



cwra+

NATIONAL INDEPENDENT
INSTITUTION RESULTS, 2015-16

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INTRODUCTION

The College and Work Readiness Assessment (CWRA) was launched in 2006 as a high school version of the Collegiate Learning Assessment (CLA), a major initiative of CAE (the Council for Aid to Education). Since then, the CLA and CWRA have offered institutions a valuable measure of their contributions to students' attainment of higher-order skills. The assessment requires students to analyze, evaluate, and synthesize information to demonstrate their ability to think critically and solve problems. To date, hundreds of institutions and hundreds of thousands of students have participated in these testing programs.

In 2013, CAE introduced CWRA+, an enhanced version of the assessment that includes new subscores, criterion-referenced mastery levels, and reliable information about performance at the student and institutional levels.

CWRA+ is designed to measure critical-thinking and written-communication skills that are valued by employers and important for secondary and post-secondary education. CWRA+ provides students with reliable evidence that they have these skills and to what degree they possess them.

Higher-order skills are a necessity for navigating and excelling in today's complex, Knowledge Economy. Employers overwhelmingly report valuing employees who exhibit strong critical-thinking and written-communication skills (Hart Research Associates, 2013). Correspondingly, students who excel in the areas measured by CWRA+ have been shown to experience greater success (Arum & Roksa, 2014) in college and their careers.

CWRA+ enables schools to identify areas of strength so they can improve their teaching and learning practices and ultimately graduate students who are prepared to succeed in the collegiate arena and in the workplace. Concurrently, CWRA+ provides students with the digital credentials to stand out by highlighting key skills for academic and professional success.

This report summarizes the performance of the 86 independent secondary institutions and 8,391 students who participated in the academic year of CWRA+.

METHODOLOGY

THE INSTRUMENT

CWRA+ includes two major components: the Performance Task (PT) and the Selected-Response Question (SRQ) section.

The **Performance Task** presents students with a real-world scenario that requires a purposeful written response. Students are asked to address an issue, propose a solution to a problem, or recommend a course of action to resolve a conflict. Students are instructed to support their responses by using information provided in the CWRA+ Document Library. This repository contains a variety of reference materials, such as technical reports, data tables, newspaper articles, office memoranda, and emails. A full PT includes four to nine documents in its Document Library. Students have 60 minutes to complete this constructed-response task.

Student responses to the PT are scored in three skill areas: Analysis and Problem Solving, Writing Effectiveness, and Writing Mechanics. Students receive subscores based on the CWRA+ rubric, which range from 1 to 6, for each skill category based on key characteristics of their written responses. These

characteristics are described in detail within the PT rubric, which is available on CAE's website at www.cae.org/cwraptrubric. PT subscores are then summed to yield raw total PT scores, which are then scaled and equated so that all scores are comparable regardless of which PT was administered. This process, which is accomplished via a linear transformation, puts the PT scores on a scale with an approximate mean of 1000 and standard deviation of 200.

In the second section of the examination, students are asked to answer 25 **Selected-Response Questions**. Like the PT, the 25 SRQs require students to draw information from provided materials. Students have 30 minutes to complete this section of the assessment. Each of three question sets represents a skill area: Scientific and Quantitative Reasoning (10 questions), Critical Reading and Evaluation (10 questions), and Critique an Argument (five questions).

The SRQ section is scored based on the number of correct responses that a student provides. Each set

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of questions is scored separately and then equated via a linear transformation. This process puts the three SRQ subscores on approximately the same scale and ensures that new SRQs are on the same scale as previously administered SRQs, and results in an approximate score range of 200 to 800 for each section. The SRQ section has an approximate mean and standard deviation of 500 and 100, respectively. A total SRQ score is created by taking a weighted

average of the equated SRQ subscores, with weights corresponding to the number of questions in the subset.

In addition to receiving scores for each of the two sections of the assessment, students receive total scores, which are simply the average of the PT and SRQ section scores.

Table 1A. Independent Student Sample Representativeness by Race/Ethnicity

SCHOOL CHARACTERISTIC		NATION		CWRA+	
		PUBLIC	PRIVATE	FRESHMEN	SENIORS
ALL INSTITUTIONS		93% (100%)	7% (100%)	64% (100%)	36% (100%)
RACE/ ETHNICITY	American Indian / Alaska Native / Indigenous	1% (1%)	0% (0%)	1% (2%)	<1% (1%)
	Asian (including Indian subcontinent and Philippines)	5% (5%)	0% (6%)	9% (15%)	5% (13%)
	Native Hawaiian or other Pacific Islander	0% (0%)	0% (1%)	<1% (1%)	<1% (<1%)
	African-American / Black (including African and Caribbean), non-Hispanic	15% (16%)	1% (9%)	5% (8%)	2% (7%)
	Hispanic or Latino	21% (23%)	1% (10%)	3% (5%)	2% (7%)
	White (including Middle Eastern), non-Hispanic	49% (53%)	5% (71%)	41% (64%)	23% (64%)
	Other / Decline to State	2% (2%)	0% (3%)	4% (7%)	3% (9%)

Percentages within class are presented in parentheses. All other percentages are across all independent school students.

