

**Chesapeake Multicultural Resource Center  
(ChesMRC)  
Afterschool Initiative:  
2014 Interim Evaluation**

A 21<sup>st</sup> Century Learning Center Grant (MSDE #144796)

by  
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# Chesapeake Multicultural Resource Center (ChesMRC) Afterschool Initiative: 2014 Interim Evaluation

## Executive Summary

### Overview of Program

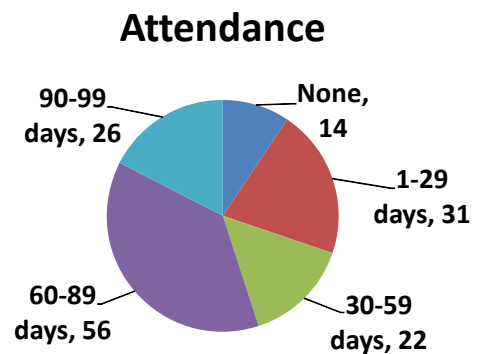
The Hispanic population was growing at a quicker rate in Talbot County than the rest of Maryland, and no programs had been designed to improve the educational level of the immigrant Hispanic families. Almost all Hispanic students at Easton Elementary School lived in low income families, and one-fifth of them failed to score at a proficient level in reading and mathematics. The Chesapeake Multicultural Resource Center initiated an afterschool program in September of 2012, and was awarded a five-year 21<sup>st</sup> Century Community Learning Center grant by the Maryland State Department of Education beginning in school years 2013-2014. This report summarizes and evaluates the first year of the grant program.

### Student Characteristics

The program involved 135 students for at least one day, and collected information on an additional 14 students who were admitted but never attended or were placed on the waiting list. Slightly more than half were girls and slightly more than half were in grades 1-2. Four-fifths were Hispanic and two-thirds received English Language Learner services. Almost all were from low income families and received Free and Reduced Price Meal services. They represented 102 families with 154 parents living in the households.

### Program Processes

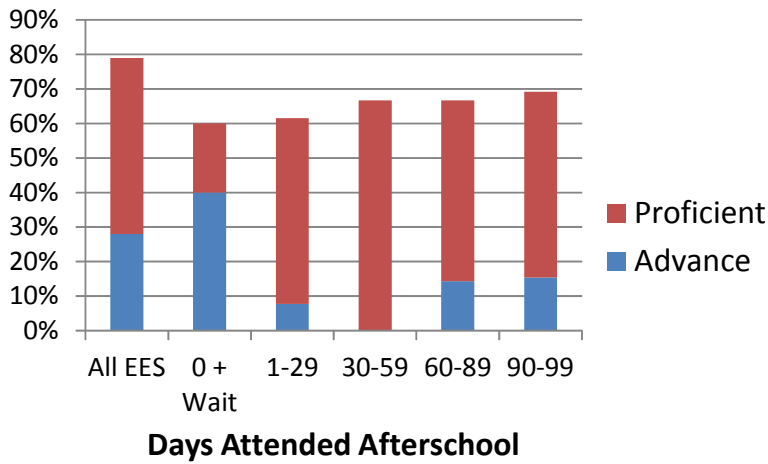
The program had an average enrollment of 101 students that remained fairly constant throughout the 99 days of the program between October 7, 2013 and May 29, 2014. An average of 82 students attended each day, ranging from 65-94.



### Academic Outcomes

The afterschool program appeared to help students academically: 69% of those who attended 90 or more days achieved the proficient or advance level on the reading MSA compared to 60% of those on the waiting list, or who were admitted to the program but never attended. This suggests that the afterschool program helped the students come closer to the level of all students at the

## Reading MSA



school. In math, MSA scores increased exponentially with afterschool attendance for Hispanic students, controlling for their math benchmark scores at the beginning of the year.

Parental participation in ESL classes appears related to student academic performance. One-third of the parents who took ESL classes advanced one or two levels in their English skills.

## Recommendations

1. Focus 2014-2015 student recruitment on 2013-2014 participants, retaining as many as possible;
2. Engage more parents to participate in ESL classes and to attend enough to advance their English skills;
3. Follow afterschool students leaving EES as they go to middle school or transfer to another school.

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# Program Overview

## Background

Talbot County, Maryland, has an Hispanic population that is growing than in the rest of Maryland. Studies have shown that immigrant children who are not engaged academically by the third grade have a high probability of dropping out of high school and engaging in risky behavior. Low income is also a risk factor in academic achievement. Easton Elementary School (EES) has both a large Hispanic enrollment and low income. While half of all students at the school are registered in the Free and Reduced Meal (FARM) program, almost all of the Hispanic students receive FARM. In 2012, one-fifth of the Hispanic students failed to score at a proficient level in reading and mathematics, and half failed to score at a proficient level in science. No programs had been designed to provide extra academic help to Hispanic students at EES or to engage their immigrant families in ways to assist their children. The Chesapeake Multicultural Resource Center (ChesMRC) provides services to Hispanic families and initiated an afterschool program in September of 2012. It received a five-year 21<sup>st</sup> Century Community Learning Center (21<sup>st</sup> CCLC) grant by the Maryland State Department of Education (MSDE) to expand this program beginning in school years 2013-2014. This report documents and evaluates the first year of the grant program (FY2014).

The ChesMRC contracted with Bonham Research to provide an external evaluation of its afterschool program. Bonham Research has been the external evaluator for the Caroline County Lifelong Learning Partnerships 21<sup>st</sup> Century Community Learning Center grants since FY2006, evaluated the afterschool program of the Baltimore County Local Management Board (FY2001-2005), the English Language Learners (ELL) program of the Baltimore County Public Schools (FY2005), the improvements in the Baltimore City Public School System (FY2008), and the Baltimore County Public Schools' master plan implementation (FY2008). Dr. Gordon Scott Bonham, the evaluator, earned his Ph.D. in sociology from the University of Michigan (Ann Arbor) in 1971, and has conducted applied health and social research and evaluation with the National Center for Health Statistics, the University of Louisville, and Towson University before establishing Bonham Research.

Matthew R. Peters, the director of ChesMRC, provided the key linkage between ChesMRC and Bonham Research, providing information on parental involvement with ESL classes and transmitting the database in which student enrollment and attendance had been entered. ChesMRC uses an afterschool program database lent to them by the Caroline County Lifelong Learning Partnerships (initially developed by Bonham Research). Bonham Research then links individual student academic data provided by the public schools with the program data in a secure and confidential manner to evaluate the relationship between program involvement and student academic achievement. Carolyn Johnson and Emily Moody were key links between the afterschool program and the Talbot County Public Schools, and provided the academic outcome data for the evaluation.

The ChesMRC incorporated research-proven aspects of other programs to develop a program to effectively reach out to the immigrant community and integrate them into a successful and productive afterschool program. These include being culturally sensitive, being aware of personal and family responsibilities, subsidizing the cost of participation, addressing language and communication barriers, and gaining the trust of parents. Additional academic assistance has been shown to improve reading scores for children of immigrants since ELL programs at schools often substitute English instruction for standard curriculum content. Additionally, the ChesMRC afterschool program planned to involve parents in the educational process, parents who had low English skills, had completed an average of four years of schooling in their countries of origin, and who might be illiterate in their own language.

## **Goals and Objectives**

The ChesMRC afterschool program at EES had two goals for educational improvement, one for students and one for parents. The student goal specified the desired academic performance at the end of the five-year 21<sup>st</sup> CCLC grant, and the objectives specified the targets by the end of each of the first four years. Four benchmarks were provided to measure academic progress expected to result in obtaining the objectives for each year.

