

CWRA

Albemarle Public School District

2012-2013 CWRA INSTITUTIONAL REPORT

Your 2012-2013 results consist of two components:

- CWRA Institutional Report and Appendices
- CWRA Student Data File

Report

The report introduces readers to the CWRA, its methodology, presents your results, and offers guidance on interpretation and next steps.

- 1 Introduction to the CWRA (p. 3)
- 2 Methods (p. 4-5)
- 3 Your Results (p. 6-12)
- 4 Sample of CLA Institutions (p. 13-17)
- 5 Moving Forward (p. 18)

Appendices

The report appendices offer more detail on the CWRA Performance Task, scoring and scaling, and the Student Data File.

- A Task Overview (p. 19-20)
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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.

Assessing Higher-Order Skills

The College and Work Readiness Assessment is a major initiative of the Council for Aid to Education. Along with its postsecondary counterpart—the Collegiate Learning Assessment (CLA)—the CWRA offers a constructed-response approach to the assessment of higher-order skills, such as critical thinking and written communication. Hundreds of institutions and hundreds of thousands of students have participated in the CLA or CWRA to date.

The institution—not the student—is the primary unit of analysis. The CWRA is designed to measure an institution's contribution, or value added, to the development of higher-order skills. It is also designed to encourage institutions to compare their student learning results on the CWRA with learning results at other institutions.

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

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

The CWRA helps institutions follow a continuous improvement model that positions faculty as central actors in the link between assessment and the teaching and learning process.

The continuous improvement model requires multiple indicators beyond the CWRA because no single test can serve as the benchmark for all student learning. There are, however, certain skills deemed to be important by most faculty and administrators across virtually all institutions; indeed, the higher-order skills the CWRA focuses on fall into this category.

The signaling quality of the CWRA is important because institutions need to 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 institutions. Yet, the CWRA is not about ranking institutions. Rather, it is about highlighting differences between them that can lead to improvements. The CWRA is an instrument designed to contribute directly to the improvement of teaching and learning. In this respect it is in a league of its own.

CWRA Methodology

The CWRA uses constructed-response Performance Tasks to evaluate your students' performance reflecting the following higher-order skills: Analytic Reasoning and Evaluation, Writing Effectiveness, Writing Mechanics, and Problem Solving. The CLA, used by colleges, employs two task types, one of which is the Performance Task. Throughout this report, the terms "CWRA scores" and "Performance Task scores" are used interchangeably.

Schools typically test a sample of entering students (freshmen) in the fall and exiting students (seniors) in the spring. The interim results that your institution received after the fall testing window reflects the performance of your entering students.

Your institution's interim institutional report presented summary statistics based on the performance of freshmen at your school who took both a Performance Task and the Scholastic

Level Exam (SLE). The statistics include numbers of participating students, means (averages) of CWRA and SLE scores, 25th and 75th percentile scores within your school, standard deviations (a measure of the spread of scores in the sample), and decile ranks relative to other CWRA schools. These unadjusted decile ranks (for Performance Task and SLE scores) are based on the range of mean scores observed across all high schools that participated last fall.

Also included in your report is distributional information for each of the CWRA subscores: Analytic Reasoning and Evaluation, Writing Effectiveness, Writing Mechanics, and Problem Solving. These facilitate criterion-based judgments about the performance of your students.

Across all high schools that participated in the CWRA this fall, we presented the mean CWRA and SLE scores, as well as the 25th and 75th percentile scores.

Lastly, we presented the corresponding means and percentiles across the colleges and universities that tested freshmen this fall through the CLA.

That sample of colleges and universities serves as the comparison group for the "college readiness" portion of this 2012-2013 CWRA Institutional Report. In this report, we provide three important perspectives on institutional performance and comparisons, described below.

The first perspective, **college readiness**, compares the performance of your seniors, as a group, to the performance of freshmen tested at CLA colleges and universities. Unadjusted scores reflect absolute performance and enable absolute comparisons across schools. Adjusted scores level the playing field for schools with dissimilar incoming student populations or imperfectly representative samples.

To adjust scores, we compute an expected CWRA score for your seniors. Expected scores are based on two factors: (a) the estimated entering academic ability of your students (EAA*) and (b) the estimated linear relationship between average Performance Task scores and the average EAA of first-year student samples at CLA colleges and universities.

For the college readiness metric, academic ability is defined by SAT or ACT scores, so as to provide the most direct comparison to college freshmen. Differences between observed and expected scores are reported in standard deviation units. We label these “deviation scores.” Mean CWRA scores quantify unadjusted performance and permit absolute comparisons. Deviation scores quantify adjusted performance and enable controlled comparisons. Ranks, both unadjusted and adjusted, are based on the full range of mean CLA scores, or CLA deviation scores, respectively, across all colleges participating in the fall 2012 CLA.

Deviation scores are placed on a standardized (z -score) scale. Schools that fall between -1.00 and +1.00 are classified as “near expected,” between +1.00 and +2.00 as “above expected,” between -1.00 and -2.00 as “below expected,” above +2.00 as “well above expected,” and below -2.00 as “well below expected.”

A second perspective on institutional performance is presented through **comparisons** of high school seniors across participating CWRA schools. As with the college readiness metric, comparisons across high schools involve unadjusted (absolute) and adjusted (controlling for ability) scores. However, unlike the college readiness metric, ability across high schools is measured through a short cognitive test called the Scholastic Level Exam (SLE). Use of the SLE to calculate expected scores enables the inclusion of high school students who have not taken the SAT or ACT and thereby strengthens the model. Unadjusted decile ranks are based on the full range of mean CWRA

scores across institutions testing high school seniors.

Effect sizes provide a third perspective on institutional performance. The effect size is a within-school metric that reflects the estimated performance of your seniors (as well as sophomores and juniors if you tested them) relative to the performance of your freshmen. We subtract the mean CWRA score of freshmen from seniors (or another class) and divide the difference by the freshman standard deviations of CWRA scores at your school. Effect sizes are reported in standard deviation units. For context, we also provide the distribution of effect sizes across all schools.

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.

* SAT Math + Critical Reading or ACT Composite scores on the SAT scale. Hereinafter referred to as Entering Academic Ability (EAA). SLE scores are not part of “EAA.”