Sources: The Elementary/Secondary Information System (ELSI), an NCES application that provides data from the Common Core of Data (CCD) and Private School Survey (PSS). Data in this table only include schools serving at least grades 9-12. Accessed April 8, 2015.

INSTITUTIONAL AND STUDENT SAMPLE

Participating schools are individually responsible for student sampling and recruitment.

Student-level demographic data suggest that schools are fairly successful at recruiting representative samples. CWRA+ students are representative of their peers nationally in terms of race/ethnicity (see Table 1A).

At the institutional level, the sample of participating institutions is more heavily represented by private schools (44%) than is the nation as a whole (7%). The high schools comprising the CWRA+ sample are, however, fairly representative of institutions within sectors. The exception is CWRA+ schools are larger, on average, than high schools nationally.

Table 1B. School Characteristics of the total CWRA+ Institutional Sample

SCHOOL CHARACTERISTIC	NATION		CWRA+	
	PUBLIC	PRIVATE	PUBLIC	PRIVATE
ALL INSTITUTIONS	76% (100%)	24% (100%)	43% (100%)	57% (100%)
CHARTER	6% (8%)	--	7% (16%)	--
MAGNET	2% (3%)	--	6% (16%)	--
TITLE I ELIGIBLE	38% (51%)	--	19% (45%)	--
RELIGIOUS AFFILIATION				
Non-Sectarian	--	7% (27%)	--	36% (63%)
Catholic	--	3% (14%)	--	4% (7%)
Other	--	14% (59%)	--	17% (30%)
SCHOOL TYPE				
Regular	56% (74%)	19% (79%)	38% (90%)	46% (92%)
Career/Technical/Vocational	3% (4%)	0% (0%)	0% (0%)	0% (0%)
Montessori	--	0% (1%)	--	2% (3%)
Special Education	4% (5%)	2% (10%)	1% (1%)	1% (1%)
Special Program Emphasis	--	1% (3%)	--	2% (3%)
Alternative/Other	13% (18%)	2% (7%)	3% (6%)	1% (2%)
MEDIAN ENROLLMENT (GRADES 9–12)	222	42	1199	311
MEAN PUPIL-TO-TEACHER RATIO	15:1	10:1	16:1	9:1
MEAN PERCENTAGE NON-WHITE STUDENTS	43%	29%	43%	26%

Percentages within sector are presented in parentheses. All other percentages are across all institutions.

Sources: The Elementary/Secondary Information System (ELSi), an NCES application that provides data from the Common Core of Data (CCD) and Private School Survey (PSS). Data in this table only include schools serving at least grades 9-12. Because all schools did not report on every measure in the table, the averages and percentages may be based on slightly different denominators. Accessed January 3, 2014.

MASTERY LEVELS

CWRA+ Mastery Levels contextualize CWRA+ scores in relation to the qualities exhibited by examinees. There are five mastery levels: Below Basic, Basic, Proficient, Accomplished, and Advanced. The full standard-setting report can be found at http://cae.org/images/uploads/pdf/cwra_ss.pdf.

Each mastery level corresponds to specific evidence of critical-thinking and written-communication skills. While the profiles of all five mastery levels can be found in Appendix B, the two most prominent mastery level profiles from the 2015-16 testing administration are highlighted here.

Students scoring at the Basic Mastery Level provide evidence of a discernible and relevant attempt to analyze the details of the PT and demonstrate that they are able to communicate in a manner that is understandable to the reader. Students with Basic Mastery also show some judgment about the quality of evidence provided in the Document Library.

In addition, students scoring at the Basic Mastery Level know the difference between correlation and causality, and they can read and interpret a bar graph—but not necessarily a scatterplot or regression analysis. Tables may also be out of reach for Basic Mastery Level students.

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Students scoring at the Proficient Mastery Level have shown that they are able to extract the major relevant pieces of evidence provided in the Document Library and develop a cohesive argument and analysis of the PT. Proficient Mastery Level students are able to distinguish the quality of evidence in these documents and express the appropriate level of conviction in their conclusion given the provided evidence. Additionally, Proficient

Mastery Level students are able to suggest additional research or consider counterarguments.

Students at this level can correctly identify logical fallacies, accurately interpret quantitative evidence, and distinguish the validity of evidence and its purpose. Likewise, they have the ability to determine the truth and validity of an argument. Students at this level also recognize when a graph or table is applicable to an argument.

SUBSCORES

Student responses to the **Performance Task** are scored in three skill areas: Analysis and Problem Solving, Writing Effectiveness, and Writing Mechanics. These subscores are assigned values ranging from 1 to 6, with those values determined according to specific response characteristics outlined in the CWRA+ Performance Task Rubric (see Appendix C). Subscores for the **Selected-Response Question** section represent three additional skill

areas: Scientific and Quantitative Reasoning (10 questions), Critical Reading and Evaluation (10 questions), and Critique an Argument (5 questions). Because some question sets may be more difficult than others, the subscores for each category are adjusted to account for these differences and reported on a common scale. Score values range from approximately 200 to 800 for each SRQ section.

