Evaluating 21st Century Community Learning Centers in the Commonwealth of Virginia

Spring Institute
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The University of Memphis
Overview of the Evaluation Process
Federal Requirement for Evaluation of 21st CCLC

Sections 4402(c)(3)(C) and 4403(a)(13) of Title IV, Part B, 21st Century Community Learning Centers (21st CCLC) Grant, of the Elementary and Secondary Education Act (ESEA) requires that state education agencies provide a comprehensive evaluation of the effectiveness of 21st CCLC programs and activities within the state.
How Evaluation Helps Virginia’s 21st CCLC Programs

The Virginia Department of Education uses the information collected in the evaluation process for decision making, program refinement, and purposes of quality improvement.
# Purpose of Evaluation

<table>
<thead>
<tr>
<th>Identification of successful practices</th>
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<tbody>
<tr>
<td>Decision making based on data</td>
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<tr>
<td>Measurement of program impact</td>
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<tr>
<td>Identification of successful practices</td>
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<tr>
<td>Accountability for federal funds to demonstrate fiscal responsibility</td>
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<tr>
<td>Meets goal of continuous program improvement</td>
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</tbody>
</table>
What Will Be Measured?
Evaluation Questions

Were the neediest students provided academic enrichment and support activities?

Were a variety of activities provided to complement the regular academic program?

Were literacy and other learning opportunities made available to parents?
## Federal Objectives

<table>
<thead>
<tr>
<th>Objective</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1: Benefits to participants | - Educational change  
- Improvement in mathematics  
- Improvement in reading/language arts  
- Positive behavioral change |
| 2: High-quality services | - Educational assistance  
- Enrichment and support activities  
- Community involvement  
- Services to parents  
- Number of extended hours |
| 3: Priority for Greatest Needs | - Service to children and community members with the greatest needs for expanded learning opportunities |
State Objectives

1) Improvement in proficiency in mathematics, as measured by Standards of Learning (SOL) test scores (provided by VDOE)

2) Improvement in proficiency in reading/language arts, as measured by Standards of Learning (SOL) test scores (provided by VDOE)

3) Provide or increase the number of activities and services for adults
Uses of 21st CCLC Data

- Preparing the federally mandated Virginia 21st CCLC evaluation report
- Identifying activities associated with successful programs
- Sharing findings with grantees to improve programs
How the Evaluation Process Works in Virginia

The University of Memphis’ Center for Research in Educational Policy (CREP) will conduct the evaluation.

Two mandatory data collection instruments:

- 21st CCLC Student Data Collection Survey (SSWS)
- ALERT (in PPICS)
21st CCLC Statewide Student Data Collection Survey

- Completed through Department’s Single Sign-on for Web Systems (SSWS): **September-October** window of opportunity
- Standards of Learning (SOL) assessment participation in spring of collection year
- Responsibility of coordinator or designated data entry person to enter the number of days that each individual student participated in the 21st CCLC program, including days attended during the summer
Completed through 21st CCLC Profile and Performance Information Collection System (PPICS): Deadline in **July**

- Official e-mail notification with instructions and submission deadline from VDOE: Sent in **June**

- Must be completed for **each center/site** within each grant
Online Annual Local Evaluation Report Template (ALERT)

- Have your outcomes and evidence ready when you sit down to complete the ALERT
  - Achievement outcomes
  - Activities and frequency
  - Participation rates
Benefits of Online Reporting for Grantees

- Consistent reporting
- Improved accountability
- Greater identification of:
  - What is effective
  - Needs for improvement
  - Program impact
The 2011-2012 State Evaluation

The purpose of the evaluation was to determine whether the state-funded 21st Century Learning Communities were meeting Virginia’s program objectives:

- To show gains in reading/language arts and mathematics as measured by Standards of Learning (SOL), Virginia Alternate Assessment Program (VAAP), and Virginia Grade Level Alternative (VGLA) test scores;
- For family members of students who participate in 21st Century Community Learning Centers to increase their engagement in opportunities for literacy and related educational development.
The 2011-2012 State Evaluation

- 132 of 132 (100%) total active centers submitted data.
- This report also provides an overview of the centers’ success in achieving objectives they chose to pursue in addition to those required by the state.

