College Work Readiness Assessment

A Program Evaluation
The Logic Model Flow

- Assumptions
- Inputs
- Activities
- Outputs
- Outcomes
- Impact
- CWRA
“They say, ‘The fox knows many things, but the hedgehog knows one great thing.’ Want to hear it?”
Continuous Improvement

• The Framework for Quality Learning has been in place for nearly a decade.
• *Curriculum, Assessment, and Instruction Institute* (CAI) has focused on Curricula in the past.
• In most recent years, CAI learning and vertical teamwork have focused on balancing our assessment philosophy & practices with performance tasks.
Continuous Improvement

• Our teachers and coaches are developing division level performance tasks related to content.

• How do we take an externally valid and reliable snapshot of our students’ learning that goes beyond remembering and understanding?

• **New Bloom's Taxonomy**
Continuous Improvement

• How do we catalyze the teaching and learning process to produce results that lead to college, workforce, and citizenship readiness?
• How do we weigh the value our high school programs add with a scale that matters?
• How do we do this work without replicating the SOL testing program?
How do we emphasize “21st Century Skills?”

**Partnership for 21st Century Skills**

- To successfully face rigorous higher education coursework, career challenges and a globally competitive workforce, U.S. schools must align classroom environments with real world environments by fusing the 3Rs and 4Cs:

- The 3Rs include: English, reading or language arts; mathematics; science; foreign languages; civics; government; economics; arts; history; and geography.

- The 4Cs include: (1) critical thinking and problem solving; (2) communication, (3) collaboration; and (4) creativity and innovation.
How do we emphasize 21st Century Skills?

• To get the word out about the “3Rs + 4Cs” approach, P21 and FableVision partnered to produce a short, animated film called Above & Beyond. Enjoy & share, so we can help ALL our students flourish in the 21st century.

Above And Beyond
ACPS School Board Priorities

• **1.1** Develop *Lifelong-Learner (LLL) competencies* in all students.

• **2.1** Prepare and assess all students for citizenship/workforce/college readiness.

• **4.3** Assemble a collection of rigorous performance indicators and recognized benchmarks that define a world-class educational system.

• **5.1** Evaluate and valuate *instructional* programs and operational departments.
College Work Readiness Assessment (CWRA)

• An assessment that tests high school students on their 21st century skills of critical thinking, analytic reasoning, problem solving, and written communication.

• Skills that are necessary in work and college environments in the 21st century.

• Tests are completed online in a proctor format and are suggested for freshmen and seniors in high school.
CWRA Background

• Council for Aid to Education
• Description, Participation, and FAQ
• Teaching to a Test Worth Teaching To
• Assessing Critical Thinking, Analytical Reasoning, Problem-Solving and Writing in High School
• Sample Report
## Project Timeline

<table>
<thead>
<tr>
<th>Phase</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>K-12 Principal Awareness</td>
<td>Spring 2011</td>
</tr>
<tr>
<td>Cross-Curricular Vertical Team Training</td>
<td>Fall 2011</td>
</tr>
<tr>
<td>ACPS Senior Pilot Assessment</td>
<td>Spring 2012</td>
</tr>
<tr>
<td>Results Reported</td>
<td>Late Summer 2012</td>
</tr>
<tr>
<td>ACPS High School Assessment: 9&lt;sup&gt;th&lt;/sup&gt; Graders</td>
<td>Fall 2012</td>
</tr>
<tr>
<td>ACPS High School Assessment: 12&lt;sup&gt;th&lt;/sup&gt; Graders</td>
<td>Spring 2013</td>
</tr>
<tr>
<td>Results Reported</td>
<td>Late Summer 2013</td>
</tr>
<tr>
<td>Results Studied</td>
<td>Fall 2013</td>
</tr>
<tr>
<td>Action Steps Planned</td>
<td>Fall &amp; Spring 2013 – 14</td>
</tr>
<tr>
<td>School and Department Improvement Planning &amp; Doing</td>
<td>2014 – 2016</td>
</tr>
<tr>
<td>Repeat the Assessment Cycle 9&lt;sup&gt;th&lt;/sup&gt; and 12&lt;sup&gt;th&lt;/sup&gt; Graders</td>
<td>2015 - 2016</td>
</tr>
</tbody>
</table>
ACPS Small Pilot Study
40 Students, Early Spring 2012

• Jennifer Sublette worked with the High School Principals and CATEC Director to identify a diverse pool of 40 students from all four high schools and CATEC.

• We drew from a variety of places in the school populations.

• The students volunteered.

