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# Wayne County Community Learning Centers Program Evaluation

2017 Data Analysis Update



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# Wayne County Community Learning Centers Program Evaluation

## 2017 Data Analysis Update

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# Introduction

The Wayne County Community Learning Centers (WCCLC) initiative offers after school and summer programs in an effort to provide educational and enrichment experiences for public school children in Wayne County, West Virginia. Playmates Preschools and Child Development Centers, Inc. (Playmates), one of the partners of WCCLC program efforts, contracted with the Marshall University Center for Business and Economic Research (CBER) to provide ongoing evaluation of the program.<sup>1</sup>

The current analysis will review student performance data from the 2015-2017 school years and compare these data with previous CBER analyses where applicable to illustrate potential trends in student outcomes. Additional data regarding disciplinary action counts will be included as part of this report. These data provide supplementary analysis of participant improvement by examining potential relationships between participation in the WCCLC program on student behaviors. Student disciplinary counts are matched to GPA improvements where possible.

## Background of the WCCLC Program

The Wayne County Community Learning Centers (WCCLC) program is one of several 21<sup>st</sup> Century Community Learning Center Programs in West Virginia, and is part of a West Virginia Department of Education (WVDE) statewide initiative to improve student education and provide opportunities for lifelong success. The partnership between the WCCLC and its community and business partners, including the Wayne County Board of Education and Playmates Preschools and Child Development Centers, Inc., provides a framework of stability and support to achieve these goals.

The WCCLC is an educational and learning coalition comprised of 29 programs hosted in all Wayne County public schools (elementary, middle and high schools) and seven community Playmates locations.<sup>2</sup> The Program operates afterschool and summer activities to assist students through a number of services, including:

- Tutoring
- Physical fitness
- Homework assistance
- Entrepreneurship skills development
- Science, Technology, Engineering and Mathematics (STEM).

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<sup>1</sup> CBER. 2014. *Wayne County Community Learning Centers Program Evaluation: 2013 Data Analysis Report*. Huntington, WV: Center for Business and Economic Research, Marshall University.

CBER. 2015. *Wayne County Community Learning Centers Program Evaluation: 2015 Data Analysis Report*. Huntington, WV: Center for Business and Economic Research, Marshall University.

<sup>2</sup> WVDE. 2017. "The 21<sup>st</sup> Century Community Learning Center Programs." *West Virginia Department of Education*. <http://wvde.state.wv.us/21stccclc/programs.html>

The WCCLC program relies on the participation of all community Playmates locations, the Wayne County Superintendent, county education professionals (such as principals and teachers) and the strong partnership between them.<sup>3</sup> Since 2009, the Program has served more than 2,540 students annually, and typically serves an average of 812 students per day. On average, approximately 1,134 students attend WCCLC programs for at least 30 days during the school year.

## Data and Methods

Consistent with the prior analyses CBER analyzed academic performance of students who participated in the WCCLC program in the 2015-17 school years and compared these results to prior years. Two cohorts of students were considered: 1) those with three years of recorded complete data, and 2) those with five years. School performance outcomes were measured by Grade Point Average (GPA) changes from individual course-level data collected from the West Virginia Education Information System (WVEIS) and provided by the WCCLC program.<sup>4</sup>

Each student entry was evaluated for missing, incomplete or unusable records to ensure data were consistent across years. Incomplete entries were excluded from the analysis. Observations were omitted if:

- Course grades were incomplete, or
- The student's WCCLC participation was for only one year.

GPA's for each student were calculated for the school year and compared with previous results. Changes in student GPA's were considered among all student participants<sup>5</sup> in the WCCLC program and a subset of these participants that consisted of "At-Risk" students. Participants qualify as At-Risk if their GPA was less than 2.5.<sup>6</sup> The numeric and percentage changes in each student's GPA from the first observed and most recent school years were calculated.<sup>7</sup> Students with observed changes in GPA outside three standard deviations of the mean were excluded from the analyses to ensure representativeness of the data.

This study also considers GPA changes for any students who were consistently present in the WCCLC program for a minimum of 30 days each year beginning with the 2012-13 school years. This offers a short-term trend analysis intended to provide some context

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<sup>3</sup> WVDE. 2015. "The 21<sup>st</sup> Century Community Learning Center Programs." *West Virginia Department of Education*. <http://wvde.state.wv.us/21stccclc/programs.html>

<sup>4</sup> Student data across years was matched using Universal Student Identification numbers.

<sup>5</sup> Students must have attended the WCCLC program for a minimum of 30 days during each school year to be included in the analysis.

<sup>6</sup> This distinction was determined in conjunction with the WCCLC and carries over from the CBER (2014) methodology. For the three-year cohort analysis, 2015-17 GPA was used to determine "At-Risk". For the five-year cohort analysis "At-Risk" was determined on the basis of 2012-13GPA.

<sup>7</sup> Grades reported to CBER differed in the current year relative to prior years with the inclusion of +/- distinctions, as opposed to only whole letter grades. Reported grades were converted to a 4-point scale.

of WCCLC program impacts.

