

# ASSESSMENT BRIEF

DEPARTMENT OF PLANNING, INNOVATION, AND ACCOUNTABILITY  
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## 2015 COLLEGE AND WORK READINESS ASSESSMENT RESULTS

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### ABSTRACT

This report summarizes the results from the administration of the College and Work Readiness Assessment (CWRA+) to juniors enrolled in Virginia Beach City Public Schools (VBCPS) during the 2013-2014 and 2014-2015 school years. The CWRA+ includes a performance task involving a realistic problem, with documents that students must analyze before responding to an open-ended prompt, and 25 selected-response questions that measure scientific and quantitative reasoning, critical reading and evaluation, and critiquing an argument.

The total CWRA+ mean score for the 4,224 VBCPS juniors with valid CWRA+ scores in 2015 was 1012, 6 points higher than the 2014 total mean score for juniors. The total CWRA+ mean score increased in 7 of the 12 participating schools ranging from 7 to 28 points.

The VBCPS mean score for the 2015 performance task was 989, 4 points lower than the 2014 VBCPS mean score. The performance task mean score increased at 5 schools ranging from 15 to 22 points. The VBCPS mean score for the selected-response portion of the CWRA+ was 1035, 17 points higher than the 2014 VBCPS mean score. The selected-response mean score increased at 10 schools ranging from 4 to 43 points.

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### BACKGROUND

Since 2006, the Council for Aid to Education (CAE) has used the College and Work Readiness Assessment (CWRA) to offer institutions a value-added approach to the measurement of higher-order thinking skills. Initially, CAE's assessments focused on helping institutions estimate their contribution to the development of students' higher-order thinking skills. In 2013, CAE expanded this scope with the introduction of the CWRA+. The enhanced version of this examination provides valuable and reliable information about educational growth not only at the institutional level, but at the student level. Other features to the CWRA+ are the inclusion of subscores for scientific and quantitative reasoning, critical reading and evaluation, and critiquing an argument. The addition of mastery levels also supports the reporting of criterion-referenced results in relation to skill proficiency. The CWRA+ includes two sections: a performance task (PT) and a series of selected-response questions (SRQs).

The first section is the PT, which presents students with a real-world situation that requires a purposeful written response. Each PT includes several documents in an online document library that students use to respond to questions about a hypothetical but realistic situation. Each performance task assesses analysis and problem solving, writing effectiveness, and writing mechanics. Students are allowed up to 60 minutes to examine the documents and construct their written responses.

The second section of the CWRA+ consists of 25 SRQs. Ten questions measure scientific and quantitative reasoning, ten questions measure critical reading and evaluation, and another five questions call for students to critique arguments by identifying logical flaws and questionable assumptions. The questions are document-based and require students to draw information from provided materials. Students are allowed up to 30 minutes to complete this section of the assessment. When the PT and SRQ sections are combined, the result is a measurement of critical-thinking skills, which are in high demand in college and the workforce.

The CWRA+ is administered exclusively online, and the responses are scored using a combination of an automated scoring engine and trained raters. The skills measured by the CWRA+ are aligned with *Compass to 2020* (Goal 1 - High Academic Expectations). The CWRA+ provides useful and dependable information about attainment of globally competitive

skills at the institutional level and individual student level. Additionally, the CWRA+ is one of several industry certification examinations and occupational competency assessments that have been identified by the Virginia Board of Education as meeting criteria to satisfy requirements of the career and technical education seal, the seal of advanced mathematics and technology, and student-selected verified credit. This makes the CWRA+ yet another opportunity for Virginia Beach students to meet graduation requirements.

In January and February of 2015, the CWRA+ was administered to 4,491 juniors enrolled in English 11 courses at Renaissance Academy and all 11 comprehensive high schools in Virginia Beach. Students enrolled in English 11 courses began taking the CWRA during the 2011-2012 school year. Prior to 2011-2012, VBCPS students in English 12 courses took the CWRA. However, it was determined that results from the assessment would be more useful to individual students and schools if the scores were received while the students were still in high school. Consequently, the decision was made to administer the CWRA to juniors.

**METHODOLOGY**

The information presented in this brief is based on data of juniors included in the *Spring 2014 CWRA+ Results* and the *Spring 2015 CWRA+ Results* for the Virginia Beach School District and for each of the 11 high schools and Renaissance Academy. The reports include tables that compare the Virginia Beach CWRA+ test takers with students at other secondary schools that administered the CWRA+. Data from the spring 2014 and spring 2015 CWRA+ Excel data files compiled by CAE was utilized to summarize some of the data elements in this brief. The Excel files also provide individual data (disaggregated for selected data elements) for each VBCPS student who took the CWRA+ in January and February of 2014 and 2015.

