Michigan 21st Century Community Learning Centers Evaluation

2013-2014 Annual Report

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MICHIGAN STATE UNIVERSITY | University Outreach and Engagement

June 2015

Copies of this report are available from:

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Funding
This report was supported in part by a grant from the Michigan Department of Education and University Outreach and Engagement, Michigan State University.

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Highlights for the 2013-2014 Program Year

Michigan 21st Century Community Learning Centers (MI 21st CCLC) served diverse groups of primarily low-income and low-performing students

MI 21st CCLC afterschool programs provide academic learning and enrichment activities such as: sports, arts, youth development, technology, and health/nutrition education to youth who often do not have access to such experiences.[1] In 2013-2014, 29,297 youth participated in 21st CCLC programs, 83% of whom qualified for free/reduced price lunch and were academically low performing. With enrollment evenly distributed across gender and a third being returning students, Figures H-1 and H-2 illustrate other important demographics of participants.

Program participation was related to improved academic performance

The data showed that program participation was related to improved academic outcomes, and participation in different types of activities related to different outcomes (See Table H-2 for activity types). This is true even after controlling for student and program characteristics that may be related to academic performance. Table H-1 lists the outcomes and summarizes the results associated with total days of attendance, participation in different types of activities, and threshold effects.

Important findings and implications

- Students with greater **total days** of attendance regardless of which activities they participated in showed better results in all areas except reading grades and parent evaluations.

[1] Halpern, R. (2000). The promise of after-school programs for low-income children. Early Childhood Research Quarterly, 15(2), 185-214.

Table H-1. Associations Between MI 21st CCLC Program Attendance and Academic Performance

Outcomes		*Better Results with Greater Total Days of Attendance*	*Threshold Effects**	*Better Results With Greater Attendance in Different Activity Types***
Grade improvements	Reading		90 days	Academic enrichment
	Math	✓	20 days	**STEM**
Teacher report improvements	Homework completion	✓	40 days	–
	School behavior	✓	40 days	**Arts**
School records	Percent of attendance	✓	20 Days	**STEM** **Academics**, both traditional academics and academic enrichment
	Days of suspensions	✓	20 Days	**Academics**, academic enrichment
Student reports	Curriculum connection	✓	20 days	**Academics**, traditional academics
	Help with academic subjects	✓	20 days	**Academics**
	School commitment	✓	40 days	–
Parent reports	Curriculum connection		–	**STEM** Traditional academics
	Help with academic subjects		–	–
	School commitment		–	**STEM** Traditional academics

NOTE: "—" means no association found.

* The threshold effect means the minimal days of attendance needed for demonstrating statistically significant benefits. Because teacher surveys were administered for students with at least 30 days of program attendance, findings suggested students with 30-39 days of attendance had poorer teacher ratings than those who participated 40+ days.

** Major activities are in bold. Academic effects were examined by academics (sum of all academic participation) and by two sub-categories (traditional and enrichment) to be specific.

Sample Size (N) students/sites: grades: 16,326/250; teacher surveys: 10,354/263; student surveys: 7,037/258; parent surveys: 5,592/257.

- A minimum of **20-40 days** participation is needed to show significant benefits.

- Consistent with the literature, improving students' literacy skills/reading grades may be difficult;[2] data suggested participation in project-based or

[2] Leal, D., Johanson, G., Toth, A., & Huang, C.-C. (2004). Increasing at-risk students' literacy skills: Fostering success for children and their preservice reading endorsement tutors. Reading Improvement, 41(1), 51-72.

embedded **academic enrichment** activities seemed to be the most effective factor to improve reading grades.

- Improved math grades and school attendance were related to participation in **STEM** activities.

- Parent evaluations of academic benefits were only related to **STEM** and **traditional academic** participation, no matter how many days their child attended the programs.

- Participation in **academic activities** was related to several desirable outcomes: better school attendance, fewer suspensions, and students' perceptions of program academic benefits.

- However, traditional academic and academic enrichment activities seemed to benefit students differently. Specifically:

    - **Academic enrichment** activities, but not traditional academics, were related to improved reading grades and fewer days of suspensions;

    - **Traditional academics**, but not academic enrichment activities, were linked with students' and parents' evaluations of how the program connects to the school curriculum, as well as parents' belief of how the program strengthens the child's school commitment.

Table H-2. Percentage of MI 21st CCLC Programs that Offered These Activities

- 100% Academics – Academic-focused activities, including:
  - 74% traditional academics – Direct instruction in academic skills (homework help, tutoring, lessons, exam preparation, credit recovery)
  - 85% academic enrichment – Project-based or embedded learning in which academic skills are taught indirectly (e.g., math instruction embedded within cooking)
- 87% Sports – Team- and non-team sports, dance and physical education
- 85% Recreation – Physical free play (e.g., recess, open gym), games (e.g., checkers or card games) and social events
- 90% Arts – Music, painting, and crafts
- 91% Youth development – Prevention, social emotional learning, and leadership
- 95% STEM – Science, technology, engineering, and math
- 61% Technology – Computer programs (Excel, PowerPoint, programming) or media and video production
- 33% Health and nutrition – Health awareness, nutrition and food