EFFECT SIZES

To estimate growth in critical-thinking and written-communication skills across high school, CAE calculates **effect sizes** for participating schools. Effect sizes characterize the amount of growth in CWRA+ scores that is evident across classes. This is done by relating the performance of the freshman

class to that of the sophomore, junior, and senior classes. Effect sizes are calculated by subtracting the mean scores of the freshmen from the mean scores of the seniors, and dividing the result by the standard deviation of the freshmen scores. Effect sizes are reported in standard deviation units.

STATISTICAL METHODOLOGY

Most of the results reported here are comparisons of different groups of institutions on mean freshman and senior CWRA+ test results and effect sizes. To determine which comparisons are statistically significant, independent-samples *t*-tests (yielding a *t*-statistic and *p*-value) are used to compare two groups and one-way analyses of variance (ANOVAs; yielding an *F*-statistic and *p*-value) are used to compare three or more groups. As a general rule, *p*-

values less than .05 ($p < .05$, $p < .01$, or $p < .001$) are considered statistically significant and indicative of substantively meaningful findings. Any *p*-values greater than .05 indicate that any observed differences between groups are not great enough to indicate substantively meaningful differences (i.e., the results could have been obtained simply by chance).

2015-16 CWRA+ RESULTS

INSTITUTION-LEVEL CWRA+ SCORES

The average institutional CWRA+ score for private schools testing their freshmen in fall 2015 was 1026, indicating Proficient Mastery of the skills measured by CWRA+. Private schools testing seniors scored on average 84 points higher (1110) than freshmen overall, with only 16% of their graduating seniors

lacking proficiency in critical-thinking and written-communication skills. The number of exiting seniors with Advanced Mastery (12%) was nearly four times the number of freshmen showing Advanced Mastery (3%).

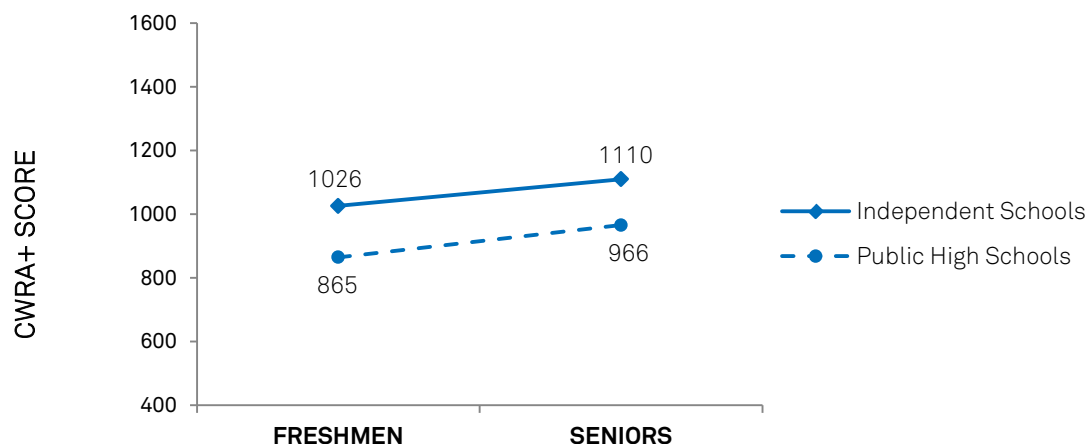


FIGURE 1. Change in Institutional Average CWRA+ Score from Freshman to Senior Year, by Sector

There were only minor differences due to geographic region, either for freshmen [$F(3,77) = .50, p = .69$], or for seniors [$F(3,48) = .43, p = .73$]. These results indicate that any differences seen on average between different regions within class are too small

to indicate that differences are truly present in the population. Table 2 summarizes differences in average institutional score by each of the institutional characteristics discussed prior.

TABLE 2. Average Independent Institution CWRA+ Performance by Geographic Region, 2015-16

INSTITUTIONAL CHARACTERISTIC	FRESHMEN			SENIORS		
	N	Mean Score	SD	N	Mean Score	SD
All Institutions	5426	1047	144	2965	1133	157
Region ^a						
(Northeast) ^b	1752	1059	141	708	1126	158
(Midwest) ^b	520	1019	128	421	1140	151
South	2247	1039	145	1138	1117	154
West	876	1065	151	698	1163	162

^a Table excludes four international high schools for which relevant data were not available.

^b Reference categories in parentheses.

STUDENT-LEVEL CWRA+ SCORES

The average freshman who tested at an independent institution in the fall 2015 to spring 2016 administrative year had a CWRA+ score of 1047, while the average senior scored 86 points higher (1133). There was more substantial variation in scores due to student-level factors than due to institution-level factors (see Table 3).

On average, females scored higher than males, both among freshmen [$F(2,5408) = 14.242, p < .001$] and seniors [$F(2,2959) = 29.788, p < .001$].

Primary language also made a difference in scores, with both freshmen [$t(824) = -4.450, p < .001$] and seniors [$t(2960) = -6.123, p < .001$] scoring higher if they spoke English as a first language. These

differences persisted when taking into account school sector.