Data Sources:
- Annual Local Evaluation Report Template (ALERT)
- PPICS
- SOL, VAAP, and VGLA scores in reading/language arts and mathematics
**Note**

- **ALERT** and **PPICS** results presented are for the **2011-2012** program year.

- **SOL, VAAP**, and **VGLA** achievement analysis results presented are for the **2010-2011** program year.

- The **achievement** analysis for **2011-2012** will be delivered by Summer 2013.
The 2011-2012 State Evaluation

1. What is the nature of the Virginia 21st CCLC programs and the level of participation by students?

2. To what degree did the programs meet Virginia’s objectives? (reading/language arts, mathematics, and opportunities for parent education)

3. Are there relationships between attendance at a 21st CCLC center, nature and time allocated to activities, hours of operation and academic achievement?

4. What “promising practices” and challenges were identified by centers regarding achievement of required objectives?
Question #1: Nature of the Programs

- 86.9% of Centers were operated by schools
- Hours open most frequently ranged between six and 15 hours per week (65.9% of centers)
- Largely staffed by certified teachers
- 25,710 students enrolled in 2011-2012
- 42.9% of all students attended regularly in 2011-2012 (defined as 30 days or more)
Enrollment and attendance were greatest for students in Grades 3-8. The trends of (1) rising middle and high school enrollment, (2) rising middle school attendance, and (3) declining elementary school enrollment and attendance continued in 2011-2012.

- 58.4% of students were classified as “economically disadvantaged”
- 40.6% students identified as White
- 41.5% of students identified as African-American
Two types of statistical analyses were conducted on the 2010-2011 data by subject (reading/language arts and mathematics)

- Compared Treatment vs. Control
  - Treatment: Attended 21st CCLC for 30 or more days
  - Control: Eligible, but had zero days of attendance
Question #2: To what degree did the programs meet Virginia’s objectives?

Analysis 1: Proficiency level
- Used 2009-2010 and 2010-2011 data
- Based on all available test data (including SOL, VAAP, and VGLA)
- Proficiency level analyses permit the inclusion of data from all state assessments, including alternative assessments in Virginia.
Question #2: To what degree did the programs meet Virginia’s objectives?

- Analysis 2: SOL standardized scaled scores
  - Only those who took the SOL in both 2009-2010 and 2010-2011.
  - The SOL scaled scores from both years were converted to standardized scores (z-scores) due to the fact that the SOL tests are not comparable across years and grades.
  - Standardizing scores allowed different grade levels to be combined into one analysis.

Question 2 Objective: Increase student achievement in reading/language arts and mathematics
Question #2: To what degree did the programs meet Virginia’s objectives?

Question 2 Objective: Increase student achievement in reading/language arts and mathematics

- Separate Grade 3 descriptive analyses
  - No prior-year test data available for third-grade
  - Used proficiency levels on SOL, VAAP, and VGLA (based on the percentage scoring Proficient or Advanced) and mean (i.e., average) scaled scores on SOL.
  - Compared (1) 21st CCLC participants and non-participants and (2) 21st CCLC participants and all Commonwealth third-grade students.
Question #2: To what degree did the programs meet Virginia’s objectives?

**Question 2 Objective:** Increase student achievement in reading/language arts and mathematics

- Effects of participation by subgroup for the *statistical* analyses:

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>Proficiency</th>
<th>SOL Scaled Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEP Status</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>LEP Status</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Economically Disadvantaged Status</td>
<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>
Question #2: To what degree did the programs meet Virginia’s objectives?

Question 2 Objective: Increase student achievement in reading/language arts and mathematics

- One-to-one matching process for the 3rd-8th grade statistical analyses only
- Each treatment student paired with a control student using propensity scores based on several matching criteria
- Propensity scores summarize how similar control students are to treatment students. Those with similar propensity scores are more alike based on the matching criteria used.
- Given the inability to randomly assign students to the treatment and control groups (as participation in the 21st CCLC program is voluntary), the matched-samples comparison approach used in these analyses is one of the most rigorous alternatives for determining the effect of 21st CCLC on student achievement (see Slavin, 2008 and What Works Clearinghouse, 2011).
- There were no statistically significant differences between the treatment and control groups on any of the matching variables in either reading or mathematics.
Question #2: To what degree did the programs meet Virginia’s objectives?