*Student Goal: By June 2018 70% of program's first cohort, students that have participated for 5 consecutive years in the 21<sup>st</sup> CCLC program, who started at a Basic level will score Proficient /Advanced on the 5th grade reading and math assessments (MSA or PARCC) and 60% will score at Proficient or Advanced in the 5<sup>th</sup> grade science assessment. And 95% of the programs first cohort that started at Proficient/Advanced will remain at this level.*

*Student Objective 1--By June of 2014, 30% of the students that have participated in the 21<sup>st</sup> CCLC program and began at a Basic level will score at Proficient/Advanced on the reading and math MSA.*

*Student Objective 2--By June of 2015, 40% of the students that have participated in the 21<sup>st</sup> CCLC program and began at a Basic level will score at Proficient/Advanced on the reading and math PARCC.*

*Student Objective 3--By June of 2016, 50% of the students that have participated in the 21<sup>st</sup> CCLC program and began at a Basic level will score at Proficient/Advanced on the reading and math PARCC.*

*Student Objective 4--By June of 2017, 60% of the students that have participated in the 21<sup>st</sup> CCLC program and began at a Basic level will score at Proficient/Advanced on the reading and math PARCC.*

*Student Benchmark 1--Individual Reading Inventory score improves over previous administration (Sept. & May).*

*Student Benchmark 2--Houghton-Mifflin Aligned Theme Test score in reading improves over previous administration (Oct.&Dec.)*

*Student Benchmark 3--Quarterly report card grades in reading show improvement in Jan., Mar. and June to a maximum of B or better in Reading, Math and Science.*

*Student Benchmark 4--Scores on teacher surveys improve over previous administration (Jan. & May).*

Most of the parents (or adult caregivers) of students in the afterschool program did not have a good command of English which limited their abilities to help the children with schoolwork. The program's goal for parents was improvement in their English skills by the end of the five-year grant, along with taking sessions on how to help their children academically. The objectives for each year were essentially the same as the goal for the fifth year. Two benchmarks were specified that if met would be expected to result in the year's objective to be met.

*Parent Goal: For every year of participation in the afterschool program, the English Proficiency level determined by guidelines developed by the Adult Education Department of Chesapeake College will increase by ONE level for 50% of the parents that do not have a proficient or advanced level of English. And 100% of the parents complete the 20-session Parent Literacy program developed by ChesMRC and partner organizations.*

*Parent Objective 1--By October 2013, 50% of parents at a basic level of English are enrolled into free, ESL classes provided by Chesapeake College or participating in ESL activities at the ChesMRC center.*

*Parent Objective 2--By September 2014, 50% of parents at a basic level of English are enrolled into free, ESL classes provided by Chesapeake College or participating in ESL activities at the ChesMRC center.*

*Parent Objective 3--By August 2015, 50% of parents at a basic level of English are enrolled into free, ESL classes provided by Chesapeake College or participating in ESL activities at the ChesMRC center.*

*Parent Benchmark 1--By September of each year, 100% of the parents sign commitments to participate in some form of adult educational during the school year (i.e. ESL classes or training, participating in our Adult Literacy program, or choosing another adult educational program).*

*Parent Benchmark 2--By June of each year, parents have participated in at least 75% of the educational programming offered by ChesMRC, Chesapeake College, or another agency.*



## Strategies

The plan of operation for the students' afterschool program involved two hours of math instruction and two hours of reading/language instruction per week. Certified teachers mainly from within EES, with the help of a dedicated group of community volunteers and staff from ChesMRC, will implement several evidence-based curricula. *Moving with Math's* extension series has students use manipulatives in every lesson to develop conceptual understanding and improve achievement. The reading/language component will consist of project-based learning built on Common Core Standards and ARC (American Reading Company) *Research Labs*. The curriculum's focus will be on STEM (Science, Technology, Engineering, and Math) themes in earth, physical, and life sciences. The academic instruction period will be linked to the enrichment component using hands-on extensions from the *ARC Research Lab* as well as including educational materials from *Delta Education Science Module*, which are all correlated with the Common Core standards for the State of Maryland. Volunteers from the partnership with 4H will also provide hands on activities including nutrition, health, coupled with engineering with Lego Robotics. Additional reading enrichment will be provided by Junior Achievement, which will help students develop financial literacy as well as important social skills. The ChesMRC afterschool program will host a number of activities to help students develop important social skills. It will promote and assist students and families to enroll in additional youth development programs, such as the YMCA, the Boy Scouts of America, the Girl Scouts of America, 4H Club, Talbot Mentors, sports teams, music programs, and art programs. All of these programs along with Character Counts will promote self-confidence and character development in the students.

The afterschool program planned to operate for 109 days from mid-September to the Memorial Day holiday. It took place Monday-Thursday at EES Dobson building from the end of school at 3:45pm until 6:15pm. Group size for the instruction period was limited to 15 students for each certified teacher, assisted by an enrichment program leader, volunteers, and ChesMRC staff. The program schedule concludes with an additional 15 minutes of guided homework completion. Parents are required to pick up their children after the final 15 minutes of homework time so students and staff show the parents completed homework tasks and explain the remaining assignments to be finished at home with parental guidance. This also provides opportunity for program staff to inform parents about their children's progress and important school and community information.

The parents of students participating in the ChesMRC afterschool program will be required to commit to their own educational development. Parents can opt to enroll in free ESL (English as a Second Language), GED classes provided by Chesapeake College, adult literacy or academic development program provided by other social service providers, or work independently at the ChesMRC Resource Center with the *Skills Tutor* program. ChesMRC staff will use the *Parenting for Academic Success* curriculum designed for parents who are nonnative speakers of English and covers a diverse array of topics to increase the ability of parents to support the language and literacy development of their children. Parents are also required to volunteer at least one hour per month to help with the afterschool program.

Partnering with the ChesMRC are Easton Elementary School, Talbot County Public Schools, Chesapeake College, Salisbury University, Talbot County Judy Center, Talbot Partnership, Boy Scouts of America, University of Maryland Extension, Junior Achievement of Delmarva, Character Counts Mid-Shore, Talbot Family Network, Talbot Department of Health, and Maryland Food Bank.

## **Evaluation Data and Methods**

The evaluation tests whether the program met its specific goals, objectives and milestones. In addition, the conclusion will address broader questions about the value of the program using all of the available data, not just the data that specifically relates to the goals and objectives. The following measures and tests were used for the evaluation:

Student characteristics:

- Gender;
- Grade level;
- Race and ethnicity: African American, Asian, Hispanic, white non-Hispanic;
- FARM (Free and Reduced-price Meals) program;
- ELL (English Language Learner) services;
- Special Education services.

*Student academic proficiency:*

- Reading and math MSA (Maryland School Assessment) proficiency level (basic, proficient, advance) and scale scores for students in grades 3-5 in FY2014. Students taking the Alt-MSA or in the trial testing for PARCC reading assessment did not have MSA scores and proficiency levels;
- Science MSA (Maryland School Assessment) proficiency level (basic, proficient, advance) and scale scores for students in grade 5 in FY2014;
- Reading, math, and science PARCC proficiency level and scale scores for students in grades 3-5 in FY2015-2018;
- Reading/language arts report card marks of Beginning, Developing and Secure for grades 1-2 and as a percentage for grades 3-5. Percentages for grades 3-5 qualified with “modifications” are treated the same as those without modifications, but the student with a “modified curriculum” was not included;
- Reading and math benchmarks include the Rigby Informal Reading Inventories (IRI) administered in October and May to all students and in quarters December and March to new students, students receiving special education, ELL and Title One services, and students working below grade level. Other benchmarks are give in September, January and May.