CWRA+ results show performance differences across racial and ethnic groups as well, among both freshmen [$F(7,5403) = 23.802, p < .001$] and among seniors [$F(7,2954) = 12.348, p < .001$]. The major differences in performance were that Asian students and White students scored highest.

Parental education levels are similarly associated with CWRA+ performance among both freshmen [$F(4,5153) = 45.340, p < .001$] and seniors [$F(4,2934) = 48.678, p < .001$]. Depending on class level each additional level of education attained by a student's parents was associated with an increase of

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approximately 30-40 points on CWRA+ total score. The effect was smaller among freshmen (a 30-point

increase for each additional level of parental education) than among seniors (a 42-point increase).

TABLE 3. Independent Student CWRA+ Performance by Class Level and Demographic Characteristic, 2015-16

DEMOGRAPHIC CHARACTERISTIC*	FRESHMEN			SENIORS		
	N	Mean Score	SD	N	Mean Score	SD
All Students	5426	1047	144	2965	1133	157
Transfer Status						
Transfer Student	N/A	N/A	N/A	226	1077	162
(Non-Transfer Student) ^a	5426	1047	144	2739	1138	156
Gender						
Male	2440	1037	148	1385	1115	163
(Female)	2876	1055	139	1504	1154	146
Decline to State	95	1085	145	73	1065	196
Primary Language						
(English)	4753	1051	142	2567	1140	155
Other	658	1023	151	395	1089	159
Race/Ethnicity						
American Indian / Alaska Native / Indigenous	86	966	139	16	1023	167
Asian (including Indian Subcontinent and Philippines)	777	1063	151	374	1114	164
Native Hawaiian or Pacific Islander	28	941	136	10	1088	148
African-American / Black (Including African and Caribbean), non-Hispanic	393	991	140	203	1074	146
Hispanic or Latino	269	1009	136	212	1102	154
White (including Middle Eastern), non-Hispanic	3507	1057	138	1908	1151	151
Other	199	1011	152	101	1116	173
Decline to State	152	1064	161	138	1103	184
Parent Education						
Less Than High School	50	977	142	22	1068	168
High School	138	967	144	156	1043	153
Some College	604	1001	139	218	1051	154
Bachelor's Degree	1226	1039	138	871	1119	150
(Graduate or Post-Graduate Degree)	3140	1066	142	1672	1163	152

^a Reference categories in parentheses.

MASTERY LEVELS

Over two-thirds (69%) of the independent school entering freshmen tested during the 2015-16 academic year were at least proficient in CWRA+ skills. 30% scored at the Basic Mastery Level, and only 1% of independent school freshmen exhibited Below Basic Mastery of critical-thinking and written-communication skills, as measured by CWRA+. The average entering independent school freshman (with a mean score of 1047) exhibits Proficient Mastery of CWRA+ skills.

Across independent school seniors testing in 2015-16, more than 4 in 5 (83%) were proficient in CWRA+ skills—scoring either at the Proficient to Advanced Mastery Level. A total of 16% scored at the Basic Mastery Level, while less than 1% scored at the Below Basic Mastery Level. The average exiting private school senior (with a mean score of 1133) exhibits Accomplished Mastery of CWRA+ skills.

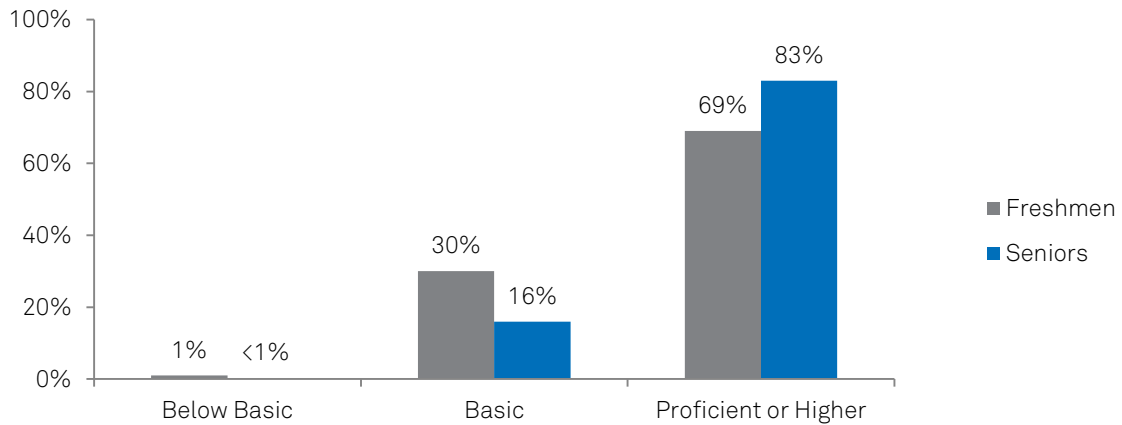


FIGURE 2. Distribution of Independent School CWRA+ Mastery Levels

SUBSCORES

The average PT subscores for freshmen at independent schools were 3.5 for Analysis and Problem Solving (APS), 3.5 for Writing Effectiveness (WE), and 4.2 for Writing Mechanics (WM). These scores improved to senior averages of 3.8, 3.9, and 4.2 for APS, WE, and WM, respectively (see Figure 3).