3.1 College Readiness: Comparisons to Freshman Samples at CLA Colleges and Universities

	Student Count	Mean EAA Score	Expected Mean CWRA Score	Observed Mean CWRA Score	Unadjusted Percentile Rank	Deviation Score	Adjusted Percentile Rank	Performance Level
Your Seniors	226	1196	1146	1074	61	-1.12	9	Below
	School Count	25th Percentile CWRA Score	75th Percentile CWRA Score	Mean CWRA Score				
CLA Colleges Testing Freshmen	161	991	1113	1050				

Table 3.1 shows how many seniors completed the CWRA and had Entering Academic Ability (EAA) scores. This table displays the mean EAA scores for your seniors, their expected mean CWRA score based on that mean EAA score, and their observed mean CWRA score. Unadjusted percentile ranks show how your school's mean CWRA scores compare to those of freshmen at undergraduate institutions *before* adjusting for entering ability (as defined by EAA). Deviation scores control for ability (EAA) and quantify the difference between observed and expected mean CWRA scores in standard deviation units; see Figure 3.5 for a comparison to other institutions. Your adjusted percentile rank and performance level are based on your deviation score.

3.2 Comparisons to Senior Samples at CWRA High Schools

	Student Count	Mean SLE Score	SLE Decile Rank	Expected Mean CWRA Score	Observed Mean CWRA Score	Unadjusted Decile Rank	Deviation Score	Adjusted Decile Rank
Your Seniors	292	23	5	1078	1031	4	-0.63	3
	School Count	Mean SLE Score	Mean CWRA Score					
CWRA Schools Testing Seniors	89	23	1078					

Table 3.2 shows how many seniors completed the CWRA and the Scholastic Level Exam (SLE). It includes students with and without EAA scores. This table displays seniors' mean SLE score and corresponding decile rank, their expected mean CWRA score based on that mean SLE score, and their observed mean CWRA score. Unadjusted decile ranks show how your school's mean CWRA score compares to those of senior samples at other CWRA high schools *before* adjusting for ability (as measured by SLE). Deviation scores control for ability (SLE) and quantify the difference between observed and expected mean CWRA scores in standard deviation units. Deciles were computed using the table on the right.

Decile	CWRA Score Range	SLE Score Range	Deviation Score Range
1	881 or lower	17 or lower	-1.13 or lower
2	882 to 945	18 or 19	-1.12 to -0.87
3	946 to 1000	20 or 21	-0.86 to -0.54
4	1001 to 1073	22	-0.53 to -0.13
5	1074 to 1110	23	-0.12 to 0.03
6	1111 to 1157	24	0.04 to 0.23
7	1158 to 1176	25	0.24 to 0.52
8	1177 to 1198	26	0.53 to 0.8
9	1199 to 1227	27 to 26	0.81 to 1.37
10	1228 or higher	27 or higher	1.38 or higher

3.3

Effect Sizes and Sample Sizes

A	Student Count	25th Percentile	75th Percentile	Mean CWRA Score	Standard Deviation	Effect Size vs. Freshmen
Your Seniors	292	885	1192	1031	211	0.42
Your Juniors	N/A	N/A	N/A	N/A	N/A	N/A
Your Sophomores	N/A	N/A	N/A	N/A	N/A	N/A
Your Freshmen	325	831	1063	957	175	

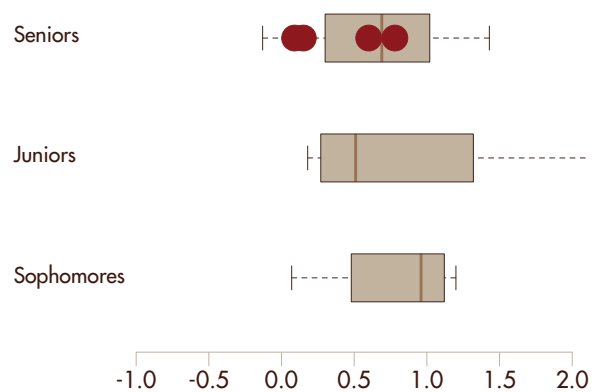
B	Student Count	25th Percentile	75th Percentile	Mean CWRA Score	Standard Deviation	Median Effect Size vs. Freshmen
All Seniors	5340	949	1101	1241	203	0.69
All Juniors	5460	887	1013	1143	190	0.51
All Sophomores	195	781	907	1039	180	0.96
All Freshmen	7183	888	1019	1147	185	

Results Across Classes

The data in Tables 3.3a and 3.3b include students with and without EAA scores. As a result, these counts and means may differ from those in Table 3.1. Table 3.3a provides results specific to your school, including effect sizes, which reflect the estimated performance of your seniors (as well as sophomores and juniors if you tested them) relative to the performance of your freshmen in standard deviation units. Table 3.3b provides results for students at all participating high schools. (Note that only a small number of schools tested sophomores.)

Effect Sizes

The “box and whiskers” plot below shows the distributions of effect sizes among all participating high schools. The “box” shows the 25th and 75th percentiles, with the dark vertical bar indicating the median. The “whiskers” show the 5th and 95th percentiles.