**VALID CWRA+ RESULTS IN VIRGINIA BEACH**

During the 2015 CWRA+ testing window, there were 4,976 juniors who were enrolled in an English 11 course, one of the courses listed in Table 1. Table 2 shows the number of VBCPS juniors who were enrolled in English 11 courses, the number of juniors who participated in the CWRA+, and the number of valid CWRA+ scores based on the number of students who

**Table 1  
English 11 Courses**

AP English 11 Language & Composition	HAS English 11 (Honors)
AP Virtual Virginia English Language	IB English 11
English 11	LSA English 11 (Honors)
GSWLA English 11	Online English 11
Honors English 11	TA English 11 (Honors)

participated. Valid scores were not available for students whose responses were unscorable (i.e., off topic, no response, did not properly utilize the document library) or for students who did not answer at least half of the questions in the selected-reponse section.

Out of 4,976 juniors enrolled in an English 11 course, 4,491 students (90%) participated in the CWRA+. Some students did not take the CWRA+ due to testing exemptions and documented testing accommodations that could not be facilitated for the online CWRA+ administration, while others did not take the CWRA+ due to extended absences from school.

**Table 2  
Valid 2015 CWRA+ Results by High School Juniors**

School	Enrolled in English 11	Participated In CWRA+		Valid CWRA+ Scores	
	Junior Count	Junior Count	Percent Participated	Junior Count	Percent Valid
Bayside	391	374	95.65	340	90.91
Cox	471	411	87.26	390	94.89
First Colonial	542	423	78.04	411	97.16
Green Run	364	349	95.88	309	88.54
Kellam	465	435	93.55	423	97.24
Kempsville	389	309	79.43	290	93.85
Landstown	478	440	92.05	415	94.32
Ocean Lakes	468	461	98.50	445	96.53
Princess Anne	407	384	94.35	366	95.31
Renaissance Academy	68	39	57.35	20	51.28
Salem	467	430	92.08	405	94.19
Tallwood	466	436	93.56	410	94.04
<b>VBCPS</b>	<b>4,976</b>	<b>4,491</b>	<b>90.25</b>	<b>4,224</b>	<b>94.05</b>

Sources: VBCPS Student Data Warehouse and CWRA+ Institutional Reports for 2015 (Section 1).

Out of the 4,491 juniors who participated in the CWRA+, 4,224 of those assessments (94%) resulted in valid CWRA+ scores. With the exception of Green Run High School (89%) and Renaissance Academy (51%), all schools and the division had valid results for more than 90% of CWRA+ test takers.

**MEAN SCORES AND MASTERY**

**LEVELS**

The first administration of the CWRA+ was during the 2013-2014 school year to 4,848 high school juniors at 26 private and public schools across the nation as noted in Table 3. In addition, 6,498 high school seniors at 109 private and public schools across the nation took the same CWRA+ performance task. In the 2014-2015 school year, CWRA+ was administered to 6,682 high school juniors at 53 private and public schools across the nation. In addition, 5,812 high school seniors at 112 private and public schools across the nation took the CWRA+. These administrations allow comparisons with national samples. It should

be noted that in 2013-2014, most of the junior sample was comprised of Virginia Beach students, and in 2014-2015, Virginia Beach juniors made up more than half of the national junior sample. Many students in both national samples attended private college-prep schools (more than half in 2014 and about half in 2015).

**Table 3**  
**Results Across CWRA+ Institutions**

Year	Juniors			Seniors		
	Number of Students	Number of Schools	Total CWRA+ Mean Score	Number of Students	Number of Schools	Total CWRA+ Mean Score
2013-2014	4,848	26	1022	6,498	109	1058
2014-2015	6,682	53	990	5,812	112	1025
<b>Change</b>	<b>1,834</b>	<b>27</b>	<b>-32</b>	<b>-686</b>	<b>3</b>	<b>-33</b>

Sources: Council for Aid to Education (CAE).

Table 4 shows the total mean scores for Virginia Beach juniors who took the CWRA+ over the past two years and the mastery levels for each school and the division. The CWRA+ has five mastery levels: Below Basic, Basic, Proficient, Accomplished, and Advanced. The first columns of data list the total CWRA+ mean score for each VBCPS school, followed by the corresponding mastery level. The total CWRA+ mean score increased 6 points for VBCPS when compared to 2014. Seven schools showed an increase in the total CWRA+ mean score ranging from 7 to 28 points.

In 2015, eight VBCPS high schools scored within the proficient mean mastery level. In 2014, Bayside High School scored within the Proficient Mean Mastery Level; however, in 2015 this level changed to Basic.