The average SRQ subscores for freshmen schools were 502 for Scientific and Quantitative Reasoning (SQR), 524 for Critical Reading and Evaluation (CRE), and 503 for Critique an Argument (CA). These scores improved to senior averages of 531, 558, and 536 for SQR, CRE, and CA, respectively (see Figure 4).

EFFECT SIZES

Effect sizes characterize the amount of growth in CWRA+ scores that is evident across classes, in standard deviation units (see Figure 4). The effect size for the average independent school was .61.

These scores are normally distributed, though there are a handful of institutions with exceptionally high effect sizes (see Figure 3).

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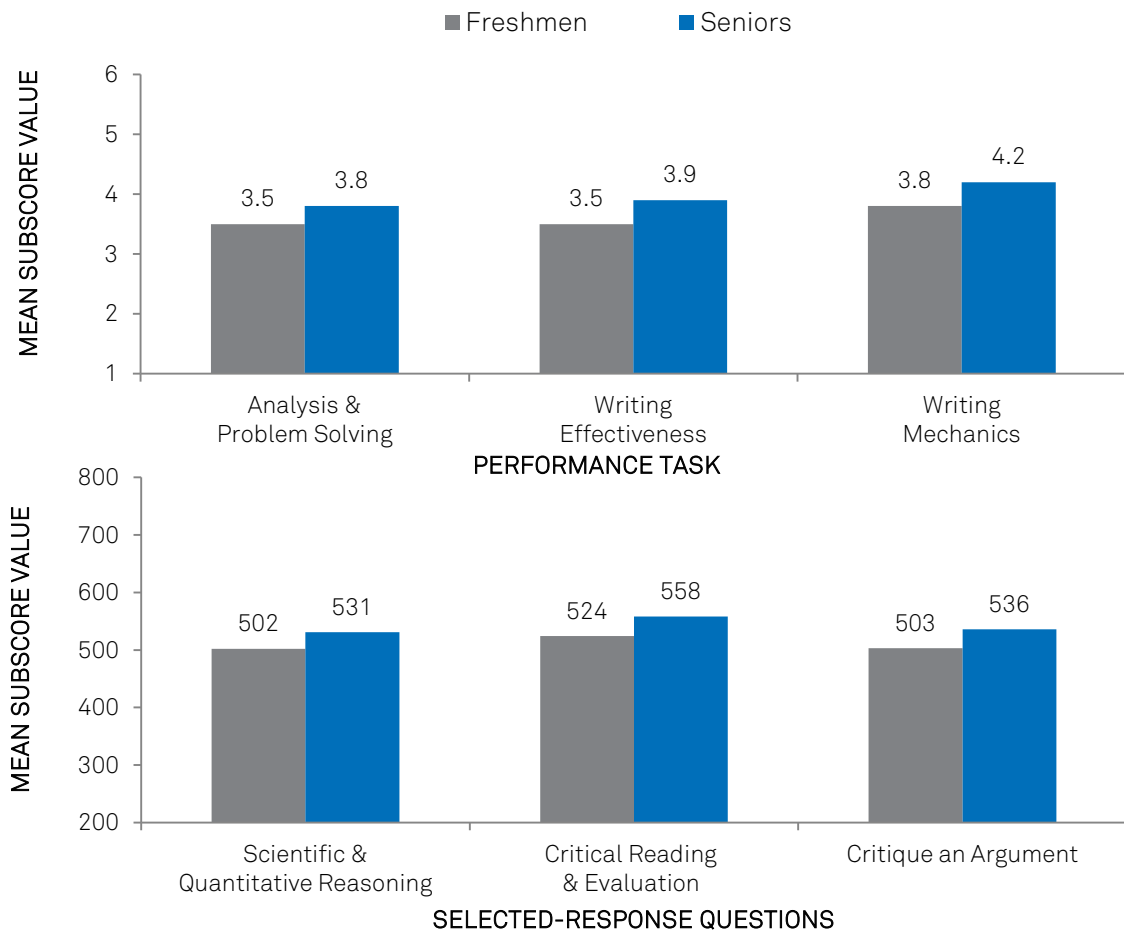