● Your students

3.4 Student Sample Summary

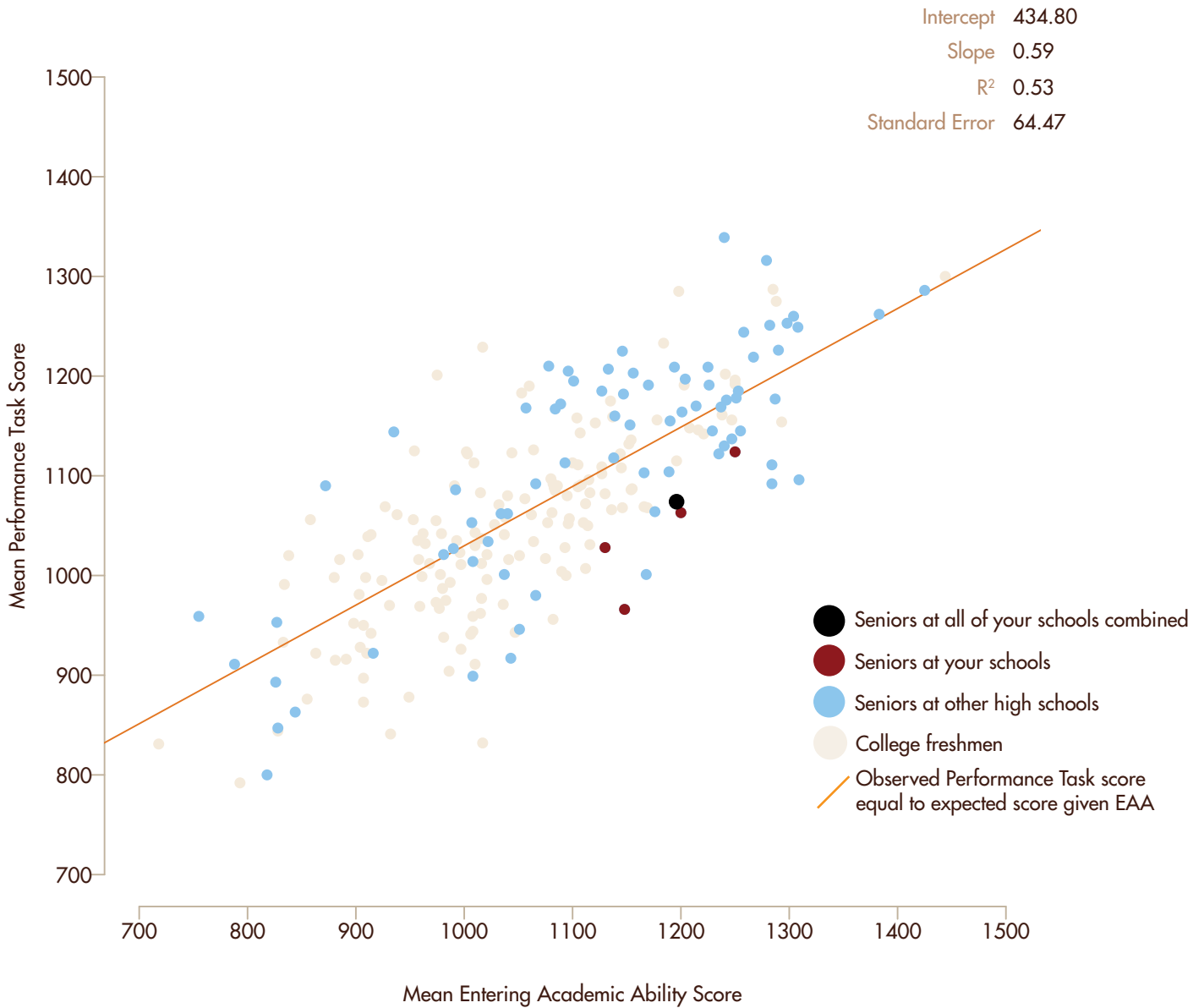
	Number of Freshmen	Freshman Percentage	Average Freshman Percentage Across Schools	Number of Seniors	Senior Percentage	Average Senior Percentage Across Schools
Transfer						
Transfer Students				14	5	14
Non-Transfer Students				278	95	86
Gender						
Male	152	47	50	142	49	49
Female	166	51	49	141	48	49
Decline to State	7	2	1	9	3	2
Primary Language						
English Primary Language	0	N/A	89	257	100	89
Other Primary Language	0	N/A	11	0	0	11
Race / Ethnicity						
American Indian / Alaska Native	1	0	1	1	0	1
Asian / Pacific Islander	14	4	11	17	6	11
Black, Non-Hispanic	29	9	9	20	7	8
Hispanic	19	6	8	20	7	8
White, Non-Hispanic	232	71	61	211	72	61
Other	17	5	7	15	5	6
Decline to State	13	4	4	8	3	5
Parent Education						
Less than High School	9	3	3	6	2	3
High School	35	11	11	45	15	15
Some College	45	14	16	41	14	13
Bachelor's Degree	89	27	24	76	26	28
Graduate or Professional Degree	147	45	45	124	42	39

Performance Compared to Other Institutions

Figure 3.5 shows the performance of all CWRA institutions as well as the performance of college freshmen tested in CLA institutions. The vertical distance from the diagonal (regression) line indicates performance above or below expected on the Performance Task given the EAA of students at that institution. Exercise caution when interpreting the results displayed in this figure if you believe tested seniors are not representative of the population of seniors at your school.

3.5

CWRA Performance vs. Entering Academic Ability (EAA)

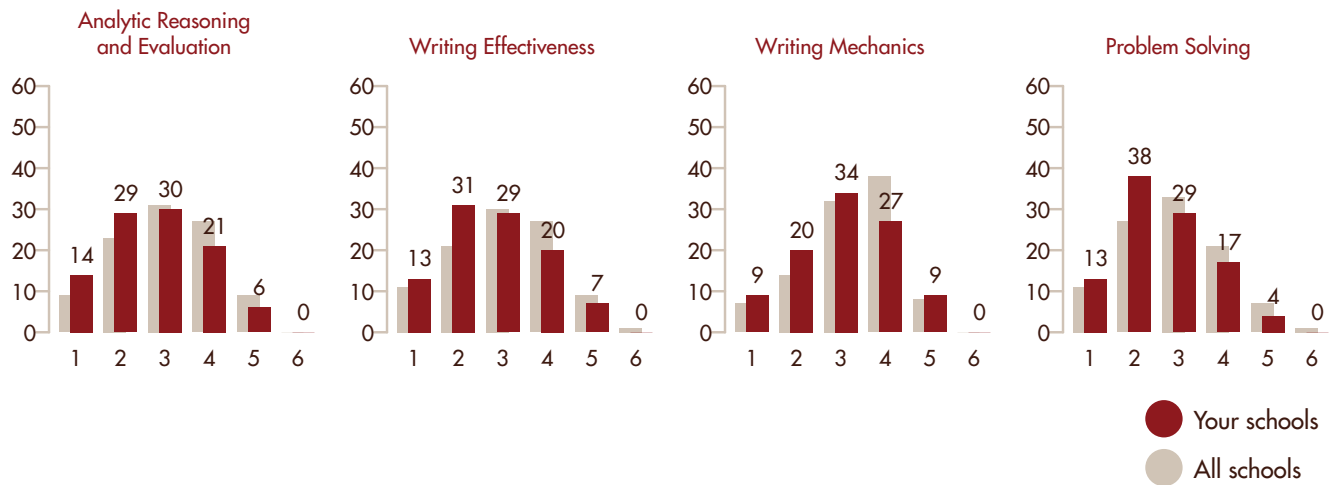


* Due to the low statistical reliability of small sample sizes, schools that tested fewer than 25 students are not included in Figure 3.5.