### Variables Used in the Calculation of Propensity Scores

<table>
<thead>
<tr>
<th>Prior Year (2009-10)</th>
<th>Current Year (2010-11)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Test level (grade level of the test)</td>
<td>1. Test level</td>
</tr>
<tr>
<td>2. Test source (SOL, VAAP, VGLA)</td>
<td>2. Test source</td>
</tr>
<tr>
<td>3. Test subject for mathematics (including Algebra 1, Geometry, and Mathematics)</td>
<td>3. Test subject for mathematics</td>
</tr>
<tr>
<td>4. Grade level</td>
<td>4. Grade level</td>
</tr>
<tr>
<td>5. Standardized scaled score in mathematics or reading</td>
<td>5. LEP status</td>
</tr>
<tr>
<td></td>
<td>6. IEP status</td>
</tr>
<tr>
<td></td>
<td>7. Economically Disadvantaged status</td>
</tr>
<tr>
<td></td>
<td>8. Ethnicity</td>
</tr>
<tr>
<td></td>
<td>9. Division</td>
</tr>
<tr>
<td></td>
<td>10. School</td>
</tr>
</tbody>
</table>
Question #2: To what degree did the programs meet Virginia’s objectives?

- Results from 2010-2011 statistical analyses for Grades 3-8
  - Included 2 years of data (controlled for prior-year achievement)

- 21st CCLC participation (Yes/No) was statistically significant in predicting both reading/language arts proficiency and standardized SOL scaled scores for the overall samples, but not differences by subgroup.

**Question 2 Objective:** Increase student achievement in reading/language arts
The odds of scoring proficient for students who participated in 21st CCLC in 2010-2011 were lower than that of the control students, with an effect size (-0.32) considered substantively important based on What Works Clearinghouse (WWC) standards (≥ +/- 0.25).

Standardized scaled scores of students who participated in 21st CCLC in 2010-2011 were lower than those of the control students. While statistically significant, the effect size for the standardized scaled score difference (-0.14) would not be considered substantively important based on WWC standards.
Question #2: To what degree did the programs meet Virginia’s objectives?

Question 2 Objective: Increase student achievement in *reading/language arts*

- 21st CCLC Students Attending at Least 30 Days vs. Controls (Eligible but with Zero Days Attended)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>3rd-8th</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Proficiency</td>
</tr>
<tr>
<td>Group (21st CCLC or control)</td>
<td>Control Group</td>
</tr>
<tr>
<td>Group x IEP</td>
<td>Non-significant</td>
</tr>
<tr>
<td>Group x LEP</td>
<td>Non-significant</td>
</tr>
<tr>
<td>Group x Economically Disadvantaged</td>
<td>Non-significant</td>
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Question #2: To what degree did the programs meet Virginia’s objectives?

Question 2 Objective: Increase student achievement in *reading/language arts*

- Effects of participation by subgroup for the 3rd grade descriptive analyses: 2009-2010 and 2010-2011

<table>
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<tr>
<th>Comparison</th>
<th>Proficiency</th>
<th>SOL Scaled Scores</th>
</tr>
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<tbody>
<tr>
<td>All Students</td>
<td>Treatment vs. Control</td>
<td>Treatment vs. Control</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
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<td></td>
</tr>
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<tr>
<td>Not Economically Disadvantaged</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With Disabilities</td>
<td>Treatment vs. Commonwealth</td>
<td></td>
</tr>
<tr>
<td>Not with Disabilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited English Proficient</td>
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Question #2: To what degree did the programs meet Virginia’s objectives?

Question 2 Objective: Increase student achievement in reading/language arts

- 3rd Grade Reading/Language Arts Proficiency: All Students

<table>
<thead>
<tr>
<th></th>
<th>2009-10</th>
<th>2010-11</th>
</tr>
</thead>
<tbody>
<tr>
<td>21st CCLC</td>
<td>72.5</td>
<td>72.8</td>
</tr>
<tr>
<td>Non-Participants</td>
<td>76.8</td>
<td>80.4</td>
</tr>
<tr>
<td>Commonwealth</td>
<td>84.0</td>
<td>83.0</td>
</tr>
</tbody>
</table>
Question #2: To what degree did the programs meet Virginia’s objectives?