*English skills of parents:*

- ESL (English as a Second Language) test levels.

*Student afterschool participation:*

- Number of days attended with students who were accepted but never attended and those who were placed on the waiting list counted as zero (0) days attended;
- Regular attendance defined by MSDE as 30 days or more per year;
- Five categories of days attended: 0, 1-29, 30-59, 60-89, and 90-99.

*Adult participation:*

- Number of *Parent Literacy* sessions attended out of 20;
- Number of hours attended ESL classes;
- Participation in PACT (parent and child together) activities;
- Attendance at afterschool family nights;
- Passing driver's license exam with ChresMRC assistance.

*Statistical procedures and test*

- Statistical processing and testing used SPSS (Statistical Package for the Social Sciences), All tests were two-tailed that did not assume the direction of relationship. This is conservative if one accepts the hypothesis that attendance increases academic performance where a one-tail test would be appropriate;
- Cross-tabulations with chi-square to test for statistical significance at a 5% probability of error ( $p=.05$ );
- Comparison of means with ANOVA to test for statistical significance at a 5% probability of error ( $p=.05$ );
- Personian correlation to test for statistical significance between two interval, or ordinal scales assumed to have interval-like properties, with a 5% probability of error ( $p=.05$ );
- Multiple regression to test for independent contribution of interval (or dichotomous) variables to an interval dependent variable, using F-statistic for significance of the overall model and t-statistic for significance of individual variables. Either forced model or forward stepwise regression using  $p=.05$  for entry and  $p=.10$  for exit.

## Findings

### Student Enrollment

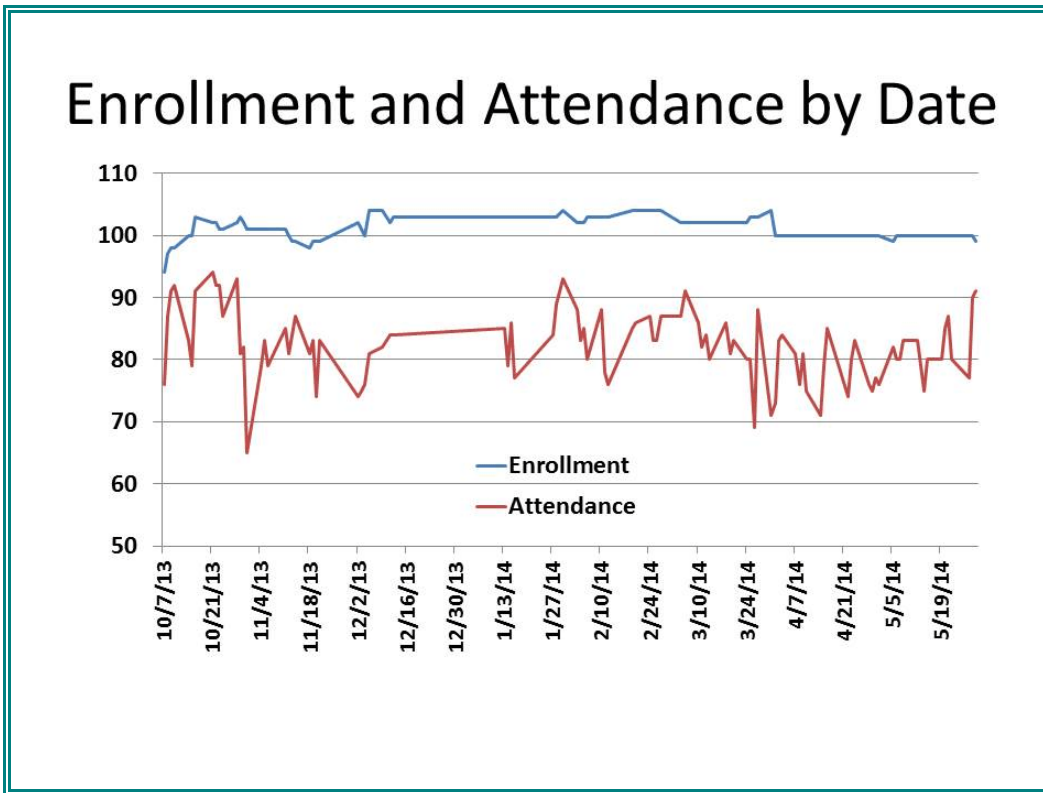
The ChesMRC afterschool program enrolled 135 students during FY2014 who attended at least once. It had 14 additional students who were admitted but never attended or were placed on a waiting list. (See **Figure 1.**) Those who were admitted or placed on the waiting list will be used as a small control group, although their characteristics differ some from those who attended. Girls outnumbered boys among attenders (57% to 43%), with the reverse among those admitted or waiting. About one-third of the students attending the afterschool program were in first grade and about one-fourth were in second grade. The remainder was about evenly divided among grades three, four and five. Four-fifths of the attending students were Hispanic and most of the remainder was African American. Very few non-Hispanic white and Asian students were eligible for and interested in the program. Almost all (93%) attending students received FARM and two-thirds received ELL services from the school. Very few of the students received Special Ed services.

Characteristic	Admitted/		Total
	Attended	Waiting	
<i>Number</i>	(135)	(14)	(149)
Total	100%	100%	100%
<i>Gender</i>			
Female	57%	43%	55%
Male	43%	57%	45%
<i>Grade</i>			
First	31%	29%	31%
Second	23%	29%	24%
Third	16%	21%	16%
Fourth	15%	14%	15%
Fifth	16%	7%	15%
<i>Race/Ethnicity</i>			
African American	11%	43%	14%
Asian	4%	0%	3%
Hispanic	80%	57%	78%
White, non-Hispanic	4%	0%	4%
<i>FARM</i>			
Yes	94%	86%	93%
No	6%	14%	7%
<i>ELL</i>			
Yes	67%	58%	64%
No	33%	42%	36%
<i>Special Ed</i>			
Yes	2%	0%	2%
No	98%	100%	98%

**Figure 1.** Student characteristics by enrollment

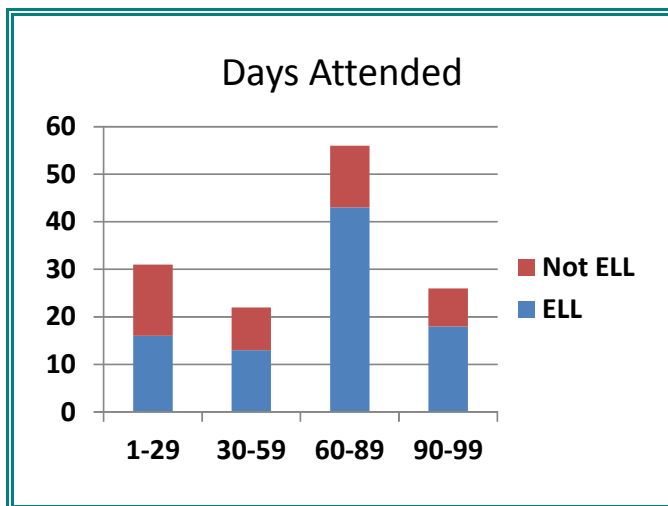
### Student Attendance

The afterschool program operated for 99 days between October 7, 2013 and May 29, 2014. The program had originally planned to meet for nine additional days, but school closures in December (1), January (3), February (2) and March (3) resulted in the afterschool program being closed on those days. Although 135 students enrolled at some time during the school year, enrollment on any particular day varied from 94 to 104 with an average enrollment of 101 students. (See **Figure 2.**) Attendance averaged 82 students and varied between 65 on October 31 and 94 on October 21. Average attendance varied little by month. Overall, about three-fourths (78%) of the students that were enrolled on a day attended the program on that day.