Subscore Distributions

On this and the following page, Figures 3.6 and 3.8 display the distribution of your students' performance in the subscore categories of Analytic Reasoning and Evaluation, Writing Effectiveness, Writing Mechanics, and Problem Solving. The numbers on the graph correspond to the percentage of *your* students that performed at each score level. The distribution of subscores across *all* schools is presented for comparative purposes. The score levels range from 1 to 6. Note that the graphs presented are not directly comparable due to potential differences in difficulty across subscore categories. See *Diagnostic Guidance* and *Scoring Criteria* for more details on the interpretation of subscore distributions. Tables 3.7 and 3.9 present the mean and standard deviation of each of the subscores across CLA task types—for your school and all schools.

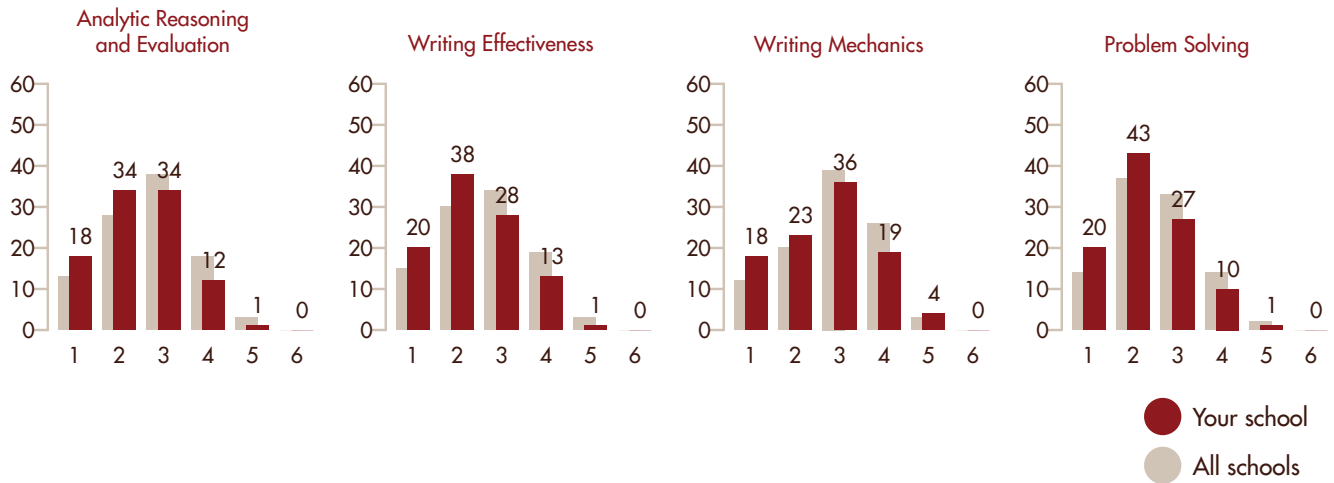
3.6 Seniors: Distribution of Subscores



3.7 Seniors: Summary Subscore Statistics

	Analytic Reasoning and Evaluation		Writing Effectiveness		Writing Mechanics		Problem Solving	
	Your Schools	All Schools	Your Schools	All Schools	Your Schools	All Schools	Your Schools	All Schools
Mean	2.8	3.1	2.8	3.0	3.1	3.3	2.6	2.9
Standard Deviation	1.1	0.9	1.1	1.0	1.1	0.9	1.0	0.9

3.8 Freshmen: Distribution of Subscores



3.9 Freshmen: Summary Subscore Statistics

	Analytic Reasoning and Evaluation		Writing Effectiveness		Writing Mechanics		Problem Solving	
	Your School	All Schools	Your School	All Schools	Your School	All Schools	Your School	All Schools
Mean	2.4	2.7	2.4	2.7	2.7	2.9	2.3	2.5
Standard Deviation	1.0	0.9	1.0	0.9	1.1	0.9	0.9	0.8

This section provides information about the sample of CLA institutions that serves as the comparison group for the CWRA college readiness metric.

Carnegie Classification

Table 4.1 shows CLA schools grouped by Basic Carnegie Classification. The spread of schools corresponds fairly well with that of the 1,587 four-year, not-for-profit institutions across the nation.

Table 4.1 counts exclude some institutions that do not fall into these categories, such as Special Focus Institutions and institutions based outside of the United States.

4.1 Carnegie Classification of Institutional Sample

Carnegie Classification	Nation (n = 1,587)		CLA (n = 146)	
	Number	Percentage	Number	Percentage
Doctorate-granting Universities	275	17	21	14
Master's Colleges and Universities	619	39	76	52
Baccalaureate Colleges	693	44	48	33

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

School Characteristics

Table 4.2 provides statistics on some important characteristics of colleges and universities across the nation compared with those of the CLA schools. These statistics suggest that these CLA schools are fairly representative of four-year, not-for-profit institutions nationally. Percentage public and undergraduate student body size are exceptions.

4.2

School Characteristics of Institutional Sample

School Characteristic	Nation	CLA
Percentage public	32	56
Percentage Historically Black College or University (HBCU)	5	4
Mean percentage of undergraduates receiving Pell grants	31	30
Mean six-year graduation rate	51	51
Mean Barron's selectivity rating	3.6	3.1
Mean estimated median SAT score	1058	1035
Mean number of FTE undergraduate students (rounded)	3,869	6,844
Mean student-related expenditures per FTE student (rounded)	\$12,330	\$10,849

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.

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 16 points higher than that of the entire senior class*: 1067 versus 1051 ($n = 132$ institutions). Further, the correlation between the average EAA score of CLA seniors and their classmates was high ($r = 0.94$, $n = 132$ institutions).

The pattern for freshmen was similar. The average EAA score of CLA freshmen was only 2 points higher than that of the entire freshman class (1048 versus 1046, over $n = 131$ institutions), and the correlation between the average EAA score of CLA freshmen and their classmates was similarly high ($r = 0.94$, $n = 131$ 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 school registrars.

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.