Question 2 Objective: Increase student achievement in reading/language arts

- 3rd Grade SOL Reading/Language Arts Scaled Scores: All Students
Question #2: To what degree did the programs meet Virginia’s objectives?

Question 2 Objective: Increase student achievement in *mathematics*

- Results from **2010-2011** statistical analyses for Grades 3-8
  - 2 years of test data available (controlled for prior-year achievement)
- 21st CCLC participation (Yes/No) was statistically significant in predicting both mathematics proficiency and mathematics standardized SOL scaled scores, but not differences by subgroup.
For students in grades three through eight who attended a 21st CCLC program for at least 30 days, the categorical and scaled score analyses both showed a statistically significant impact of 21st CCLC participation on statewide mathematics assessments, with control students outperforming participants.

The effect sizes for both the proficiency (-0.53) and scaled score analyses (-0.26) were substantively important based on WWC guidelines.
Question #2: To what degree did the programs meet Virginia’s objectives?

Question 2 Objective: Increase student achievement in *mathematics*

- **21st CCLC Students Attending at Least 30 Days vs. Controls (Eligible but with Zero Days Attended)**

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Question #2: To what degree did the programs meet Virginia’s objectives?

Question 2 Objective: Increase student achievement in *mathematics*

- Effects of participation by subgroup for the 3rd grade descriptive analyses: 2009-2010 and 2010-2011

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</tr>
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<td></td>
</tr>
<tr>
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<td></td>
<td></td>
</tr>
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</table>
Question #2: To what degree did the programs meet Virginia’s objectives?

Question 2 Objective: Increase student achievement in mathematics

- 3rd Grade Mathematics Proficiency: All Students

<table>
<thead>
<tr>
<th>Year</th>
<th>21st CCLC Participants</th>
<th>Non-Participants</th>
<th>Commonwealth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-10</td>
<td>87.7</td>
<td>88.7</td>
<td>91.0</td>
</tr>
<tr>
<td>2010-11</td>
<td>87.1</td>
<td>88.3</td>
<td>91.0</td>
</tr>
</tbody>
</table>
Question #2: To what degree did the programs meet Virginia’s objectives?

Question 2 Objective: Increase student achievement in *mathematics*

- 3rd Grade SOL Mathematics Scaled Scores: All Students

<table>
<thead>
<tr>
<th>Year</th>
<th>21st CCLC Participants</th>
<th>Non-Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-10</td>
<td>480.3</td>
<td>486.2</td>
</tr>
<tr>
<td>2010-11</td>
<td>479.9</td>
<td>494.0</td>
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</table>
Question #2: To what degree did the programs meet Virginia’s objectives?

Question 3 Objective: Provide parent education

- Percentage of Centers that:

<table>
<thead>
<tr>
<th></th>
<th>2009-10</th>
<th>2010-11</th>
<th>2011-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reported opportunities for parent and child interaction</td>
<td>65.5</td>
<td>68.4</td>
<td>77.3</td>
</tr>
<tr>
<td>Met objectives for computer skills training</td>
<td>87.5</td>
<td>76.9</td>
<td>64.9</td>
</tr>
<tr>
<td>Offered GED courses at the center</td>
<td>42.2</td>
<td>45.2</td>
<td>50.0</td>
</tr>
<tr>
<td>Met objectives for career development sessions</td>
<td>13.4</td>
<td>44.4</td>
<td>55.0</td>
</tr>
</tbody>
</table>
Question #3: Are there relations between attendance, nature of and time allocated to activities, hours of operation, and improvement in student achievement?

- Reading/Language Arts Grades 3-8

<table>
<thead>
<tr>
<th>Center Variable</th>
<th>Proficiency</th>
<th>SOL Scaled Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Hours Open Per Week</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Paid School-Day Teachers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Hours of Activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Number of Activities</td>
<td></td>
<td>Each increase in the number of activities results in a .003 increase in standardized scaled scores.</td>
</tr>
<tr>
<td>Number of Days Attended</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Green cells are statistically significant and positive. Red cells are statistically significant and negative. Blank cells were not statistically significant.
Question #3: Are there relations between attendance, nature of and time allocated to activities, hours of operation, and improvement in student achievement?