**Figure 2.** Number of students enrolled and attending by date

Students attended the afterschool program an average of 60 days, although one student attended only one day and one attended all 99 days. Girls and boys did not differ significantly in their average attendance, nor did students of different racial and ethnic groups, students in different



**Figure 3.** Number of students by days attended

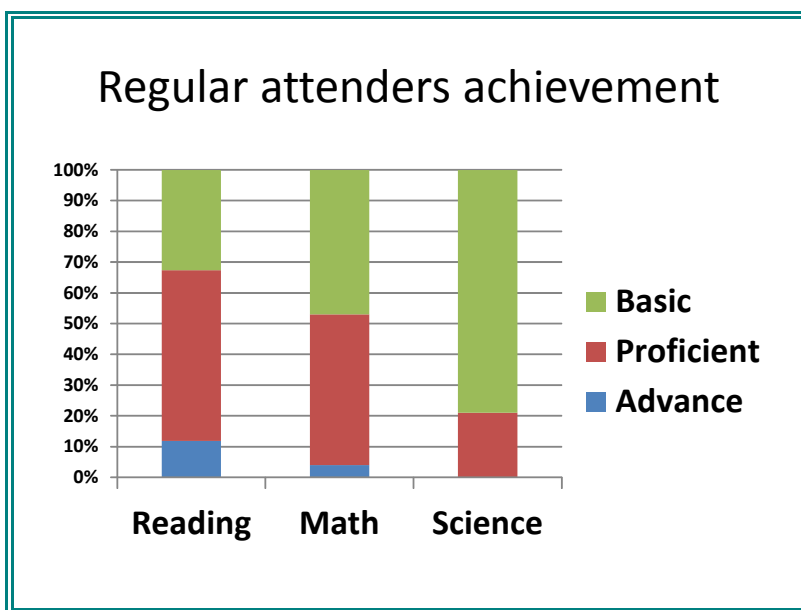
grades, and by receipt of special education services. However, students receiving FARMS attended an average of 61 days compared to 40 days attended by non-FARMS students ( $p=.05$ ). Students receiving ELL services attended an average of 64 days compared with 53 days for students not in ELL ( $p=.04$ ). The MSDE does not count students who attend less than 30 days of an afterschool program as “regular attenders,” and one-fourth of the students enrolled (31 of 135) attended 1-29 days. (See **Figure 3**.) Among the “regular attenders,” most (56) attended 60-89 days followed by the 26 who attended 90-99

days. Students receiving ELL services comprised 69% of those who attended 90-99 days, 77% of those who attended 60-89 days, 59% of those who attended 30-59 days, but only 52% of those who attended 1-29 days.

The reason for withdrawing from the afterschool program was recorded for 20 of the 31 students who attended fewer than 30 days, 7 of the 22 who attended 30-59 days, and 4 of the 56 students who attended 60-89 days. Two students moved, one after attending the program for 14 days and one after attending 60 days. Two had other activities at school that conflicted and withdrew after attending the program for four or seven days. Four had transportation problems with three arising before they had attended 30 days and the other almost at the end of the year after attending 81 days. Four left voluntarily, all before they had attended 30 days. One was terminated after 16 days in the program. The majority (17) withdrew for other reasons, eight before they had attended 30 days, seven who had attended 30-59 days, and two who had attended 60-89 days.

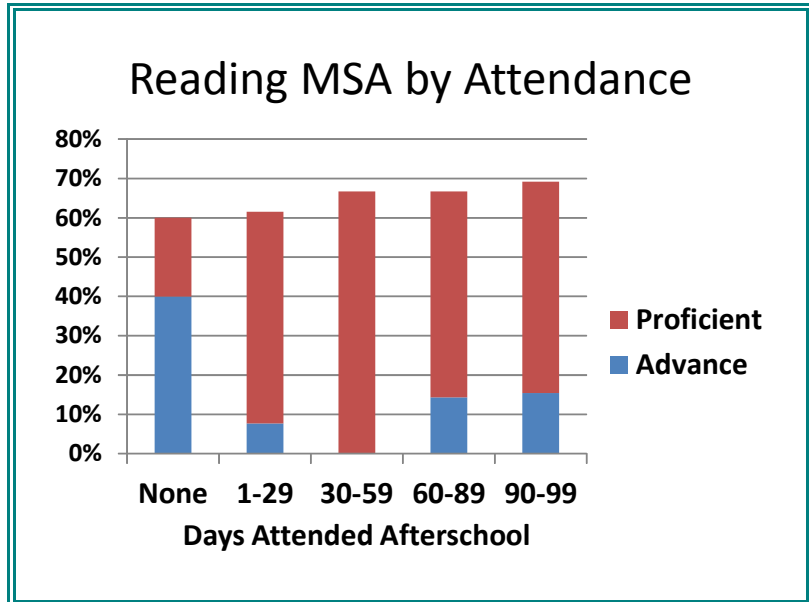
### Student Academic Outcomes

Forty-three students in grades 3-5 who regularly attended the afterschool program in academic year 2013-2014 took the reading MSA and 47 took the math MSA. Fourteen regular attenders in grade five took the science MSA. Two-thirds of the students achieved advance (12%) or proficient (56%) scores in reading, one-half achieved advance (4%) or proficient (49%) in math, and one-fifth achieved proficient (21%) in science. (See **Figure 4.**) In comparison, 28% all the students at the school who took the reading MSA achieved the advance level and 51% achieved the proficient level. On the math MSA, 8% achieved the advance level and 62% achieved the proficient level. In science, 7% of the school's fifth graders achieved the advance level and 57% the proficient level. Among the afterschool students, math scores had significant correlations with Hispanic ethnicity (higher for Hispanic than non-Hispanic) and special education services (lower if special education),



**Figure 4.** MSA achievement by regular attenders

Comparisons with the whole school or by characteristics of students do not provide much information on whether the afterschool program helped the students academically. A better comparison is among those identified for the afterschool program by the amount they participated in it. On the reading MSA, it appears that the more days the student attended the afterschool program, the more likely they were to achieve proficiency. (See **Figure 5**.) Seven-tenths (69%) of those who attended 90-99 days achieved proficient or advance as did 67% of those who attended 30-59 or 60-89 days. Six-tenths of those who attended no days and those who attended 1-29 days achieved proficiency.



**Figure 5.** Percent proficient on reading MSA by attendance

While a model of a direct linear relationship between days attended and achieving reading proficiency was not statistically significant, a model with a curvilinear relationship between days attended and reading MSA scale scores approached statistical significance, with the linear term approaching significance ( $p=.08$ ) and the quadratic term statistically significant ( $p=.04$ ). The quadratic equation is (**bold** indicates statistical significance):

$$\text{Reading MSA Score} = 406 - 1.089 \text{ Days} + \mathbf{.011 \text{ Days}^2} \quad (F(2,53)=2.437, p=.10, R^2=.08).$$

It explains 8% of the variation among the students and predicts that students who attended no days (on the waiting list or never attended after being admitted) and students attending all 99 days would score an equally high 406 average on the reading MSA score while those who attended half (50) of the days would score lowest with an average of 379 (371-388 is the proficiency threshold depending on the year in school).