CWRA Schools

Akins High School
 Albemarle High School
 Anson New Tech High School
 Asheville School
 Barrie School
 Bayside High School
 Bosque School
 Brimmer and May School
 Brooks School
 Catalina Foothills High School
 Collegiate School
 Colorado Academy
 Colorado Rocky Mountain School
 Crystal Springs Uplands School
 Culver Academies
 Currey Ingram Academy
 Da Vinci Charter Academy
 Eagle Rock School
 First Colonial High School
 Floyd Kellam High School
 Fountain Valley School of Colorado
 Frank W. Cox High School
 Friends School of Baltimore
 Gilmour Academy
 Graettinger-Terrill High School
 Green Run High School
 Greensboro Day School
 Hebron Academy
 Heritage Hall
 Hillside New Tech High School
 Illinois Mathematics and Science Academy
 Jefferson Forest High School
 Kempsville High School
 Kimball Union Academy
 Lake Forest Academy
 Lake Highland Preparatory School
 Landstown High School
 Le Jardin Academy
 Los Angeles School of Global Studies
 Maryknoll School
 Math, Engineering, Technology, and Science Academy
 McKinley Academy
 Mead High School
 Mead School District
 Metairie Park Country Day School
 Mid-Pacific Institute
 Monticello High School

Moorestown Friends School
 Moses Brown School
 Mount Vernon Presbyterian School
 Mt. Spokane High School
 Murray High School
 Nanakuli High and Intermediate School
 Napa New Tech High School
 National Association of Independent Schools
 New Tech Network
 Newell-Fonda High School
 Ocean Lakes High School
 Palisades High School
 Prairie Lakes Area Education Agency
 Princess Anne High School
 Ramsey High School
 Reading Memorial High School
 Regional School Unit 13
 Renaissance Academy
 Riverdale Country School
 Sacramento New Tech High School
 Sacred Hearts Academy
 Salem Academy
 Salem High School
 Sandia Preparatory School
 School of IDEAS
 Severn School
 Sonoma Academy
 St. Andrew's School
 St. Christopher's School
 St. George's Independent School
 St. Gregory College Preparatory School
 St. Luke's School
 St. Margaret's Episcopal School
 Staunton River High School
 Stevenson School
 Stuart Country Day School
 Takatuf Scholars
 Tallwood High School
 Tech Valley High School
 Tesseract School
 The Haverford School
 The Hotchkiss School
 The Hun School of Princeton
 The Lovett School
 The Taft School
 The Webb School
 Traverse Bay Area Intermediate School District
 Upper Arlington High School
 Virginia Beach School District
 Waianae High School

Warren New Tech High School
 Warwick Valley High School
 Watershed School
 Western Albemarle High School
 Westtown School
 Wildwood School
 York School

CLA Schools

Alaska Pacific University
 Albion College
 Amherst College
 Ashland University
 Auburn University
 Augsburg College
 Augustana College (SD)
 Barton College
 Bellarmine University
 Beloit College
 Bluefield State College
 Bowling Green State University
 Bradley University
 Brigham Young University - Idaho
 Buena Vista University
 Buffalo State College - SUNY
 California Maritime Academy
 California State Polytechnic University, Pomona
 California State Polytechnic University, San Luis Obispo
 California State University System
 California State University, Bakersfield
 California State University, Channel Islands
 California State University, Chico
 California State University, Dominguez Hills
 California State University, East Bay
 California State University, Fresno
 California State University, Fullerton
 California State University, Long Beach
 California State University, Los Angeles
 California State University, Monterey Bay
 California State University, Northridge
 California State University, Sacramento
 California State University, San Bernardino
 California State University, San Marcos
 California State University, Stanislaus
 Centenary College
 Centenary College of Louisiana
 Central Michigan University
 Chatham University

City University of New York, 4-Year Colleges	Morgan State University	University of Texas - Pan American
Clarke University	Nevada State College	University of Texas at Arlington
College of Saint Benedict and Saint John's University	New York University, Abu Dhabi	University of Texas at Austin
Colorado Mountain College, Bachelors Program	Newman University	University of Texas at Dallas
Colorado State University	Northern Illinois University	University of Texas at El Paso
Concord University	Nyack College	University of Texas at San Antonio
CUNY - Baruch College	Ouachita Baptist University	University of Texas at Tyler
CUNY - Brooklyn College	Our Lady of the Lake University	University of Texas of the Permian Basin
CUNY - College of Staten Island	Pacific Lutheran University	University of Texas System
CUNY - Hunter College	Pittsburg State University	University of the Ryukyus, Department of Languages and Cultures
CUNY - John Jay College of Criminal Justice	Presbyterian College	University of the Virgin Islands
CUNY - Lehman College	Quest University	University of Vermont
CUNY - New York City College of Technology	Randolph-Macon College	University of Windsor, Faculties of Nursing, Arts & Social Science, and Engineering
CUNY - Queens College	Robert Morris University	Weber State University
CUNY - The City College of New York	Rockford College	West Liberty University
CUNY - York College	Saginaw Valley State University	West Virginia State Colleges and Universities
Dillard University	Saint Anselm College	West Virginia University
Eckerd College	Saint Xavier University	Western Governors University
Emory & Henry College	San Diego State University	Western Washington University
Emporia State University	San Francisco State University	Westminster College (MO)
Fairmont State University	San Jose State University	Westminster College (UT)
Fayetteville State University	Seton Hill University	Wichita State University
Flagler College	Shepherd University	Wichita State University (School of Engineering)
Florida International University Honors College	Slippery Rock University	William Peace University
Florida State University	Sonoma State University	Winston-Salem State University
Fort Hays State University	Southern Oregon University	Wisconsin Lutheran College
Gordon College	Southwestern University	Wyoming Catholic College
Grand Canyon University	St. Olaf College	
Hardin-Simmons University	Sul Ross State University	CCLA Schools
Hastings College	SUNY College of Technology at Canton	Arizona Western College
Humboldt State University	Texas A&M University-Kingsville	Cecil College
Illinois College	Texas State University-San Marcos	City University of New York, Community Colleges
Indiana University of Pennsylvania	The Citadel	Collin College
Indiana Wesleyan University, Department of Psychology	The College of Idaho	Colorado Mountain College
Jacksonville State University	The College of St. Scholastica	CUNY - Borough of Manhattan Community College
Jamestown College	The Richard Stockton College of New Jersey	CUNY - Bronx Community College
Johnson & Wales University	The Sage Colleges	CUNY - Hostos Community College
Kalamazoo College	The University of Toledo	CUNY - Kingsborough Community College
Kent State University	Transylvania University	CUNY - LaGuardia Community College
King's College	Truman State University	CUNY - Medgar Evers College
LaGrange College	University of Bridgeport	CUNY - Queensborough Community College
Lewis University	University of Evansville	Fanshawe College of Applied Arts and Technology, Health Science Program
Loyola University New Orleans	University of Great Falls	Howard Community College
Luther College	University of Hartford	Truckee Meadows Community College
Lynchburg College	University of Hawaii at Hilo College of Business and Economics	
Lynn University	University of Houston-Downtown	
Macalester College	University of Missouri-St. Louis	
Marshall University	University of Ottawa	
McMurry University	University of Pittsburgh	
Mercer University	University of Saint Mary	
	University of St. Thomas (TX)	

Using the CWRA to Improve Institutional Performance

The information presented in your institutional report—enhanced most recently through the provision of subscores (see pages 11-12)—is designed to help you better understand the contributions your institution is making toward your students' learning gains. However, the institutional report alone provides but a snapshot of student performance.