As previously noted in Table 3, the national total mean CWRA+ score for high school juniors was 990 and the total mean score for high school seniors was 1025. The total mean CWRA+ score of 1012 for Virginia Beach juniors was 22 points higher than the national high school junior mean score and 13 points below the national high school senior mean score. The mean score for juniors at all but four schools was higher than the national junior mean score of 990. Cox, First Colonial, Kellam, Ocean Lakes, and Princess Anne high schools surpassed the mean for high school seniors of 1025.

**Table 4**  
**Mastery Levels by High School**

School	Mean				
	Total CWRA+ Score (400-1600)			Mastery Level	
	2014	2015	Change	2014	2015
Bayside	979	965	-14	Proficient	Basic
Cox	1009	1037	28	Proficient	Proficient
First Colonial	1033	1053	20	Proficient	Proficient
Green Run	906	916	10	Basic	Basic
Kellam	1047	1047	0	Proficient	Proficient
Kempsville	965	972	7	Basic	Basic
Landstown	979	995	16	Proficient	Proficient
Ocean Lakes	1030	1048	18	Proficient	Proficient
Princess Anne	1070	1069	-1	Proficient	Proficient
Renaissance Academy	800	794	-6	Basic	Basic
Salem	994	1014	20	Proficient	Proficient
Tallwood	1024	991	-33	Proficient	Proficient
<b>VBCPS</b>	<b>1006</b>	<b>1012</b>	<b>6</b>	<b>Proficient</b>	<b>Proficient</b>

Sources: CWRA+ data files, CWRA+ Report for Virginia Beach School District, and CWRA+ Institutional Reports for 2014 and 2015 (Section 1 and 2).

Table 5 shows the percentage of students that performed at each mastery level. In 2015, 27 percent of the students scored at the proficient level, 30 percent at the accomplished level, and 3 percent at the advanced level. The highest percent of students scoring in the advanced mastery level was at Princess Anne High School with 8 percent followed by Ocean Lakes High School with 6 percent.

**Table 5**  
**Proficiency Levels by High School**

School	Percent of Juniors at Each Proficiency Level														
	Below Basic			Basic			Proficient			Accomplished			Advanced		
	2014	2015	Change	2014	2015	Change	2014	2015	Change	2014	2015	Change	2014	2015	Change
Bayside	5	5	0	41	46	5	30	28	-2	23	20	-3	1	1	0
Cox	4	2	-2	36	32	-4	29	29	0	28	35	7	3	2	-1
First Colonial	2	2	0	32	27	-5	29	30	1	35	38	3	2	3	1
Green Run	13	6	-7	54	60	6	24	26	2	9	9	0	0	0	0
Kellam	3	2	-1	27	28	1	30	29	-1	36	39	3	4	2	-2
Kempsville	8	4	-4	40	46	6	27	27	0	24	22	-2	1	0	-1
Landstown	5	4	-1	42	41	-1	28	29	1	24	25	1	0	2	2
Ocean Lakes	4	2	-2	34	33	-1	25	23	-2	33	36	3	5	6	1
Princess Anne	4	5	1	24	27	3	26	17	-9	36	42	6	10	8	-2
Renaissance Academy	24	30	6	67	60	-7	6	10	4	3	0	-3	0	0	0
Salem	4	2	-2	40	34	-6	29	32	3	26	29	3	1	2	1
Tallwood	3	4	1	36	39	3	27	31	4	31	25	-6	4	1	-3
<b>VBCPS</b>	<b>5</b>	<b>4</b>	<b>-1</b>	<b>37</b>	<b>37</b>	<b>0</b>	<b>27</b>	<b>27</b>	<b>0</b>	<b>28</b>	<b>30</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>0</b>

Sources: CWRA+ data files, CWRA+ Report for Virginia Beach School District, and CWRA+ Institutional Reports for 2014 and 2015 (Section 2).

**SUBSCORES AND TIME SPENT ON THE CWRA+**

Each student’s performance task response is evaluated in three subscore categories. The categories are Analysis and Problem Solving (APS), Writing Effectiveness (WE), and Writing Mechanics (WM). Each category is scored according to a rubric with score levels ranging from 1 to 6. The rubric describes the categories and the scoring criteria that correspond to each of the six levels for each category. The subscore categories are defined by CAE as follows:

- **APS** – 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.
- **WE** – Constructing organized and logically cohesive arguments. Strengthening the writer’s position by providing elaboration on facts or ideas.
- **WM** – 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).

Students are given a 60-minute time limit in which to read the task scenario and documents, respond in writing to the open-ended prompt, and submit their responses online.