This model does not take into consideration the characteristics of students or their abilities prior to the afterschool program. Gender, the year in school, Hispanic ethnicity, ELL, FARMS (almost all students) and special education (almost no students) had no significant relationship with the students' reading MSA scores. Two measures of students' abilities prior to the program were tested. Students' reading MSA scores correlated highly with their May 2014 Informal Rigby Reading Inventory scores ( $r=.604$ ) and English Language Benchmark scores ( $r=.663$ ), so their scores on the first administration of these assessments (September and October) were included in independent regressions. The initial Rigby level added more independent of afterschool attendance in explaining variations among students' in the reading MSA scores than

the initial English Benchmark added ( $R^2$  of .44 and .28), but both decreased the relationship between afterschool attendance and MSA achievement. Students attending 36 days would be expected to have the lowest reading MSA scores using the Rigby equation and those attending 50 days the lowest MSA scores using the English equation. Students who attended afterschool all 99 days would be expected to score 17 points higher on the reading MSA than they would have based upon their initial Rigby assessments, and 1 point high than expected based upon their initial English Benchmarks. The equations are:

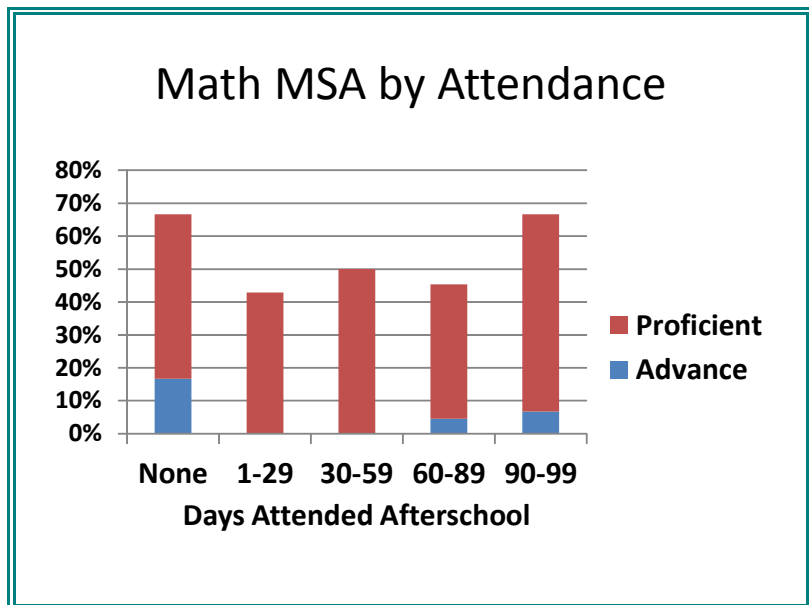
$$\text{Reading MSA Score} = 321 + 2.572 \text{ Rigby} - .421 \text{ Days} + .006 \text{ Days}^2 \quad (F(3,51)=13.358, p<.001, R^2=.44).$$

$$\text{Reading MSA Score} = 366 + .794 \text{ English} - .683 \text{ Days} + .007 \text{ Days}^2 \quad (F(3,52)=6.665, p=.001, R^2=.28).$$

Proficiency on the math MSA also appears to have a curvilinear relationship with afterschool attendance. (See **Figure 6**.) However, a quadratic equation with just days attended afterschool did not approach statistical significance and explained only 6% of the variation in the scale scores. The equation is:

$$\text{Math MSA Score} = 363 - .189 \text{ Days} + .005 \text{ Days}^2 \quad (F(2,58)=1.737, p=.19, R^2=.06).$$

Adding student characteristics and their interactions with days attended in stepwise regression resulted in a highly significant equation that explained about one-fourth of the variation among the students in their math achievement. The equation suggested that Hispanic students with fluent English (not ELL) benefitted from the afterschool program. When the September math benchmark scores, Hispanic ethnicity and ELL services were tested together, afterschool attendance had a significant effect for Hispanic students, but less so for them if they were in ELL. The best model explaining 44% of the variation in students scores is:



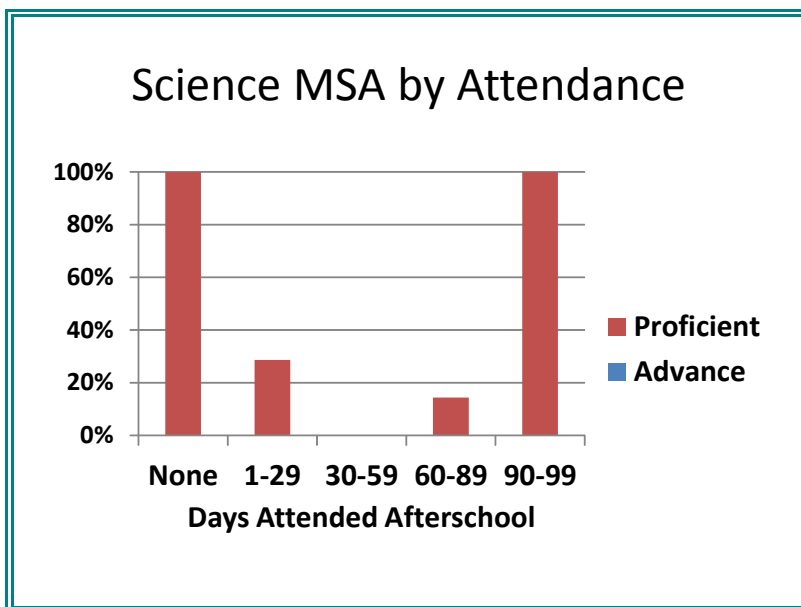
**Figure 6.** Percent proficient on math MSA by attendance

$$\text{Math MSA Score} = 322 + 1.725 \text{ Math Benchmark} + .007 \text{ Hispanic*Days}^2 - .395 \text{ ELL*Days} \quad (F(3,53)=14.121, p<.001, R^2=.44).$$



This equation says that students, other than Hispanic or ELL students, who attended the afterschool program and had the average score (31.6) on the math benchmark would be expected to score 377 on the math MSA (372-394 are the cutoffs for the proficiency level), regardless of how many days they attended the afterschool program. Every point on the math benchmark would add 1.725 to the math MSA score for these students. The scores for Hispanic children without ELL services progressively kept improving as the square of the days they attended the afterschool program increased, such that those who attended all 99 days would be expected to average 445 on their math MSAs. Hispanic students with ELL services would be expected to drop slightly during their first 28 afterschool days to 371, but then continue to improve to 406 if they attended all 99 days. Although the very small number of non-Hispanic afterschool students in ELL makes interpretation speculative, the equation says that Non-Hispanic ELL student scores would be expected to steadily decrease from 377 with no afterschool attendance to 337 if they attended all 99 days.

Proficiency on the science MSA had a very strong curvilinear relationship with afterschool attendance among the small number of students (fifth grade only) who took the test. The one student who never attended, and both students who attended 90 days or more, achieved the proficient level on the science MSA. (See **Figure 7**. No student associated with the afterschool program achieved the advance level.) In contrast, none of the five students who attended 30-59 afterschool days achieved proficiency. An equation regressing the science MSA



**Figure 7.** Percent proficient on science MSA by attendance

scores on the number of days attended is highly significant and explains two-fifths of the variation among the 22 fifth-graders. The equation is:

$$\text{Science MSA Score} = 429 - 3.722 \text{ Days} + .037 \text{ Days}^2 \quad (F(2,18)=5.893, p=.01, R^2=.40).$$

It predicts that students who were eligible for the afterschool program but did not attend at all, and those who attended all 99 days, would average science MSA scores of 429 and 424 respectively, while those who attended half the days would average 336 on the assessment (391 is the cutoff for proficient, 467 for advance). However, other characteristics of students may reduce the contribution of afterschool attendance. The school did not administer benchmark tests in science at the beginning of the school year, but when the first math benchmark scores are

entered into the equation, along with ELL services, the statistical significance of afterschool attendance diminished ( $p=.10$ ) and the explained variance increased. The equation is:

$$\text{Science MSA Score} = 361 + 2.127 \text{ Math Benchmark} - 35 \text{ ELL} - 1.883 \text{ Days} + .017 \text{ Days}^2$$

( $F(4,15)=7.829, p=.001, R^2=.68$ ).