When combined with the other tools and services the CLA has to offer, the institutional report can become a powerful tool in helping you and your institution target specific areas of improvement, while effectively and authentically aligning teaching, learning, and assessment practices in ways that may improve institutional performance over time.

We encourage institutions to examine their performance and communicate the results across their campuses, link student-level results with other data sources, pursue in-depth sampling, collaborate with their peers, and participate in professional development offerings.

Student-level CWRA results are provided for you to link to other data sources (e.g., course-taking patterns, grades, portfolios, student surveys, etc.). These results are strengthened by the provision of additional scores in the areas of Analytic Reasoning and Evaluation, Writing Effectiveness, Writing Mechanics, and Problem Solving to help you pinpoint specific areas that may need improvement.

Internal analyses, which you can pursue through in-depth sampling, can help you generate hypotheses for additional research.

While peer-group comparisons are provided to you in this report (see page 10), the true strength of peer learning comes through collaboration. CLA facilitates collaborative relationships among our participating schools by encouraging the formation of consortia, hosting periodic web conferences featuring campuses doing promising work using the CLA, and sharing school-specific contact information (where permission has been granted) via our CLA contact map (www.collegiatelearningassessment.org/contact).

Our professional development services shift the focus from general assessment to the course-level work of faculty members. Performance Task Academies—two-day hands-on training workshops—provide opportunities for faculty to receive guidance in creating their own CLA-like performance tasks, which can be used as classroom or homework assignments, curriculum devices, or even local-level assessments (see: cae.org/performance-assessment/category/training-workshops).

Through the steps noted above, we encourage institutions to move toward a continuous system of improvement stimulated by the CLA. Our programs and services—when used in combination—are designed to emphasize the notion that, in order to successfully improve higher-order skills, institutions must genuinely connect their teaching, learning, and assessment practices in authentic and effective ways.

Without your contributions, the CLA would not be on the exciting path that it is today. We look forward to your continued involvement!

The CWRA Performance Task

CWRA Performance Tasks are administered online and consist of open-ended questions that require constructed responses. There are no multiple-choice questions. The CWRA requires that students use critical thinking and written communication skills to perform cognitively demanding tasks. The integration of these skills mirrors the requirements of serious thinking and writing tasks faced in life outside of the classroom.

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: 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. There are question and response boxes on the left side of the screen. There is no limit to 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, then analyze and organize them on multiple dimensions, and ultimately 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.

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.

Example Document Library

Your Document Library contains the following materials:

- Newspaper article about the accident
- Federal Accident Report on in-flight breakups in single-engine planes
- Internal correspondence (Pat's email to you and Sally's email to Pat)
- Charts relating to SwiftAir's performance characteristics
- Excerpt from a 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?

Iterative Development Process

A team of researchers and writers generates ideas for Performance Task storylines, and then contributes to the development and revision of the prompts and Performance Task documents.

During the development of Performance Tasks, care is taken to ensure that sufficient information is provided to permit multiple reasonable solutions to the issues presented 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 are also drafted and revised during the development of the documents. Questions are designed so 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, draw conclusions, and justify those conclusions.

After several rounds of revision, the most promising of the Performance Tasks are selected for pre-piloting. Student responses from the pre-pilot test are examined to identify what pieces of information are unintentionally ambiguous and what pieces of information in the documents should be removed. 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.

Interpreting CWRA Results

CWRA results operate as a signaling tool of overall institutional performance on tasks that measure higher-order skills. The Performance Task measures Analytic Reasoning and Evaluation, Writing Effectiveness, Writing Mechanics, and Problem Solving.

Subscores are assigned on a scale of 1 (lowest) to 6 (highest). Subscores are not directly comparable to one another because they are not adjusted for difficulty like scale scores. The subscores remain unadjusted because they are intended to facilitate criterion-referenced interpretations.

For example, a “4” in Analytic Reasoning and Evaluation means that a response had certain qualities (e.g., “Identifies a few facts or ideas that support or refute all major arguments”), and any adjustment to that score would compromise the interpretation.

Still, the ability to make claims like “Our students seem to be doing better in Writing Effectiveness than in Problem Solving on the Performance Task” is clearly desirable. This can be done by comparing each subscore distribution to its corresponding reference distribution displayed in

Figures 3.6 & 3.8. You can support claims like the one above if you see, for example, that students are performing above average in Writing Effectiveness, but not in Problem Solving on the Performance Task.

Please examine the results presented in Figures 3.6 & 3.8 and Tables 3.7 & 3.9 in combination with the *Scoring Criteria* in the next section to explore the areas where your students may need improvement.

Analytic Reasoning & Evaluation

Interpreting, analyzing, and evaluating the quality of information. This entails identifying information that is relevant to a problem, highlighting connected and conflicting information, detecting flaws in logic and questionable assumptions, and explaining why information is credible, unreliable, or limited.

Writing Effectiveness

Constructing organized and logically cohesive arguments. Strengthening the writer's position by providing elaboration on facts or ideas (e.g., explaining how evidence bears on the problem, providing examples, and emphasizing especially convincing evidence).

Writing Mechanics

Facility with the conventions of standard written English (agreement, tense, capitalization, punctuation, and spelling) and control of the English language, including syntax (sentence structure) and diction (word choice and usage).

Problem Solving

Considering and weighing information from discrete sources to make decisions (draw a conclusion and/or propose a course of action) that logically follow from valid arguments, evidence, and examples. Considering the implications of decisions and suggesting additional research when appropriate.

6

- Identifies most facts or ideas that support or refute all major arguments (or salient features of all objects to be classified) presented in the Document Library. Provides analysis that goes beyond the obvious.
- Demonstrates accurate understanding of a large body of information from the Document Library.
- Makes several accurate claims about the quality of information.

- Organizes response in a logically cohesive way that makes it very easy to follow the writer's arguments.
- Provides valid and comprehensive elaboration on facts or ideas related to each argument and clearly cites sources of information.