Table 6 shows the average number of minutes junior test takers at each VBCPS school with valid CWRA+ Performance Task scores took to complete the CWRA+ Performance Task, the mean scores for each of the three subscore categories, and the overall PT mean score.

**Table 6**  
**Average Time Spent on the Performance Task and Mean Subscores by High School**

School	Minutes Spent on the PT (0-60)			Mean Scores											
				Analysis and Problem Solving (1-6)			Writing Effectiveness (1-6)			Writing Mechanics (1-6)			Performance Task (400-1600)		
	2014	2015	Change	2014	2015	Change	2014	2015	Change	2014	2015	Change	2014	2015	Change
Bayside	35	37	2	3.04	2.88	-0.16	3.11	2.84	-0.27	3.43	3.23	-0.20	968	936	-32
Cox	36	40	4	3.15	3.24	0.09	3.20	3.25	0.05	3.47	3.56	0.09	991	1013	22
First Colonial	38	44	6	3.37	3.39	0.02	3.34	3.43	0.09	3.58	3.65	0.07	1025	1040	15
Green Run	33	35	2	2.75	2.53	-0.22	2.69	2.50	-0.19	3.13	3.05	-0.08	888	877	-11
Kellam	40	40	0	3.42	3.36	-0.06	3.40	3.34	-0.06	3.71	3.64	-0.07	1043	1034	-9
Kempsville	34	36	2	3.00	2.94	-0.06	2.99	2.87	-0.12	3.32	3.27	-0.05	951	943	-8
Landstown	36	39	3	3.04	3.10	0.06	3.05	3.07	0.02	3.40	3.44	0.04	961	979	18
Ocean Lakes	40	42	2	3.34	3.26	-0.08	3.33	3.28	-0.05	3.62	3.62	0.00	1023	1015	-8
Princess Anne	43	43	0	3.46	3.46	0.00	3.53	3.48	-0.05	3.80	3.76	-0.04	1058	1052	-6
Renaissance Academy	29	30	1	2.15	2.10	-0.05	2.12	2.10	-0.02	2.61	2.60	-0.01	771	787	16
Salem	37	40	3	3.08	3.15	0.07	3.15	3.11	-0.04	3.47	3.50	0.03	978	993	15
Tallwood	41	39	-2	3.25	3.08	-0.17	3.28	3.01	-0.27	3.53	3.38	-0.15	1009	966	-43
<b>VBCPS</b>	<b>38</b>	<b>40</b>	<b>2</b>	<b>3.19</b>	<b>3.14</b>	<b>-0.05</b>	<b>3.20</b>	<b>3.13</b>	<b>-0.07</b>	<b>3.50</b>	<b>3.48</b>	<b>-0.02</b>	<b>993</b>	<b>989</b>	<b>-4</b>

Sources: CWRA+ data files, CWRA+ Report for Virginia Beach School District, and CWRA+ Institutional Reports for 2014 and 2015.

The VBCPS mean subscore in the Writing Mechanics category was the highest subscore in 2014 and 2015. The lowest VBCPS mean subscore was in the Analysis & Problem Solving category in 2014 and the Writing Effectiveness category in 2015. The VBCPS mean subscores decreased from 2014 in all three subscore categories. Six of the twelve high schools showed a decrease from last year in all three subscore categories, two schools saw decreases in two of the three subscore categories, and one school saw a decrease in one subscore category from last year. Cox, First Colonial, and Landstown high schools showed increases in all three subscore categories when compared to last year. The VBCPS PT score decreased 4 points from last year. Seven schools showed a decrease in the PT score ranging from 6 to 43 points. Five schools showed an increase in the PT score ranging from 15 to 22 points.

Each student’s SRQ responses are evaluated in three subscore categories. Ten questions measure Scientific & Quantitative Reasoning (SQR), ten measure Critical Reading & Evaluation (CRE), and five ask students to Critique an Argument (CA). The scores in the SR section of the CWRA+ are determined by the number of correct responses and adjusted based on item difficulty. Each subscore is reported on a scale of approximately 200 to 800. The subscore categories are defined by CAE as follows:

- **SQR** – Making inferences and hypotheses based on given results. Evaluating the reliability of information. Identifying information or quantitative data that is connected and conflicting. Detecting questionable assumptions. Supporting or refuting a position. Drawing a conclusion or deciding on a course of action to solve a problem. Evaluating alternative conclusions. Recognizing when a text has open issues that require additional research.
- **CRE** – Supporting or refuting a position. Analyzing logic. Identifying assumptions in arguments. Evaluating the reliability of information. Identifying connected and conflicting information. Making justifiable inferences.
- **CA** – Evaluating the reliability of information, including potential biases or conflicts of interest. Detecting logical flaws and questionable assumptions. Addressing additional information that could strengthen or weaken the argument. Evaluating alternate conclusions.