• 18 males
• 22 females
• 36 English as primary language
• 2 Native Americans
• 1 Asian
• 9 African Americans
• 2 Latino
• 24 White
• 26 with parent(s) with college degrees
ACPS Small Pilot Study

• Bonnie Pendleton and Ian Davidson set up the testing session at AHS for the morning of February 28.
• The test is timed for 90 minutes.
• They completed a variety of tasks with a common rubric.
• Instructional coaches who had attended the CWRA Performance Task Academy during the winter debriefed with the students.
ACPS Small Pilot Study

CLA/CWRA Demo
ACPS Small Pilot Study

What did our students say about the experience?

*I think it’s important that that there is no one right answer...you can answer as long as you back it up...*
ACPS Small Pilot Study

What did our students say about the experience?

“That this was what this test was assessing. We were given a unique situation, given information about the situation, and then we had to make a decision that reflected best on what the documents showed, but also how we felt about it. So it was a combination of both our critical thinking, and information synthesis, and compilation.”
ACPS Small Pilot Study

What did our students say about the experience?

“Because it was a test and it is trying to assess something, it was tailored... and the documents were tailored, towards, not maybe a single desired correct answer, but a grouping of answers...”
ACPS Small Pilot Study

• Student Comment from CWRA site:

"The test itself presented us with questions regarding several documents (about 11). In order to answer the questions in full, I had to read all the documents. The questions required comparing and contrasting the contents of the documents. The test demanded a fair amount of reading and comprehending, but above all, I had to critically think to answer the questions in the given time of 90 minutes."
CWRA Reports

• Three perspectives are offered:
  1. College Readiness
  2. Comparison of high school seniors across participating CWRA schools
  3. Effect Sizes
## College Readiness: Comparisons to Freshman Samples at CLA Colleges and Universities

<table>
<thead>
<tr>
<th></th>
<th>Student Count</th>
<th>Mean EAA Score</th>
<th>Expected Mean CWRA Score</th>
<th>Observed Mean CWRA Score</th>
<th>Unadjusted Percentile Rank</th>
<th>Deviation Score</th>
<th>Adjusted Percentile Rank</th>
<th>Performance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your Seniors</td>
<td>37</td>
<td>1109</td>
<td>1097</td>
<td>1149</td>
<td>84</td>
<td>0.97</td>
<td>82</td>
<td>Near</td>
</tr>
<tr>
<td>School Count</td>
<td>25th Percentile CWRA Score</td>
<td>985</td>
<td>75th Percentile CWRA Score</td>
<td>Mean CWRA Score</td>
<td>1048</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLA Colleges Testing Freshmen</td>
<td>169</td>
<td>1117</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Comparisons to Senior Samples at CWRA High Schools

<table>
<thead>
<tr>
<th></th>
<th>Student Count</th>
<th>Mean SLE Score</th>
<th>SLE Decile Rank</th>
<th>Expected Mean CWRA Score</th>
<th>Observed Mean CWRA Score</th>
<th>Unadjusted Decile Rank</th>
<th>Deviation Score</th>
<th>Adjusted Decile Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your Seniors</td>
<td>40</td>
<td>24</td>
<td>7</td>
<td>1129</td>
<td><strong>1149</strong></td>
<td>7</td>
<td>0.26</td>
<td>7</td>
</tr>
<tr>
<td>CWRA Schools Testing Seniors</td>
<td>92</td>
<td>22</td>
<td><strong>1081</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** The observed mean CWRA score for your seniors is 1149, which is higher than the expected mean CWRA score of 1129. The deviation score is 0.26, indicating slight overperformance.
### Effect Sizes and Sample Sizes

<table>
<thead>
<tr>
<th></th>
<th>Student Count</th>
<th>25th Percentile</th>
<th>75th Percentile</th>
<th>Mean CWRA Score</th>
<th>Standard Deviation</th>
<th>Effect Size vs. Freshmen</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your Seniors</td>
<td>40</td>
<td>947</td>
<td>1314</td>
<td>1149</td>
<td>217</td>
<td>N/A</td>
</tr>
<tr>
<td>Your Juniors</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Your Sophomores</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Your Freshmen</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Seniors</td>
<td>6150</td>
<td>940</td>
<td>1239</td>
<td>1087</td>
<td>201</td>
<td>0.82</td>
</tr>
<tr>
<td>All Juniors</td>
<td>4820</td>
<td>887</td>
<td>1143</td>
<td>1019</td>
<td>179</td>
<td>0.81</td>
</tr>
<tr>
<td>All Sophomores</td>
<td>401</td>
<td>803</td>
<td>1095</td>
<td>954</td>
<td>207</td>
<td>0.27</td>
</tr>
<tr>
<td>All Freshmen</td>
<td>7146</td>
<td>839</td>
<td>1109</td>
<td>987</td>
<td>183</td>
<td></td>
</tr>
</tbody>
</table>
Effect Size / Value Added

• An effect size is an expression of the ratio of score variance in the treatment group to chance score variance within the control group.