- Demonstrates outstanding control of grammatical conventions.
- Consistently writes well-constructed, complex sentences with varied structure and length.
- Displays adept use of vocabulary that is precise, advanced, and varied.

- Provides a decision and a solid rationale based on credible evidence from a variety of sources. Weighs other options, but presents the decision as best given the available evidence.
- When applicable:
 - Proposes a course of action that follows logically from the conclusion. Considers implications.
 - Recognizes the need for additional research. Recommends specific research that would address most unanswered questions.

5

- Identifies several facts or ideas that support or refute all major arguments (or salient features of all objects to be classified) presented in the Document Library.
- Demonstrates accurate understanding of much of the Document Library content.
- Makes a few accurate claims about the quality of information.

- Organizes response in a logically cohesive way that makes it fairly easy to follow the writer's arguments.
- Provides valid elaboration on facts or ideas related to each argument and cites sources of information.

- Demonstrates very good control of grammatical conventions.
- Consistently writes well-constructed sentences with varied structure and length.
- Uses varied and sometimes advanced vocabulary that effectively communicates ideas.

- Provides a decision and a solid rationale based largely on credible evidence from multiple sources and discounts alternatives.
- When applicable:
 - Proposes a course of action that follows logically from the conclusion. May consider implications.
 - Recognizes the need for additional research. Suggests research that would address some unanswered questions.

4

- Identifies a few facts or ideas that support or refute all major arguments (or salient features of all objects to be classified) presented in the Document Library.
- Briefly demonstrates accurate understanding of important Document Library content, but disregards some information.
- Makes very few accurate claims about the quality of information.

- Organizes response in a way that makes the writer's arguments and logic of those arguments apparent but not obvious.
- Provides valid elaboration on facts or ideas several times and cites sources of information.

- Demonstrates good control of grammatical conventions with few errors.
- Writes well-constructed sentences with some varied structure and length.
- Uses vocabulary that clearly communicates ideas but lacks variety.

- Provides a decision and credible evidence to back it up. Possibly does not account for credible, contradictory evidence. May attempt to discount alternatives.
- When applicable:
 - Proposes a course of action that follows logically from the conclusion. May briefly consider implications.
 - Recognizes the need for additional research. Suggests research that would address an unanswered question.

3

- Identifies a few facts or ideas that support or refute several arguments (or salient features of all objects to be classified) presented in the Document Library.
- Disregards important information or makes minor misinterpretations of information. May restate information "as is."
- Rarely, if ever, makes claims about the quality of information and may present some unreliable evidence as credible.

- Provides limited or somewhat unclear arguments. Presents relevant information in each response, but that information is not woven into arguments.
- Provides elaboration on facts or ideas a few times, some of which is valid. Sources of information are sometimes unclear.

- Demonstrates fair control of grammatical conventions with frequent minor errors.
- Writes sentences that read naturally but tend to have similar structure and length.
- Uses vocabulary that communicates ideas adequately but lacks variety.

- Provides or implies a decision and some reason to favor it, but the rationale may be contradicted by unaccounted for evidence.
- When applicable:
 - Briefly proposes a course of action, but some aspects may not follow logically from the conclusion.
 - May recognize the need for additional research. Any suggested research tends to be vague or would not adequately address unanswered questions.

2

- Identifies very few facts or ideas that support or refute arguments (or salient features of all objects to be classified) presented in the Document Library.
- Disregards or misinterprets much of the Document Library. May restate information "as is."
- Does not make claims about the quality of information and presents some unreliable information as credible.

- Provides limited, invalid, overstated, or very unclear arguments. May present information in a disorganized fashion or undermine own points.
- Any elaboration on facts or ideas tends to be vague, irrelevant, inaccurate, or unreliable (e.g., based entirely on writer's opinion). Sources of information are often unclear.

- Demonstrates poor control of grammatical conventions with frequent minor errors and some distracting errors.
- Consistently writes sentences with similar structure and length, and some may be difficult to understand.
- Uses simple vocabulary, and some vocabulary may be used inaccurately or in a way that makes meaning unclear.

- Provides or implies a decision, but very little rationale is provided or it is based heavily on unreliable evidence.
- When applicable:
 - Briefly proposes a course of action, but some aspects do not follow logically from the conclusion.
 - May recognize the need for additional research. Any suggested research is vague or would not adequately address unanswered questions.

1

- Does not identify facts or ideas that support or refute arguments (or salient features of all objects to be classified) presented in the Document Library or provides no evidence of analysis.
- Disregards or severely misinterprets important information.
- Does not make claims about the quality of evidence and bases response on unreliable information.

- Does not develop convincing arguments. Writing may be disorganized and confusing.
- Does not provide elaboration on facts or ideas.

- Demonstrates minimal control of grammatical conventions with many errors that make the response difficult to read or provides insufficient evidence to judge.
- Writes sentences that are repetitive or incomplete, and some are difficult to understand.
- Uses simple vocabulary, and some vocabulary is used inaccurately or in a way that makes meaning unclear.

- Provides no clear decision or no valid rationale for the decision.
- When applicable:
 - Does not propose a course of action that follows logically from the conclusion.
 - Does not recognize the need for additional research or does not suggest research that would address unanswered questions.

Scoring CWRA Responses

The CWRA uses a combination of automated and human scoring. Since fall 2010, we have been relying primarily on Intelligent Essay Assessor (IEA) for scoring. IEA is the automated scoring engine developed by Pearson Knowledge Technologies to evaluate the meaning of text, not just writing mechanics. Pearson has trained IEA for the CWRA using a broad range of real responses and scores to ensure its consistency with scores generated by human scorers.

Though the majority of scoring is handled by IEA, some responses are scored by trained human scorers. IEA identifies unusual responses, which are automatically sent to the human scoring queue. In addition, ten percent of responses are scored by both IEA and humans in order to continually evaluate the quality of scoring.

All scorer candidates undergo rigorous

training in order to become certified CLA/CWRA scorers. Training includes an orientation to the prompts and scoring rubrics/guides, repeated practice grading a wide range of student responses, and extensive feedback and discussion after scoring each response. To ensure continuous human scorer calibration, CAE developed the E-Verification system for the online Scoring Interface. The E-Verification system was developed to improve and streamline scoring. Calibration of scorers through the E-Verification system requires scorers to score previously-scored results or “Verification Papers”^{*} when they first start scoring, as well as throughout the scoring window. The system will periodically present Verification Papers to scorers, though the scorers are not alerted to the Verification Papers. The system does not indicate when a scorer has successfully scored a Verification Paper, but if the scorer fails to accurately score

a series of Verification Papers, he or she will be removed from scoring and must participate in a remediation process. At this point, scorers are either further coached or removed from scoring.