The number of days students attended the afterschool program had no statistical relationship with the changes in the Rigby, English benchmark and math benchmark between the beginning of the year and the end of the year.

The school used a different grading scale for students in grades 1-2 than for students in grades 3-5. About two-fifths of the younger students received a grade of “Secure” in reading (43%) and math (41%). (See **Figure 8**.) About half were judged as “Developing,” and one-tenth or less was judged as beginning in reading and math. In the upper grades, about one-sixth received numerical grades of 90-99 in reading (18%) and math (16%). The majority received grades between 80 and 89. The remainder received grades less than 80, with about twice as many in this lowest grade category in math as in reading.

Characteristic	Reading	Math
Grades 1-2		
(Number)	(80)	(80)
Total	100%	100%
Secure	43%	41%
Developing	48%	54%
Beginning	10%	5%
Grades 3-5		
(Number)	(67)	(67)
Total	100%	100%
90-99	18%	16%
85-89	34%	25%
80-84	36%	34%
75-79	13%	24%

**Figure 8.** Final grade by grade level

School grades and MSA achievement are related. Half (50%) of the students receiving reading grades in the 90s achieved the advance level on the reading MSA, and 30% achieved the proficient level.

However, two student (20%) tested only at the basic level in reading. Among students with reading grades in the high 80s, 10% achieved the advance level, 62% achieved the proficient level, and 29% tested at the basic level. Among those with reading grades in the low 80s, 5% achieved advance, 59% proficient, and 36% basic. Among those with grades in the 70s, none achieved advance, 38% achieved proficient, and 63% scored at the basic level on the reading MSA. In math, 27% of students with grades in the 90s achieved the advance level on the math MSA (the only ones to do so), 64% achieved proficient and 9% basic. Among students with final math grades in the upper 80s, 59% achieved proficient and 41% basic on the math MSA. Among those in the low 80s, 48% achieved proficient and 52% basic. Among students with final math grades in the 70s, 25% achieved proficiency and 75% remained at the basic level.

Final grades in reading/language arts and in math had no statistical relationships with the number of days students attended the afterschool program. (See Appendix for tables.)

The data suggest that parental involvement in learning English may have some influence on their students' academic achievements. Parental increases in ESL levels were correlated with their students' reading MSA score ( $r=.362$ ,  $p=.007$ ), but the relationships were not significant once the students' initial Rigby scores were taken into account. Students whose parents attended ESL classes also attended an average of 11 more days of the afterschool program than did students who did not have parents taking ESL classes (69 vs. 58 days,  $r=.191$ ,  $p=.02$ ).

## Parent Involvement

Parent information was available for 133 of the 135 children who attended the afterschool program. These represented 102 households with 154 parents. Two-thirds (52) of the households had both parents present, 48 had a mother only, and 2 had a father only. (See **Figure 9**.) Three-fourths of these parents (73%) had one child in the ChesMRC afterschool program and most of the remainder (23%) had two children. Four of the parents (two families) had three children and two parents (one family) had four children in the program. About two-fifths (38%) of the parents had low beginning English skills—about three times as high among mothers (50%) as among fathers (17%). Only one-fifth (19%) had fluent English without the need for developing better English skills that would help their children academically.

The ChesMRC afterschool program registration form asked parents to initial their commitment to the following four keys to their child's success in the program:

- Pick up their child at 6:00 p.m. or arrange for someone to pick them up;
- Enroll in an educational program to further develop their education: English classes, GED/High School Diploma Classes, job/skill training, or any educational program offered by a local church, government, or private enterprise;
- Take parenting classes provided by ChesMRC, Early Head Start, Head Start, church, government, or private enterprise;

<i>Characteristics</i>	<u>Number</u>			<i>Total %</i>
	<i>Female</i>	<i>Male</i>	<i>Total</i>	
All	100	54	154	100%
<i>Spouse in household</i>				
Yes	52	52	104	66%
No	48	2	50	34%
<i>Afterschool children</i>				
One	74	38	112	73%
Two	23	13	36	23%
Three	2	2	4	3%
Four	1	1	2	1%
<i>English level</i>				
Low beginning	50	9	59	38%
High beginning	3	1	4	3%
Low intermediate	9	12	21	14%
High intermediate	10	10	20	13%
Advanced	13	8	21	14%
Fluent	15	14	29	19%
<i>ESL location choice</i>				
Fluent, no need	15	14	29	19%
Chesapeake College	13	8	21	14%
ChesMRC	8	1	9	6%
None	64	31	95	62%

**Figure 9.** Characteristics of parents

- Spend at least two hours a month in organized and monitored Parent and Child Together (PACT) time through Cub Scouts, Girl Scouts, library activities, volunteering at school, church programs, or programs that can be monitored by ChesMRC.

Parents of students who attended the afterschool program met the first commitment. Withdrawal information indicates transportation became a problem for only two families after their children began attending afterschool. Additionally, ChesMRC helped 27 parents obtain their driver’s licenses during the academic year, including nine who neither took ESL classes nor participated in PACT activities.

Responding to the second commitment, 30 parents took ESL classes. These represent 24% of the parents (30 of 125) who could use improved English skills, 29% of the families in which the one or both parents could use improved English skills, and 19% of the students who had at least one parent who could use improved English. (See **Figure 10.**) The majority of the parents who took ESL classes during FY2014 did so through Chesapeake College. The others, mostly mothers, took their ESL courses at ChesMRC. They participated in ESL instruction for an average of 46 hours, ranging from 6 hours to 110 hours.

	Families	Parents	Students
<i>Number</i>	(102)	(154)	(133)
Percent	100%	100%	100%
<i>Family ESL</i>			
One parent not fluent	47%	81%	46%
Two parents, neither fluent	37%	--	36%
Two parents one not fluent	1%	--	1%
One parent fluent	8%	19%	9%
Two parents both fluent	7%	--	8%
<i>ESL Class Location</i>			
<i>Number needing improvement</i>	(87)	(125)	(110)
Percent needing improvement	100%	100%	100%
Chesapeake Col. ESL class	20%	17%	19%
ChesMRC ELS class	9%	7%	8%
Neither location	71%	76%	73%

**Figure 10.** Parental need for English Improvement

ChesMRC taught classes on Parenting for Academic Success classes to the parents who took ESL classes. Only four of the 30 parents attended all 20 classes. On average, parents attended eight classes. No data were available to indicate attendance at other training classes that would meet this third commitment.

On the fourth commitment, over one-third (37%) of the parents were in households that participated with their children in Girl Scouts (24%) or Boy Scouts (13%). This included 63% of the 30 parents who took ESL classes, 44% of the 34 parents with fluent English, and 26% of the parents who lacked English skills and did not take ESL classes.

Although not specified on the commitment form, the afterschool program had family nights to encourage parents to be more aware and involved with their students’ afterschool activities. The first was on December 4, 2013, in which 51 (67%) of the 76 students attending that day had

parents present. A second family night on April 23, 2014, involved parents of 20 students, one-fourth of the 80 students attending that day. These numbers cannot be directly translated into how many parents were involved, since students could have one or two parents attend, and these parents would also be counted for any siblings in the program.