• In this case, the “treatment” is a high school 4-year program.

Treatment Group / Control Group
Effect Size / Value Added

Senior Mean Score – Freshmen Mean Score

Standard Deviation for Freshmen

- The result is expressed in standard deviation units.
Effect Size / Value Added
3.5 CWRA Performance vs. Entering Academic Ability (EAA)

- Intercept: 310.02
- Slope: 0.71
- R²: 0.67
- Standard Error: 53.31

The graph shows the relationship between Mean Entering Academic Ability Score and Mean Performance Task Score. The data points represent different groups:
- Your seniors
- Seniors at other high schools
- College freshmen

The line indicates the observed Performance Task score equal to the expected score given EAA.
# AHS Seniors’ Distribution of Subscores

<table>
<thead>
<tr>
<th></th>
<th>Analytic Reasoning &amp; Evaluation</th>
<th>Writing Effectiveness</th>
<th>Writing Mechanics</th>
<th>Problem Solving</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Your School</td>
<td>All Schools</td>
<td>Your School</td>
<td>All Schools</td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td>3.3</td>
<td>3</td>
<td>3.3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Standard Deviation</strong></td>
<td>1.1</td>
<td>0.9</td>
<td>1.2</td>
<td>0.9</td>
</tr>
</tbody>
</table>
Plan for 2012-13

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Testing Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>335 9th Graders (100 from each comprehensive high school &amp; full Murray Class)</td>
<td>Fall 2012</td>
</tr>
<tr>
<td>325 12th Graders (100 from each comprehensive high school &amp; full Murray Class)</td>
<td>Spring 2013</td>
</tr>
</tbody>
</table>
Plan for 2012-13

• We will look for a combination random / stratified sample to include enrollment groups. *Entering Academic Ability* and the *Scholastic Level Exam* offer control.

• The test takes 1.5 hours. We are targeting dates outside of other testing windows.

• Small groups of participants allow for non-instructional personnel (coaches & central office staff) to proctor.

• The test is a turnkey operation.
Outputs & Outcome

• The outputs of the testing year will include all the reports seen here plus student data for analysis. This should be a data mine to harvest for insights.

• Outcomes will result from each school and division-wide study of our reports, using the PDSA Study Questions: [PDSA Wheel](#)

• We will analyze the data for gaps between our current and desired states and develop school improvement and departmental goals and plans to address these gaps for re-assessment in 2015 – 16.
Impact: Measuring Learning Beyond the SOL’s

• **1.1** Develop *Lifelong-Learner (LLL) competencies* in all students.

• **2.1** Prepare and assess all students for citizenship/workforce/college readiness.

• **4.3** Assemble a collection of rigorous performance indicators and recognized benchmarks that define a world-class educational system.

• **5.1** Evaluate and valuate *instructional* programs and operational departments.
1.1 Develop **Lifelong-Learner (LLL) competencies** in all students.

- The CWRA can function as a cross-curricular assessment that informs changes in instruction to address the demands of the assessment.
- In this way, it serves as an authentic capstone for the content and LLLS focused performance tasks we are developing as a division.
2.1 Prepare and assess all students for citizenship/workforce/college readiness.

CWRA: sampling 9th and 12th Graders Every Three Years. **Institutional Focus**

PSAT: all 10th and 11th Graders. **Student Focus. AP Exams. Institutional & Student Focus** MAP testing with middle school students. **Student & Institutional Focus**

SOL Testing Program: all students 3-11, every year, with End of Course Testing for High School Students. MAP testing with middle school students. **Student & Institutional Focus**
4.3 Assemble a collection of rigorous performance indicators and recognized benchmarks that define a world-class educational system.

• Three perspectives are offered & all three of these perspectives are based on national comparisons on a leveled playing field.

1. College Readiness: our seniors / national college freshmen
2. Comparison of high school seniors across participating CWRA schools
3. Effect Sizes: our institutional value-added vs. national sample value added
5.1 Evaluate and evaluate instructional programs and operational departments.

- CWRA helps us evaluate our k-12 outcomes based on what we say matters to us. The assessment is aligned to our Life Long Learner Competencies and the 4 C’s.
- CWRA provides a catalyst for continued transformation of instruction & potential for division-wide CWRA in-house benchmarks at 4th & 7th grade.
College Work Readiness Assessment

A Program Evaluation