Students are given a 30-minute time limit to complete this portion of the CWRA+.

Table 7 shows the average number of minutes the junior test takers with valid CWRA+ selected-response scores took to complete the CWRA+ selected-response section, the mean scores for each of the three subscore categories, and the overall SRQ score.

**Table 7**  
**Average Time Spent on the Selected Response Questions and Mean Subscores by High School**

School	Minutes Spent on the SRQ (0-30)			Mean Scores											
				Scientific & Quantitative Reasoning (200-800)			Critical Reading & Evaluation (200-800)			Critique an Argument (200-800)			Selected-Response Questions (400-1600)		
	2014	2015	Change	2014	2015	Change	2014	2015	Change	2014	2015	Change	2014	2015	Change
Bayside	22	24	2	475	477	2	487	487	0	471	474	3	990	994	4
Cox	23	23	0	497	507	10	496	512	16	485	505	20	1026	1060	34
First Colonial	23	24	1	495	516	21	507	512	5	499	498	-1	1042	1066	24
Green Run	18	21	3	450	472	22	452	463	11	451	448	-3	925	954	29
Kellam	24	25	1	501	507	6	511	514	3	500	500	0	1052	1060	8
Kempsville	20	23	3	472	481	9	475	488	13	476	477	1	979	1000	21
Landstown	22	24	2	477	487	10	493	493	0	469	478	9	997	1011	14
Ocean Lakes	23	24	1	488	519	31	510	522	12	498	504	6	1037	1080	43
Princess Anne	23	25	2	515	516	1	524	528	4	470	510	40	1081	1086	5
Renaissance Academy	14	15	1	433	392	-41	384	394	10	420	422	2	830	801	-29
Salem	22	25	3	482	498	16	499	507	8	475	479	4	1010	1035	25
Tallwood	24	24	0	495	492	-3	510	493	-17	488	476	-12	1039	1015	-24
<b>VBCPS</b>	<b>22</b>	<b>24</b>	<b>2</b>	<b>487</b>	<b>498</b>	<b>11</b>	<b>498</b>	<b>503</b>	<b>5</b>	<b>484</b>	<b>487</b>	<b>3</b>	<b>1018</b>	<b>1035</b>	<b>17</b>

Sources: CWRA data files, CWRA Report for Virginia Beach School District, and CWRA Institutional Reports for 2014 and 2015 (Section 3).

The VBCPS mean subscore in the CRE category was the highest of the three subscore categories in 2014 and 2015. The lowest VBCPS mean subscores in 2014 and in 2015 were in the CA category. The VBCPS mean subscores increased in all three categories when compared to last year. Five schools (Cox, Kempsville, Ocean Lakes, Princess Anne, and Salem) showed increases in all three subscore categories when compared to 2014. The largest increase in SQR was at Ocean Lakes (31 points), in CRE at Cox (16 points), and in CA at Princess Anne (40 points). With the exception of Renaissance Academy and Tallwood, all schools and the division showed an increase in the SRQ scores ranging from 4 to 43 points when compared to 2014.

## SUMMARY

The CWRA+ measures higher-order thinking skills. In Virginia Beach, the CWRA, and now the CWRA+, have been administered at every high school for six consecutive years. The first large-scale administration of the CWRA+ in VBCPS was in January and February 2014.

The 2015 total mean CWRA+ score for VBCPS was 1012 and the mean CWRA+ scores for Virginia Beach schools ranged from 794 to 1069. The VBCPS total CWRA+ mean score increased 6 points for VBCPS when compared to 2014. Seven schools showed an increase in the total CWRA+ mean score ranging from 7 to 28 points when compared to 2014. The VBCPS overall PT score decreased four points from last year. Seven schools showed a decrease in the PT score ranging from 6 to 43 points. Five schools showed an increase in the PT score ranging from 15 to 22 points. With the exception of Renaissance Academy and Tallwood, all schools and VBCPS showed an increase in the overall SRQ score ranging from 4 to 43 points when compared to 2014.

Nationally, the mean CWRA+ score for high school juniors was 990 and the mean score for high school seniors was 1025. The mean CWRA+ score of 1012 for Virginia Beach juniors was 22 points higher than the national high school junior mean score and 13 points below the national high school senior mean score. The mean score for juniors at all but four schools was higher than the national junior mean score of 990. Cox, First Colonial, Kellam, Ocean Lakes, and Princess Anne high schools surpassed the mean for high school seniors of 1025.