*Benchmark 1.* If the program achieved its first parental involvement benchmark of having all parents sign commitments to participate in some form of adult educational during the school year, it did result in many parents taking ESL and parenting classes.

*Benchmark 2.* The program made progress toward achieving the benchmark of 75% of the parents involved in some type of educational programming by the end of the school year. It ended up with 62% of the parents participating in ESL classes, being involved in PACT activities, or obtaining their drivers' licenses. Some additional parents may have attended one of two afterschool family events.

## Parent Outcomes

Ten of the 154 parents (6%) advanced one ESL level during the year and five (3%) advanced two levels. One-third (33%) of the parents who took ESL classes advanced one or more levels during the year while 3% of the parents who did not take ESL classes advanced. Those who chose to take ESL classes from Chesapeake College advanced at least one level more frequently than those who chose to take ESL classes at ChesMRC (43% and 11%). Four of the five who advanced two levels started at the low beginning level, while the greatest percent advancing one level started at high beginning or low intermediate ESL levels.

A detailed analysis was made of the 30 parents who took ESL classes. The number of class hours had a significant relationship to advancement in English. Those who advanced two levels received an average of 86 hours of ESL instruction (they were all at Chesapeake College). Those who advanced one level attended an average of 56-60 hours at either Chesapeake College or ChesMRC. Those who did not advance a full level attended Chesapeake College an average of 53 hours or attended ChesMRC an average of only 15 hours. Multiple regression was used to estimate the number of ESL hours needed to advance a level and whether characteristics of parents added additional information. The resulting equation was:

$$\text{Probability advancing} = .083 + .008 \text{ hours} \quad (F[1,28]=6.467, p=.02, R^2=.19).$$

This equation shows that the probability of a parent improving one ESL level increases by .008 for every hour spent in class. Thus the probability of advancing is .883 or 88% (.083 + [.008\*100]) if the person attends 100 hours of classes. The parent's gender, number of students in the afterschool program, starting ESL, and whether the spouse was also taking ESL classes did not change this relationship and added no additional information.

## Discussion

### Meeting Goals and Objectives

**Student Goal:** *By June 2018 70% of program's first cohort, students that have participated for 5 consecutive years in the 21<sup>st</sup> CCLC program, who started at a Basic level will score Proficient /Advanced on the 5th grade reading and math assessments (MSA or PARCC) and 60% will score at Proficient or Advanced in the 5<sup>th</sup> grade science assessment. And 95% of the programs first cohort that started at Proficient/Advanced will remain at this level.*

**Student Year 1 Objective:** *By June of 2014, 30% of the students that have participated in the 21<sup>st</sup> CCLC program and began at a Basic level will score at Proficient/Advanced on the reading and math MSA. –Achieved*

- 68% of the students in grades 3-5 who regularly attended the afterschool program scored at the proficient or advanced level on the reading MSA;
- 53% of the students in grades 3-5 who regularly attended the afterschool program scored at the proficient or advanced level on the reading MSA;
- Data are not available on MSA proficiency from the prior year, but reading MSA scores progressively increased the more days students attended the afterschool program, although not independent of their first quarter English language benchmarks;
- Data are not available on MSA proficiency from the prior year, but math MSA scores progressively increased the more days Hispanic students attended the afterschool program independent of their scores on the first quarter math baseline test, although less rapid for those receiving ELL services. Non-Hispanic students' MSA scores did not seem to benefit from afterschool attendance.

**Parent Goal:** *For every year of participation in the afterschool program, the English Proficiency level determined by guidelines developed by the Adult Education Department of Chesapeake College will increase by ONE level for 50% of the parents that do not have a proficient or advanced level of English. And 100% of the parents complete the 20-session Parent Literacy program developed by ChesMRC and partner organizations. –Not Achieved.*

- 12 (10%) of the 123 parents who were not proficient in English at the beginning of the year advanced one level of English during the year;
- 4 (3%) of the 157 parents completed the 20 session Parenting for Academic Success program;
- Parent advancement in English was highly related to the number of hours spent in ESL classes.

*Parent Objective--By October 2013, 50% of parents at a basic level of English are enrolled into free, ESL classes provided by Chesapeake College or participating in ESL activities at the ChesMRC center. –Not Achieved.*

- 30 (24%) of the parents not fluent in English enrolled in ESL classes during the year, although 31% of the students had at least one parent enrolled in English classes;
- Parental involvement in ESL classes appears to be related to greater afterschool attendance and MSA scores of students.

## **Answering Evaluation Questions**

1. Does the afterschool program improve academic proficiency for FARMS students and minority subgroups within FARMS? (NOTE: Almost all the students in the afterschool program received FARMS, so FARMS was not used as a control in analysis.)
  - a. Do students in the afterschool program perform better after participating in the program than before they participated?
    - **Yes** – on MSA scores controlling for quarter 1 benchmarks;
    - **No** – on changes between quarter 1 and quarter 4 benchmarks and on final grades.
  - b. Do students who participate regularly in the afterschool program, both during a year and across years, perform better academically compared with students who participate irregularly and students eligible for the program who did not participate at all?
    - **Yes** – among those who attend at least 30 days with academic performance increasing as a curvilinear rather than a linear function;
    - **No** – students who attended Afterschool regularly appear to have had greater need for academic help than those on the waiting list and those attending less than 30 days, so afterschool attendance increased academic performance only after baseline abilities were controlled.
  - c. Does participation in the Afterschool program help FARM and minority subgroups come closer to the academic performance of other students in the school?
    - **Maybe** – the afterschool program appears helpful in math for Hispanic students who have basic English skills (are not in ELL), but it will take additional years to determine if afterschool participation reduces the differences with other EES students in academic performance.
2. Does the program help parents/caregivers with limited English to improve their English skills and thus help their children academically?

- a. Do parents/caregivers with children in the program improve their English skills?
    - Yes – when parents take ESL classes;
    - No – less than one-third of the parents took ESL classes.
  - b. Do parents/caregivers who participate regularly in adult literacy programs, both during a year and across years, improve their English skills more than those who participate irregularly or not at all?
    - **Yes** – and the more hours they spend in ESL classes, the greater their improvement.
  - c. Does improvement in English skills of parents/caregivers boost their children’s academic proficiency?
    - **Maybe** – Parental involvement in ESL classes correlates with students’ afterschool attendance and academic achievement, but this may be due to initial family characteristics.
3. Does the program provide academic support in such a way that students and families want to participate year after year?
- a. Does the program meet and maintain its enrollment targets?
    - **Yes** – average enrollment of 101 varied only from 94 to 104, and was almost constant throughout the year.
  - b. Do most students attend the program regularly throughout the year?
    - **Yes** – Three-fourths of those enrolled on a given day attended; the 135 students who attended any of the 99 days attended an average of 60 days.
  - c. Do most students enrolled in one year return to the program the following year? (Data not available as this is the first year of the program.)
  - d. Do students and parents/caregivers say they like the afterschool program? (Data not available.)
  - e. Do parents with limited English attend programs to improve their English?
    - **Yes** – One-third of the parents who took ESL classes improved one or more levels in their English, with improvement based on ESL attendance;
    - **No** – One-fourth of the parents with limited English attended ESL classes and they averaged 46 hours of instruction (56-60 hours appear necessary to advance one level and 86 hours to advance two levels).



## Recommendations

Academic improvement takes time and the focus of the grant is to improve students' academic performance over their five years in elementary school. The afterschool program can only affect student performance to the extent that students are involved with the program. The program also recognizes the importance of parents in the academic performance of their students. To be able to evaluate the effectiveness of the program, appropriate data need to be collected for the five years of the programs. The three recommendations by the evaluator based upon the findings of this report relate to these three key areas.