FIGURE 3. Average CWRA+ Subscores Across Independent Institutions

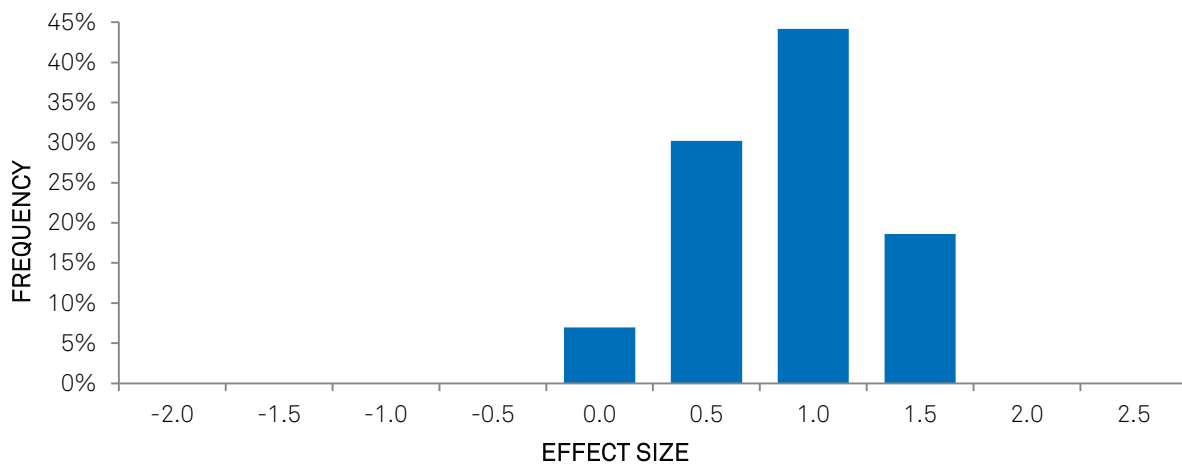


FIGURE 4. Distribution of Institutional Effect Sizes, by Sector

CONCLUSION

Independent schools currently make up approximately half of all CWRA+ institutions. Therefore, while independent institutions comprise 7% of all national institutions of secondary education, their weight within the current CWRA+ institutional demographic is significant. This report has also demonstrated that within this population, there is a significant cohort of students with noticeably high levels of critical-thinking skills.

These results are indicative of secondary institution populations that not only enter with high levels of critical-thinking skills, but that leave with increased proficiency in these abilities as well. It is this increase in critical-thinking skills, and its

measurement, that allows independent schools to make comparisons, both between other institutions in the private sector as well as different demographics of students within their own institutions, in order to make informed decisions and analyses on institutional growth in these areas.

Independent institutions remain an important and fundamental aspect of secondary education, and, therefore, it is important to ensure that current and future curriculums are aligned to improve the skills that will be most important for their students both in institutions of higher education and in the workplace.

REFERENCES

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Hart Research Associates. (2013). It takes more than a major: employer priorities for college learning and student success. Liberal Education, 99.

U.S. Department of Education National Center for Education Statistics Common Core of Data (CCD) "Public Elementary/Secondary School Universe Survey" 2013-14 v.2a.

U.S. Department of Education National Center for Education Statistics "Private School Universe Survey (PSS)" 2011-12.

APPENDIX A: LIST OF PARTICIPATING INDEPENDENT INSTITUTIONS, 2015-16

The schools listed below in alphabetical order constitute the sample of independent institutions testing CWRA+ students and CLA+ freshmen that have agreed to be listed. To view a list of currently participating schools, please visit www.cae.org/cwrparticipants.

Independent CWRA+ Schools

African Leadership Academy	Principia Upper School
Alexander Dawson School	Riverdale Country School
All Saints' Academy	Robinson School
American School Foundation of Monterrey	Roland Park Country School
Archmere Academy	Sage Hill School
Areté Preparatory Academy	Saint Mary's School
Asheville School	Salem Academy
Barrie School	Seacrest Country Day School
Beacon Academy	Severn School
Blue Ridge School	Shady Side Academy
Bosque School	Sonoma Academy
Brimmer and May School	Spring Ridge Academy
Brooks School	St. Andrew's Episcopal School
Calvert Education	St. Andrew's School
Christchurch School	St. Anne's-Belfield School
Collegiate School	St. Christopher's School
Colorado Academy	St. George's Independent School
Crystal Springs Uplands School	St. George's School
Culver Academies	St. Margaret's Episcopal School
Currey Ingram Academy	St. Mark's School
Dwight-Englewood School	St. Stephen's School
Eagle Rock School & Professional Development Center	Stuart Country Day School
Emma Willard School	Tabor Academy
Forsyth Country Day School	Takatuf Scholars
Fountain Valley School of Colorado	Tarbut V'Torah
Gilmour Academy	The Bishop Strachan School
Greensboro Day School	The Chapin School
Hebron Academy	The Colorado Springs School
Heritage Hall	The Fulton School at St. Albans
Holland Hall	The Gregory School
Holy Family Academy	The Hill School
IDEAS Academy	The Hotchkiss School
Kimball Union Academy	The Hun School of Princeton
Little Red School House & Elisabeth Irwin High School	The Lawrenceville School
Mary Institute Country Day School	The Lovett School
Maryknoll School	The Salisbury School
Menlo School	The Taft School
Metairie Park Country Day School	The Tatnall School
Moorestown Friends School	The Webb School
Mount Vernon Presbyterian School	Tilton School
Norfolk Collegiate School	Tower Hill School
North Shore Country Day School	Trinity Hall
Pacific Buddhist Academy	Trinity School of Durham and Chapel Hill
Pacific Ridge School	Ursuline Academy of Dallas
Parish Episcopal School	Wardlaw-Hartridge School
Pomfret School	Watershed School
	Westtown School
	Wildwood School
	Worcester Academy
	York School

APPENDIX B: CWRA+ MASTERY LEVELS

SETTING STANDARDS FOR CWRA+

Following the creation of CWRA+, a standard-setting study was conducted to establish fair and defensible levels of mastery for the new and improved assessment. This formal study was held at CAE headquarters in New York City on December 13, 2013. A two-step, follow-up study was conducted in November 2014 to establish the cut score for the Accomplished student, an additional level of mastery for the CWRA+. Fifteen distinguished panelists, representing a variety of K-12 and higher education sectors, were invited to participate. The table below lists each panelist.