Additional consideration is given to data on disciplinary action counts for the most recent, completed school year. These data represent counts of disciplinary measures based on student misconduct. Disciplinary actions range from tardiness to possession of weapons and aggressive conduct.

It is important to note that this study is descriptive, not causal. Results should be interpreted with care, particularly for the WVEIS data analysis. The absence of relevant variables in the current dataset limits the statistical accuracy of findings, and prevents attributing observed outcomes to WCCLC programming specifically.

## Comparison of Previous and Current Samples

Comparisons of key data points among the previous and current samples indicate a **larger sample size** for both all participants and At-Risk participants in the most recent year. The share of At-Risk participants (as measured by GPA in the concurrent school year reported) relative to all participants increased slightly in the current year. In the current sample, all participants experienced declines in GPA on average; however participants who began the year “At-Risk” measured slight improvement in GPA on average.

Table 1 Comparison of Key Data Points Previous and Current Samples

Analysis Year	All Participants			Entering At-Risk		
	2015	2016	2017	2015	2016	2017
Number of Students	2,291	2,299	2,621	442	460	494
Average Change in GPA (point)	-0.03	-0.04	0.07	0.21	0.22	0.23
Average Change in GPA (%)	0.4%	-3.3%	-0.07	12.5%	6.03%	6.22%
Students with Increased GPA	46.8%	42.2%	27.6%	60.4%	64.6%	31.6%

## Discussion of Results

To illustrate GPA improvements, two cohorts of students were examined – those in the program for three consecutive years and those in the program for five consecutive years. For the following analyses students with GPAs below 2.5 in the first year of the respective sample are considered “At-Risk”.

As an additional refinement to the data for the update, students with GPAs of 3.7 or higher for each year (“A-students”) were also removed from the cohort analyses. As these students perform consistently well academically their improvement range is limited, thus the analysis is conditional on students with improvement potential.

**At-risk participants** make up roughly **18 percent of three-year cohort and about 14 percent of the five-year cohort**. Consistently A-students accounted for a majority of each original cohort. Within the three-year cohort about 6 percent of students measured GPA improvements for each year. The share is smaller for the five-year cohort, but illustrates that some students did exhibit GPA improvements year-over-year.

Table 2 Sample Sizes

	3- Year Cohort	5-Year Cohort
Full Sample	2621	1335
No A-Students	1475	1130
At Risk Only	488	183
Sustained Improvement	169	15

### Three-Year Cohort Analysis: Participant Performance Outcomes

In analyzing data on all participants considered, the data indicate declines among At-Risk participants and all participants overall as measured by average changes in GPA. On average, the measured changes are small, less than 0.05 percent for both groups. A larger share of At-Risk students (44 percent) experienced improvements in GPA, relatively to all participants overall (18.2 percent).

Table 3 Performance Outcomes, change from 2014-15 to 2016-17

	All Participants	At-Risk Participants*
Number of Students	2,621	488
Average Change in GPA (point)	-0.12	-0.38
Average Change in GPA (%)	-0.03%	-0.02%
Students with Increased GPA	18.2%	44.0%

\*Based on 2015-2017 GPA

Examining only those students who experienced GPA improvement further illustrates larger proportional changes for At-Risk students versus all others. Among students who experienced improvement in GPA, At-Risk students exhibited more than double that of students not at-risk.

Table 4 Performance Outcomes for Participants with GPA Improvement 2015-16 to 2016-17

	All Student with Improvement	At-Risk with Improvement	Not At-Risk with Improvement
Number of Students	983	82	901
Proportion	37.5%	3.13%	34.4%
Average Change in GPA (point)	0.7	0.46	0.67
Average Change in GPA (%)	33.0%	40.0%	32.5%

In addition to students who transitioned and stayed out of At-Risk for two years, the sample permits observing students with sustained improvement, or consecutive increases in GPA from the 2015-11 to 2016-17 school year. Consistent with patterns observed previously, At-Risk participants displayed larger increases in GPA relative to their counterparts. **For those with sustained improvement, GPAs for At-Risk students increased 1.35 points, or 67.4 percent, over on average for the two-year period.**

*Table 5 Students with Sustained Improvement, Two-Year Change*

	<i>Not At-Risk</i>	<i>At-Risk Participants</i>
<i>Number of Students</i>	125	45
<i>Average Change in GPA (point)</i>	0.569	1.35
<i>Average Change in GPA (%)</i>	28.5%	67.4%

### **Five-Year Cohort Analysis: Participant Performance Outcomes**

The five-year cohort consists of 1,132 participants, 183 of whom were considered At-Risk as of the 2011-12 school year. As with the three-year cohort analyses, the data indicate slight overall decline among all participants. Approximately 37 percent of all participants in the 2015 four-year cohort and 43.7 percent of At-Risk participants exhibited improvements in GPA. With respect to average percentage change in GPA, the At-Risk cohort exhibited larger increases.