*Recommendation 1. Student Involvement–Recruitment for the 2014-2015 afterschool program should concentrate on those who attended the 2013-2014 afterschool program.*

- The program has done a good job of retaining students during the year. It now needs to make a concerted effort to retain students from one year of elementary school to the next.

*Recommendation 2. Parent Involvement--The program needs to make greater effort to convince parents to take ESL classes, and to encourage sufficient attendance to advance their English skills.*

- One-third of the parents who took ESL classes improved their English one or two levels, but since only one-fourth took classes and most of these averaged fewer hours than apparently necessary to show substantial improvement, only 8% of all parents with limited English improved.

*Recommendation 3. Evaluation Data–Arrangements need to be made to obtain MSA/PARCC reading and math scores for all 2013-2014 afterschool participants even after they leave EES.*

- The overall program goal requires following every student involved in the afterschool program after they leave EES as well as while they are at EES. This includes academic performance in grades 6-8 as well as those who transfer to other Maryland elementary schools where academic performance scores may not be as readily available as at EES. To follow students, data on promotions and transfers need to be collected for every student ever involved in the afterschool program during its five years.

**Appendix. Detailed Tables**

<b>Table A1. Average Enrollment and Attendance by Program by Month: FY2014</b>							
Month	Enrollment			Attendance			Program Days
	Minimum	Maximum	Average	Minimum	Maximum	Average	
Total	94	104	101	65	94	82	99
October	94	103	100	65	94	86	15
November	98	101	100	74	87	82	11
December	100	104	102	74	84	79	7
January	103	104	103	77	93	85	7
February	102	104	103	76	88	84	13
March	102	104	102	69	91	82	14
April	100	100	100	71	85	78	16
May	99	100	100	75	91	82	16

<b>Table A2. Number of Students by Characteristics and Days Attended: FY2014</b>						
Characteristics	Days Attended					Total
	0	1-29	30-59	60-89	90-99	
Total	14	31	22	56	26	149
<b>Race/Ethnicity</b>						
African American	6	4	3	4	4	21
Asian	0	2	0	1	2	5
Hispanic	8	24	19	45	20	116
White, not Hispanic	0	0	0	6	0	6
Missing	0	1	0	0	0	1
<b>Gender</b>						
Female	5	15	11	34	17	82
Male	8	16	11	22	9	66
Missing	1	0	0	0	0	1
<b>Grade Level</b>						
Grade 1	4	11	5	22	4	46
Grade 2	4	6	6	12	7	35
Grade 3	3	3	3	7	8	24
Grade 4	2	4	3	8	5	22
Grade 5	1	7	5	7	2	22
<b>Free &amp; Reduced-price Meals</b>						
Yes	12	27	20	55	25	139
No	2	4	2	1	1	10
<b>English Language Learner</b>						
Yes	5	16	13	43	18	95
No	9	15	9	13	8	54
<b>Special Education</b>						
Yes	0	1	1	0	1	3
No	14	30	21	56	25	146

<b>Table A3. Number of Students by 2014 Math MSA Results and Afterschool Attendance</b>							
FARM	Math MSA	Days Attended					Total
		0	1-29	30-59	60-89	90-99	
Non-FARM	Advanced	1	0	0	0	0	1
	Proficient	0	0	0	0	0	0
	Basic	0	1	2	0	1	4
	Total	1	1	2	0	1	5
FARM	Advanced	0	0	0	1	1	2
	Proficient	3	6	5	9	9	32
	Basic	2	7	3	12	4	28
	Total	5	13	8	22	14	62
Total	Advanced	1	0	0	1	1	3
	Proficient	3	6	5	9	9	32
	Basic	2	8	5	12	5	32
	Total	6	14	10	22	15	67

<b>Table A4. Number of Students by 2014 Reading MSA Results and Afterschool Attendance</b>							
	Read MSA	Days Attended					Total
		0	1-29	30-59	60-89	90-99	
Non-FARM	Advanced	1	0	0	0	0	1
	Proficient	0	1	0	0	0	1
	Basic	0	0	2	0	0	2
	Total	1	1	2	0	0	4
FARM	Advanced	1	1	0	3	2	7
	Proficient	1	6	6	11	7	31
	Basic	2	5	1	7	4	19
	Total	4	12	7	21	13	57
Total	Advanced	2	1	0	3	2	8
	Proficient	1	7	6	11	7	32
	Basic	2	5	3	7	4	21
	Total	5	13	9	21	13	61

Table A5. Number of Students by 2014 Math Final Grade and Afterschool Attendance								
		Math Grade	Days Attended					Total
			0	1-29	30-59	60-89	90-99	
Non-FARM	Grades 1-2	Secure	1	2	0	0	0	3
		Developing	0	1	0	1	0	2
		Beginning	0	0	0	0	0	0
		Total	1	3	0	1	0	5
	Grades 3-5	90+	1	0	0	0	0	1
		85-89	0	1	2	0	1	4
		80-84	0	0	0	0	0	0
		<80	0	0	0	0	0	0
		Total	1	1	2	0	1	5
FARM	Grades 1-2	Secure	1	4	6	13	6	30
		Developing	5	9	3	19	5	41
		Beginning	1	0	2	1	0	4
		Total	7	13	11	33	11	75
	Grades 3-5	90+	1	0	1	5	3	10
		85-89	0	6	2	4	5	17
		80-84	3	3	4	7	2	19
		<80	1	4	1	6	4	16
		Total	5	13	8	22	14	62
	Total	Grades 1-2	Secure	2	6	6	13	6
Developing			5	10	3	20	5	43
Beginning			1	0	2	1	0	4
Total			8	16	11	34	11	80
Grades 3-5		90+	2	0	1	5	3	11
		85-89	0	7	4	4	6	21
		80-84	3	3	4	7	2	19
		<80	1	4	1	6	4	16
		Total	6	14	10	22	15	67

<b>Table A6. Number of Students by 2014 Reading/Language Arts Final Grade and Afterschool Attendance</b>								
		Read/Language Arts Grade	Days Attended					Total
			0	1-29	30-59	60-89	90-99	
Non-FARM	Grades 1-2	Secure	0	2	0	1	0	3
		Developing	1	0	0	0	0	1
		Beginning	0	1	0	0	0	1
		<b>Total</b>	1	3	0	1	0	5
	Grades 3-5	90+	1	0	0	0	0	1
		85-89	0	0	1	0	0	1
		80-84	0	1	1	0	0	2
		<80	0	0	0	0	1	1
		<b>Total</b>	1	1	2	0	1	5
	FARM	Grades 1-2	Secure	2	6	6	12	5
Developing			4	5	4	19	5	37
Beginning			1	2	1	2	1	7
<b>Total</b>			7	13	11	33	11	75
Grades 3-5		90+	1	2	1	3	3	10
		85-89	2	6	3	5	6	22
		80-84	1	2	4	11	4	22
		<80	1	3	0	3	1	8
		<b>Total</b>	5	13	8	22	14	62
Total		Grades 1-2	Secure	2	8	6	13	5
	Developing		5	5	4	19	5	38
	Beginning		1	3	1	2	1	8
	<b>Total</b>		8	16	11	34	11	80
	Grades 3-5	90+	2	2	1	3	3	11
		85-89	2	6	4	5	6	23
		80-84	1	3	5	11	4	24
		<80	1	3	0	3	2	9
		<b>Total</b>	6	14	10	22	15	67