During the initial standard-setting study, panelists defined descriptions of four mastery levels: Below Basic, Basic, Proficient, and Advanced. Panelists returned in November 2014 to define a fifth level of mastery—Accomplished—using the same methods.

Their discussions were based on the CWRA+ scoring rubric as well as the knowledge, skills, and abilities required to perform well on CWRA+. The purpose of this activity was to develop consensus among the judges regarding each mastery level and to create a narrative profile of the knowledge, skills, and abilities necessary for CWRA+ students.

During subsequent rating activities, panelists relied on these consensus profiles to make item performance estimates. Judges broke into three groups of four, and each group evaluated characteristics related to one mastery level. The groups then reconvened and reported their findings to the group at large so they could form final consensus on student performance at each of the mastery levels.

CWRA+ Standard-Setting Study Participant List and Institutional Affiliation

PARTICIPANT	INSTITUTION
Mark Battersby	Capilano University (Canada)
Ray Bryant	Warwick Valley School District
Paul Carney	Minnesota State Technical and Community College
Peter Gow	Beaver Country Day School
John Gulla	E.E. Ford Foundation
Bonnie Hain	Baltimore County School District
Jonathan Martin	Independent Consultant
Syna Morgan	Douglas County School District
Andrew Niblock	Greenwich Country Day School
Dominic Randolph	Riverdale Country School
Drew Schrader	New Tech Network
Tyler Thigpen	Mount Vernon Presbyterian School
Amada Torres	National Association of Independent Schools
Todd Wirt	Wake County School District
Doug Wren	Virginia Beach School District

CWRA+ MASTERY LEVELS

CAE uses outcomes from the 2013 and 2014 standard-setting studies to distinguish between CWRA+ students with varying knowledge, skills, and abilities as measured by the assessment. On

individual reports, mastery levels are determined by students' Total CWRA+ scores. On institutional reports, they are determined by each class level's mean Total CWRA+ score.

Institutions should not use mastery levels for purposes other than the interpretation of test results. If an institution wishes to use the attainment of CWRA+ Mastery Levels as part of a graduation

requirement or the basis for college entrance decisions, the institution should conduct a separate standard-setting study with this specific purpose in mind.

The following table summarizes each level of mastery and provides a description of students below the Basic level of mastery.

Student Levels of Mastery Profiles

LEVEL OF MASTERY	PROFILE
BELOW BASIC	Students who are below basic make severe errors that are frequent and often interfere with meaning. Students write simple sentences and some non-sentences.
BASIC	<p>Students at the basic level create responses that state or imply a decision, conclusion, or position and provide some analysis that may be minimal, inaccurate, or irrelevant. A basic student would provide an argument with some supporting information from sources and an attempt to cohesively organize that argument. Yet, the elaboration is limited and the organization lacks sufficient cohesion and clarity. For the basic student, severe errors are infrequent, but there are minor errors that sometimes interfere with meaning. The basic student also writes sentences that are similar in structure and length, with an overreliance on sentences with simple structure. The basic student draws obvious inferences from sources, rarely recognizes relevant information, and takes all information at face value.</p> <p>Analysis and Problem Solving and Writing Effectiveness are more important than Writing Mechanics in making the cut score decision.</p>
PROFICIENT	<p>Students at the proficient level have the ability to make inferences from the document and provide some support for their position but may omit some evidence. They address most elements of the task although sometimes tangentially. Students make a few accurate claims about the quality of evidence while citing the evidence provided in the documents. However, their responses may have a few misinterpretations of the information and evidence provided in the documents.</p> <p>The students at this level are writing generally understandable sentences with minor errors and use the conventions of standard written English. The student responses are communicated in a way that is readily comprehensible.</p> <p>There is an evaluation of the relative value of common logical strategies (e.g., bad cause and effect). They extract meaningful information and recognize utility from basic graphs and are able to draw conclusions from them. There is an understanding of correlation versus causality as well as a basic understanding of the design of the experiment. Proficient students will know what makes a credible scientific claim and provide an appropriate critical evaluation of sources.</p>
ACCOMPLISHED	Students at the accomplished level of mastery have the ability to make inferences from the document and provide sufficient evidence (based on multiple sources) to support their claim. This would include generating accurate interpretations of the document library, developing coherent arguments using much of the information provided in the documents, and potentially identifying, but not fully developing, potential future steps and the need for additional research. They are also able to identify and address bias when making inferences or drawing conclusions, assess the relevancy of the qualitative and quantitative data (e.g., read and understand a graph and identify limitations and shortcomings; demonstrate an understanding that correlation does not necessarily imply causality), distinguish credible versus non-credible sources of information, and generate counter-claims. Accomplished students state a decision/recommendation/position and develop their argument

based upon the identified information; however, they fall short of using evidence to fully support and leverage their argument. They have the ability to identify and extend the impact of the supporting versus counter-evidence and their broader implications.

