.73	0.78	0.70
74	0.67	0.68	0.66	0.71	0.68
73	0.65	0.65	0.65	0.67	0.68
72	0.63	0.54	0.64	0.61	0.61
71	0.63	0.53	0.64	0.57	0.61
70	0.56	0.48	0.54	0.51	0.57
69	0.54	0.43	0.51	0.49	0.56
68	0.53	0.38	0.50	0.48	0.50
67	0.52	0.38	0.49	0.47	0.47
66	0.45	0.34	0.46	0.46	0.45
65	0.44	0.33	0.46	0.45	0.44
64	0.42	0.29	0.41	0.43	0.43
63	0.42	0.28	0.41	0.42	0.41
62	0.42	0.27	0.40	0.41	0.34
61	0.37	0.26	0.38	0.38	0.28
60	0.36	0.24	0.35	0.31	0.27
59	0.32	0.24	0.34	0.30	0.24
58	0.25	0.22	0.28	0.27	0.18
57	0.17	0.21	0.28	0.26	0.15
56	0.14	0.20	0.26	0.24	0.13
55	0.14	0.19	0.25	0.23	0.13
54	0.08	0.18	0.21	0.20	0.12
53	0.07	0.18	0.17	0.18	0.10
52	0.05	0.15	0.12	0.14	0.07
51	0.04	0.13	0.10	0.12	0.05
50	0.03	0.11	0.08	0.06	0.02

H.6 Value-Added Scores, 1st-49th Percentiles

Percentile	Total CLA Score	Performance Task	Analytic Writing Task	Make-an-Argument	Critique-an-Argument
49	-0.03	0.08	0.06	0.03	0.00
48	-0.04	0.06	0.05	0.03	0.00
47	-0.05	0.04	0.02	0.00	-0.02
46	-0.05	0.04	-0.01	-0.03	-0.05
45	-0.10	-0.02	-0.05	-0.06	-0.05
44	-0.12	-0.08	-0.07	-0.10	-0.07
43	-0.12	-0.09	-0.16	-0.11	-0.10
42	-0.15	-0.11	-0.17	-0.11	-0.13
41	-0.22	-0.12	-0.20	-0.12	-0.23
40	-0.23	-0.13	-0.20	-0.12	-0.24
39	-0.28	-0.14	-0.22	-0.13	-0.27
38	-0.29	-0.20	-0.23	-0.14	-0.28
37	-0.30	-0.21	-0.28	-0.16	-0.34
36	-0.30	-0.22	-0.31	-0.17	-0.38
35	-0.32	-0.28	-0.34	-0.19	-0.38
34	-0.35	-0.29	-0.40	-0.22	-0.39
33	-0.36	-0.32	-0.44	-0.25	-0.39
32	-0.38	-0.36	-0.44	-0.31	-0.42
31	-0.38	-0.41	-0.47	-0.50	-0.47
30	-0.39	-0.43	-0.48	-0.50	-0.52
29	-0.42	-0.50	-0.57	-0.52	-0.56
28	-0.43	-0.51	-0.59	-0.54	-0.61
27	-0.49	-0.52	-0.61	-0.56	-0.63
26	-0.50	-0.52	-0.67	-0.58	-0.64
25	-0.56	-0.54	-0.67	-0.60	-0.71
24	-0.59	-0.56	-0.68	-0.61	-0.72
23	-0.61	-0.62	-0.73	-0.65	-0.77
22	-0.61	-0.67	-0.76	-0.65	-0.78
21	-0.67	-0.70	-0.78	-0.71	-0.84
20	-0.71	-0.72	-0.79	-0.74	-0.90
19	-0.80	-0.75	-0.80	-0.81	-0.96
18	-0.81	-0.75	-0.80	-0.81	-0.97
17	-0.87	-0.80	-0.83	-0.88	-1.04
16	-0.91	-0.86	-0.85	-0.91	-1.06
15	-0.93	-0.97	-0.93	-0.98	-1.11
14	-0.97	-0.98	-0.96	-1.02	-1.11
13	-1.04	-1.03	-1.05	-1.06	-1.17
12	-1.04	-1.09	-1.06	-1.11	-1.17
11	-1.08	-1.16	-1.16	-1.16	-1.22
10	-1.19	-1.25	-1.19	-1.17	-1.23
9	-1.23	-1.29	-1.30	-1.28	-1.25
8	-1.42	-1.36	-1.36	-1.32	-1.38
7	-1.47	-1.58	-1.69	-1.49	-1.46
6	-1.52	-1.68	-1.69	-1.49	-1.55
5	-1.70	-1.74	-1.91	-1.76	-1.62
4	-1.72	-1.77	-2.10	-1.90	-1.69
3	-2.11	-2.09	-2.12	-2.26	-1.84
2	-2.36	-2.10	-2.22	-2.31	-1.92
1	-2.75	-2.47	-2.83	-3.62	-2.98

In tandem with this report, we provide a CLA Student Data File, which includes variables across three categories: self-reported information from students in their CLA on-line profile; CLA scores and identifiers; and information provided/verified by the registrar.

We provide student-level information for linking with other data you collect (e.g., from NSSE, CIRP, portfolios, local assessments, course-taking patterns, participation in specialized programs, etc.) to help you hypothesize about campus-specific factors related to overall institutional performance. Student-level scores are not designed to be diagnostic at the individual level and should be considered as only one piece of evidence about a student's skills.

Self-Reported Data

- Date of birth
- Gender
- Race/Ethnicity
- Parent Education
- Primary and Secondary Academic Major (36 categories)
- Field of Study (6 categories; based on primary academic major)
- English as primary language
- Attended school as Freshman, Sophomore, Junior, Senior
- Local survey responses

CLA Scores and Identifiers

- CLA scores for Performance Task, Analytic Writing Task, Make-an-Argument, and Critique-an-Argument (depending on the tasks taken and completeness of responses):
    - CLA scores
    - Student Performance Level categories (i.e., well below expected, below expected, near expected, above expected, well above expected) if CLA score and entering academic ability (EAA) score are available
    - Percentile Rank across schools (among students in the same class year, based on score)
    - Percentile Rank within your school (among students in the same class year, based on score)
- SLE score (if applicable)
- Entering Academic Ability (EAA) score
- Unique CLA numeric identifiers
- Name (first, middle initial, last), E-mail address, Student ID
- Year, Test window (Fall or Spring), Date of test, and Time spent on test

Registrar Data

- Class Standing
- Transfer Student Status
- Program Code and Name (for classification of students into different colleges, schools, fields of study, majors, programs, etc., if applicable)
- SAT Total (Math + Verbal)
- SAT I - Math
- SAT I - Verbal / Critical Reading
- SAT I - Writing
- ACT - Composite
- GPA

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