- Mathematics Grades 3-8

<table>
<thead>
<tr>
<th>Center Variable</th>
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<th>SOL Scaled Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Hours Open Per Week</td>
<td></td>
<td>Each increase in the number of hours open results in a .006 increase in standardized scaled scores.</td>
</tr>
<tr>
<td>Number of Paid School-Day Teachers</td>
<td>Each additional school-day teacher added was associated with a 1 percent increase in the odds of scoring proficient.</td>
<td></td>
</tr>
<tr>
<td>Total Hours of Activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Number of Activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Days Attended</td>
<td>Each additional day of participation would lead to a 1 percent increase in the odds of achieving proficiency.</td>
<td></td>
</tr>
</tbody>
</table>

Green cells are statistically significant and positive. Red cells are statistically significant and negative. Blank cells were not statistically significant.
A positive relationship was reported between improvements in student academic achievement and programs featuring academic assistance, provided before or after school. Components of academic assistance programs reported to be particularly successful:

- Tutoring
- Homework help
- Individualized instruction
Question #4: What “promising practices” and challenges were identified by centers regarding achievement and required objectives?

- Most frequently cited components of successful academic enrichment classes:
  - Hands-on learning
  - High-yield learning activities
  - Non-traditional instruction
  - Project-based learning
  - Scientifically-based programs
Grantees reported providing a variety of services and activities to meet the needs and interests of families.

- Family Night
- Translation services
- Parenting workshops
- Open, clear, and consistent communication
Staff practices reported to contribute to the success of center objectives:

- Open, regular, and consistent communication and collaboration with school staff and regular meetings with other center staff
- Monitoring alignment of the after-school program with school-day practices, through classroom observations and other activities
- Supporting the after-school instructional staff:
  - High-quality manipulatives and other materials
  - Professional development in technology integration and core content areas
  - Teacher autonomy backed by strong resources “to allow teacher creativity and experience to shine”
Similar to prior years, the predominant challenge reported in 2011-2012 concerned low or inconsistent parent involvement, particularly in GED and parent training programs.

- Childcare responsibilities
- Conflicting work schedules
- Lack of transportation
Many grantees indicated that difficulties in meeting their objectives for student achievement in 2011-2012 would be mitigated once they improved their programs’ alignment

- Increased rigor of the new mathematics SOL objectives and state assessment
- Specific remediation needs of students served at their centers
- Resources and appeal of programs to parents and families
Conclusions

- Results from the 2010-2011 analysis indicate centers are implementing the 21st CCLC program in accordance with Federal purposes and guidelines.

- Based on the results of the **statistical analyses** of Grades 3-8 using two years of data:
  - Attendance of over 30 days did not show positive effects in either reading/language arts or mathematics in terms of proficiency or SOL scaled scores in 2010-2011.
  - Increased numbers of paid school-day staff and numbers of days attended *positively* impacted student mathematics proficiency in 2010-2011. However, the impact was small.
  - SOL reading/language arts scaled scores were *positively* impacted when centers had more total number of activities, but the impact was small.
  - SOL mathematics scaled scores were *positively* impacted when centers were open more total hours, though the magnitude was small.
Based on the results of the third-grade descriptive analyses, 21st CCLC participants overall (All Students, 2010-2011):

- Third-grade grade 21st CCLC participants in 2010-2011 were outperformed by non-participants and the Commonwealth in reading proficiency for all students combined and all available subgroups, while participants outcomes were somewhat better in mathematics proficiency, outperforming non-participants and the Commonwealth for three subgroups.

- In terms of SOL scaled scores, third-grade grade 21st CCLC participants in 2010-2011 were outperformed by non-participants in nearly all comparisons, doing slightly better in mathematics, where participants did better in two subgroups, as compared to reading (where they tied for one subgroup).
In 2010-2011, centers offered a variety of programs and incentives aimed at increasing parental education and involvement.
References


Questions?
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