*Table 6 Performance Outcomes for All and At-Risk Participants 2010-11 to 2014-15*

	<i>All Participants</i>	<i>At-Risk Participants</i>
<i>Number of Students</i>	1,332	183
<i>Average Change in GPA (point)</i>	-0.24	-0.21
<i>Average Change in GPA (percent)</i>	-12.0%	10.8%
<i>Students with Increased GPA</i>	37.0%	43.7%

Similar to the three-year analysis, improvements among participants who entered the program “At-Risk” have been larger than All Participants on average. Students who remained out of the “At-Risk” for four years exhibited more than a full grade-point of improvement in GPA over the four-year period.

*Table 7 Students with Sustained Improvement, Four-Year Change*

	<i>Not At-Risk</i>	<i>At-Risk Participants</i>
<i>Number of Students</i>	8	7
<i>Average Change in GPA (point)</i>	0.30	1.24
<i>Average Change in GPA (%)</i>	15%	62%

## Disciplinary Action Analysis

Counts for disciplinary actions for the 2015-17 school years provide additional insight into potential benefits of the WCCLC program. Actions for which disciplinary counts are collected range in severity from items such as battery, possession of weapons and illegal substances to skipping detention and tardiness. Forty categories of disciplinary counts were reported for the current analysis.<sup>8</sup> The most common infraction was “Failure to Obey Rules/Authority”.

To further characterize incidences of discipline counts, data were merged with student GPA. As noted in Table 9, participants who were considered “At-Risk” in the current school year were just as likely to have at least one disciplinary count compared with all participants. Additionally, among students with disciplinary counts At-Risk participants averaged approximately 3 more than all.

*Table 8 Discipline Counts by Student Group*

	<i>All Participants (15-16)</i>	<i>At-Risk (15-16)</i>	<i>All Participants (16-17)</i>	<i>At-Risk (16-17)</i>
<i>Number of Students</i>	2,887	539	2509	430
<i>Average Number of Disciplinary Counts</i>	1.93	1.95	1.71	5.38
<i>Students with At Least One Disciplinary Count</i>	723	312	758	272
<i>Average Number of Disciplinary Counts</i>	7.54	10.4	5.66	8.52

## English, Language Arts (ELA) Analysis

As part of a literacy grant, the WCCLC received funding to enhance the English and Language Arts afterschool programs. Data from the 2016-2017 school year was analyzed to determine if any improvement had been made in ELA subjects during the school year.

Each student entry was evaluated to determine what ELA classes were taken by the student and for missing, incomplete or unusable records. Incomplete entries were excluded from the analysis.

As shown in tables 10 and 11, a larger percentage of students maintained at both the grade level and school level. While ELA grades declined for many students, it should be noted that the students that increased or maintained their grades outnumber the students with declining ELA grades.

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<sup>8</sup> In the previous analysis, disciplinary counts were grouped into 31 categories as opposed to 40. Due to this change in reporting, data received for the current analysis is not comparable with the previous analysis.

Table 10 ELA Analysis by Grade Level

	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>	9 <sup>th</sup>	Not Specified
<i>Increased</i>	0%	9.3%	5.6%	8.4%	28.0%	16.8%	7.1%	0.0%
<i>Decreased</i>	50.0%	27.9%	11.1%	34.5%	14.3%	26.9%	10.7%	0.0%
<i>Maintained</i>	50.0%	62.8%	83.3%	57.1%	57.7%	56.3%	82.1%	100.0%
<i>Total Students</i>	12	43	18	226	293	268	28	3

Table 11 ELA Analysis by School Code

	101	301	302	303	305	306
<i>Increased</i>	6.1%	16.8%	19.3%	21.8%	8.6%	12.2%
<i>Decreased</i>	38.0%	32.2%	18.2%	20.0%	36.2%	17.1%
<i>Maintained</i>	55.8%	51.0%	62.6%	58.2%	55.1%	70.7%
<i>Total Students</i>	163	143	187	55	243	82

## Conclusions

Overall, WCCLC had a larger number of student participants and a larger share of students beginning the academic year “At-Risk”. When examining samples of students with at least three years of participation in the program, the data indicate improvements with respect to GPA increases for students who enter the program with At-Risk status. Some students maintain improvement in consecutive years, as measured by consistent GPA improvement or as permanently transitioning out of “At-Risk” status. Students displaying these types of continued success exhibit the greatest gains in GPA.

Analysis of disciplinary data indicate that students who are “At-Risk” when they enter the program are more likely to have disciplinary infractions. However, students who experience sufficient improvements in GPA to transition out of this status by the end of the year have half as many disciplinary counts on average as students who stay at or become at risk. Students who become at risk by the end of the school year have the greatest number of disciplinary counts on average.

Thus the data indicate WCCLC participants who begin the program with “At-Risk” status exhibit proportionally larger gains in GPA than their counterparts. Further, students who are able to maintain improvements, either by continual increases in GPA or by remaining out of the “At-Risk” category, exhibit the largest average gains in GPA. Additionally, students who transition out of the “At-Risk” category are associated with fewer disciplinary counts.

## References

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