Accomplished students write responses that are cohesive, organized, and elaborated effectively. The student recognizes the correct audience and writes in a way that demonstrates understanding of the intended audience. The sources (documents) of evidence in support of students' claims can be identified. The student's intent is clear, and the organization or the argument and understanding it represents is accurate and logical. There may be some minor spelling and syntax errors, but the sentences are generally well constructed, with varying and sometimes advanced vocabulary and structure, communicating a level of sophistication in the response.

ADVANCED

Students at the advanced level discern the merit of information and evaluate the strength of arguments, including identifying bias. They demonstrate a thorough evaluation of the evidence by making connections between the information found in the documents, potentially identifying patterns, and if applicable, refuting false or weak claims, which ultimately informs one's response. They clarify potential further steps, either a next step moving forward or additional research that is needed or would be helpful. In order to strengthen their own arguments, students at the advanced level also address counter-arguments and demonstrate the weaknesses of the counter-arguments and/or the ways in which they are less compelling.

Advanced students provide a decision/recommendation with thorough support of the argument articulated in an effective way. The evidence is thoroughly examined, including addressing and navigating contradictory responses, and the interpretation of the documents is comprehensive. They fully respond to the prompt.

Student writing is precise, purposeful, uses a varied vocabulary, sentence structure and length, and is free—or almost entirely free—from mechanical error. Their responses are organized in a fluid, coherent, and engaging way. It is easy to follow the student's argument, which also has the correct audience in mind and appropriately addresses them. They use the correct genre to deliver the response, whether it is a blog response, report, memo, speech, etc.

Students should be able to consistently reason analytically and solve problems and be able to understand the nuances when integrating information across multiple sources.

APPENDIX C: CWRA+ PERFORMANCE TASK RUBRIC

SCALE	DESCRIPTION	1	2
ANALYSIS AND PROBLEM SOLVING	Making a logical decision or conclusion (or taking a position) and supporting it by utilizing appropriate information (facts, ideas, computed values, or salient features) from the Document Library	<ul style="list-style-type: none"> ▪ May state or imply a decision/conclusion/position ▪ Provides minimal analysis as support (e.g., briefly addresses only one idea from one document) or analysis is entirely inaccurate, illogical, unreliable, or unconnected to the decision/conclusion/position 	<ul style="list-style-type: none"> ▪ States or implies a decision/conclusion/position ▪ Provides analysis that addresses a few ideas as support, some of which are inaccurate, illogical, unreliable, or unconnected to the decision/conclusion/position
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)	<ul style="list-style-type: none"> ▪ Does not develop convincing arguments; writing may be disorganized and confusing ▪ Does not provide elaboration on facts or ideas 	<ul style="list-style-type: none"> ▪ Provides limited, invalid, over-stated, 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
WRITING MECHANICS	Demonstrating 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)	<ul style="list-style-type: none"> ▪ 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 	<ul style="list-style-type: none"> ▪ Demonstrates poor control of grammatical conventions with frequent minor errors and some severe 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

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<ul style="list-style-type: none"> ▪ States or implies a decision/conclusion/position ▪ Provides some valid support, but omits or misrepresents critical information, suggesting only superficial analysis and partial comprehension of the documents ▪ May not account for contradictory information (if applicable) 	<ul style="list-style-type: none"> ▪ States an explicit decision/conclusion/position ▪ Provides valid support that addresses multiple pieces of relevant and credible information in a manner that demonstrates adequate analysis and comprehension of the documents; some information is omitted ▪ May attempt to address contradictory information or alternative decisions/conclusions/positions (if applicable) 	<ul style="list-style-type: none"> ▪ States an explicit decision/conclusion/position ▪ Provides strong support that addresses much of the relevant and credible information, in a manner that demonstrates very good analysis and comprehension of the documents ▪ Refutes contradictory information or alternative decisions/conclusions/positions (if applicable) 	<ul style="list-style-type: none"> ▪ States an explicit decision/conclusion/position ▪ Provides comprehensive support, including nearly all the relevant and credible information, in a manner that demonstrates outstanding analysis and comprehension of the documents ▪ Thoroughly refutes contradictory evidence or alternative decisions/conclusions/positions (if applicable)
<ul style="list-style-type: none"> ▪ 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 	<ul style="list-style-type: none"> ▪ 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 	<ul style="list-style-type: none"> ▪ 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 	<ul style="list-style-type: none"> ▪ 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
<ul style="list-style-type: none"> ▪ 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 	<ul style="list-style-type: none"> ▪ 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 	<ul style="list-style-type: none"> ▪ 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 	<ul style="list-style-type: none"> ▪ 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