Each response receives subscores in the categories of Analytic Reasoning and Evaluation, Writing Effectiveness, Writing Mechanics, and Problem Solving. Subscores are assigned on a scale of 1 (lowest) to 6 (highest). Blank responses or responses that are entirely unrelated to the task (e.g., writing about what they had for breakfast) are flagged for removal from results.

Because the prompts differ in the possible arguments and pieces of information students can or should use in their responses, prompt-specific guidance is provided to scorers in addition to the scoring criteria that appear in the previous section.

^{*} The Verification Papers were drawn from responses collected during the 2010-2011 administration that were scored by both human scorers and the automated scoring engine. Each Verification Paper and its scores were reviewed by a lead scorer prior to being designated as a Verification Paper.

Converting Scores to a Common Scale

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

For each Performance Task, raw subscores are summed to produce a raw total score. Because not all tasks have the exact same level of difficulty, raw total 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 CWRA scale score indicates approximately the same percentile rank regardless of the task on which it was earned. This feature of the CWRA scale scores allows combining scores from different tasks to compute a school's mean scale score.

A linear scale transformation is used to convert raw scores to scale scores. This process results in a scale score distribution with the same mean and standard deviation as the SAT (or converted ACT) scores of the college 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 makes it such that a very high raw score earned on the task (not necessarily the highest possible score) corresponds approximately to the highest SAT (or converted ACT) score of any freshman who took that task. Similarly, a very low raw score earned on a task would be assigned a scale score value that is close to the lowest SAT (or converted ACT) score of any freshman who took that task. On rare occasions when students achieve exceptionally high or low raw scores, this scaling procedure may produce scale scores that fall outside the normal SAT (Math + Critical Reading) score range of 400 to 1600.

From fall 2006 to spring 2010, CAE used the same scaling equations for each assessment cycle in order to facilitate year-to-year comparisons. With the introduction of new scoring criteria in fall 2010, raw scores are now on a different scale than they were in previous years, which makes it necessary to revise the scaling equations. Under the new scaling equations, fall 2010 responses tend to receive somewhat lower scores than responses of the same quality would have received in previous years. If you are interested in drawing comparisons between the average CWRA scale scores in your current institutional report and those reported prior to fall 2010, we encourage you to use the equation below to convert pre-fall 2010 scale scores to current scale scores. The correlation between institution average scores on the old and new score scales is .99, and this equation characterizes the strong linear relationship between those scores.

$$score_{\text{new}} = 98.08 + (0.8704 \cdot score_{\text{old}})$$

CWRA Scores (unadjusted Performance Task percentiles for CLA institutions)

Percentile	Freshman Score	Senior Score
99	1300	1368
98	1285	1341
97	1275	1339
96	1229	1324
95	1202	1317
94	1196	1303
93	1192	1294
92	1190	1289
91	1183	1288
90	1161	1280
89	1159	1272
88	1158	1266
87	1156	1260
86	1153	1257
85	1146	1254
84	1143	1250
83	1136	1249
82	1132	1247
81	1125	1244
80	1124	1243
79	1123	1238
78	1122	1230
77	1115	1225
76	1113	1223
75	1111	1222
74	1109	1221
73	1102	1215
72	1097	1213
71	1092	1210
70	1091	1210
69	1090	1209
68	1088	1207
67	1087	1201
66	1085	1198
65	1083	1197
64	1082	1186
63	1080	1184
62	1077	1183
61	1072	1182
60	1071	1180
59	1069	1179
58	1068	1177
57	1063	1176
56	1061	1174
55	1058	1173
54	1057	1171
53	1056	1168
52	1055	1163
51	1053	1162
50	1052	1161

Percentile	Freshman Score	Senior Score
49	1050	1159
48	1043	1158
47	1042	1157
46	1041	1157
45	1039	1156
44	1037	1151
43	1035	1151
42	1032	1150
41	1031	1149
40	1028	1148
39	1023	1146
38	1021	1143
37	1020	1137
36	1017	1136
35	1016	1135
34	1014	1134
33	1012	1133
32	1007	1132
31	1004	1129
30	1000	1128
29	999	1127
28	998	1125
27	995	1122
26	993	1120
25	987	1118
24	981	1114
23	975	1113
22	973	1112
21	970	1109
20	969	1108
19	962	1107
18	959	1106
17	952	1101
16	950	1092
15	943	1088
14	941	1080
13	938	1071
12	928	1064
11	926	1045
10	922	1030
9	916	1027
8	911	1016
7	904	1002
6	878	990
5	876	983
4	844	974
3	841	961
2	831	929
1	792	789

In tandem with your report, we provide a CWRA Student Data File, which includes variables across three categories: self-reported information from students in their CLA online profile; CLA scores and identifiers; and information provided by the registrar. Some variables are not applicable to entering students.

We provide student-level information for linking with other data you collect (e.g., from portfolios, course-taking patterns, participation in extracurricular programs, etc.) to help you hypothesize about factors related to 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. In addition, correlations between individual CWRA scores and other measures would be attenuated due to unreliability.

Self-Reported Data

- Name (first, middle initial, last)
- Student ID
- Email address
- Date of birth
- Gender
- Race/ethnicity
- Parent education
- Primary and secondary academic major (36 categories)
- Field of study (six categories; based on primary academic major)
- English as primary language
- Attended school as freshman, sophomore, junior, senior
- Local survey responses (if applicable)

CLA Scores and Identifiers

- Performance Task scores
- Performance Level categories (i.e., well below expected, below expected, near expected, above expected, well above expected)*
- Percentile rank across schools and within your school (among students in the same class year, based on score)
- Subscores in Analytic Reasoning and Evaluation, Writing Effectiveness, Writing Mechanics, and Problem Solving
- SLE score (1-50)
- Entering Academic Ability (EAA) score (if applicable)
- Unique CWRA numeric identifiers
- 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 course tracks, programs, etc., if applicable)
- SAT Total (Math + Critical Reading)
- SAT I Math
- SAT I Critical Reading (Verbal)
- SAT I Writing
- ACT Composite
- GPA

*The residuals that inform these levels are from an OLS regression of CWRA scores on EAA scores, across all schools. Roughly 20% of students (within class) fall into each performance level.

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