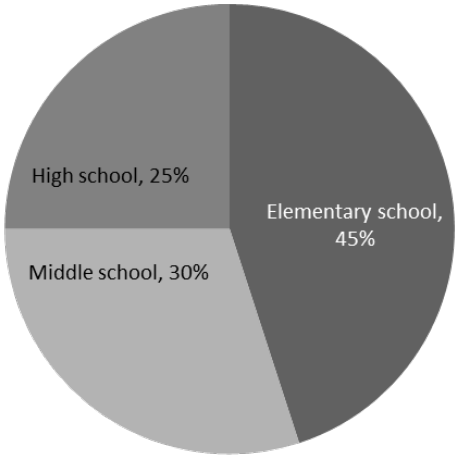


Figure H-1. Participant Grade Levels

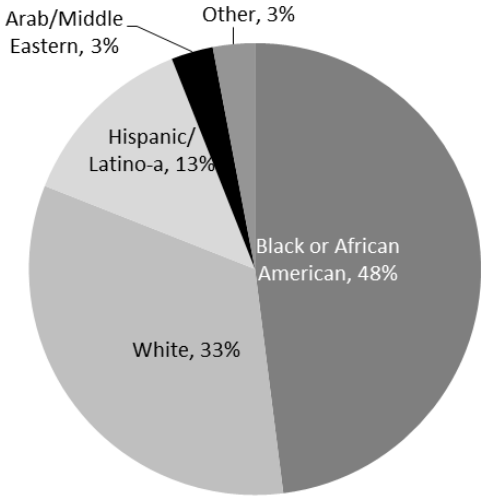


Figure H-2. Participant Racial/Ethnic Backgrounds

Introduction

The Michigan Department of Education website describes the 21st CCLC program as follows:

> The 21st Century Community Learning Centers (21st CCLC) Grant Program's focus is to provide expanded academic enrichment opportunities for children attending low-performing schools. Tutorial services and academic enrichment activities are designed to help students meet local and state academic standards in subjects such as reading and math. In addition, 21st CCLC programs provide youth development activities, drug and violence prevention programs, technology education programs, art, music and recreation programs, counseling and character education to enhance the academic component of the program.

In this report, we describe the organizations that received grants, the organizations that operate the program sites, and the types of activities that program sites provided. It also describes who participated in the program, the types of activities they took part in, and the outcomes that program participants have achieved.

Following the same approach used in the previous 2 years, the 2013-2014 Annual Report continued the use of the leading indicators (with the symbol ⓘ) to highlight program-level quality characteristics that are known from research and practice to affect student development. Although these quality measures are important to creating a context for overall development, they are not necessarily directly related to academic improvement.

In the outcomes section, we also analyze how students' participation contributed to their academic outcomes, taking into account the characteristics of programs and students that might also affect their performance. This is the third year that we have done this type of analysis.

Who Participates in the Program?

Who participates in the 21st Century Community Learning Centers (CCLC) programs statewide is influenced by both the types of programs that receive grants (grantees) and the characteristics of students that they recruit into their respective programs. The Michigan Department of Education (MDE) provides guidelines for entities applying for 21st CCLC grants, specifying: (1) types of organizations that may apply (such as public schools, charter schools, community organizations); (2) program factors that may qualify for priority points (such as serving a school eligible for Title I school-wide funding, serving students in 6th-8th grades, or having a faith-based organization as a partner); and (3) status of students and families served by the program (such as eligibility for free/reduced price lunches and/or living in poverty). Priority is given to programs serving low-performing schools in high-poverty areas. For details about priority points relevant to the grantees who were participating in 2013-2014, contact Michigan Department of Education 21st CCLC consultants.

Grantees

Table 1 shows an overview of grantees over the past four years. In the 2013-2014 program year, 84 grants were awarded to 40 grantees who oversaw 266 sites. While 14 grants were awarded to new grantees in 2012-2013, only three grants were awarded to new grantees in 2013-2014. The total numbers of grants awarded and sites funded were down slightly from the previous year. The largest number of grants went to local school districts (20), followed by nonprofit/community-based organizations (11) and public school academies (5). Two grants each went to intermediate school districts and universities. This distribution of grantees has remained quite stable over the past four years. As in past years, the majority of the 21st CCLC grantees served elementary grades. Since applicants began receiving priority points for serving middle and high school students in 2009-2010, the number of programs serving those students has increased dramatically and remained relatively stable over the past four years.

Table 1. Characteristics of Grantees Funded, 2009-2013

Characteristic	*2010-11 Grantees*	*2011-12 Grantees*	*2012-13 Grantees*	*2013-14 Grantees*
Overall				
Number of funded grants	91	90	89	84
Number of grantees	48 (54[a])	48 (53[a])	44 (49[a])	40 (44[a])
Number of new grantees	0	0	14	3
Number of sites reporting on the Annual Report Form	333	332	292	266
Cohorts				
D	92	90	30	
E	93	90	89	33
F	164	160	157	155
G			54	56
H				69
Grantees' fiduciary organizations				
Local school district	23	23	22	20
Intermediate school district	2	2	2	2
Public school academy (charter school)	6	6	5	5
Nonprofit/community-based organization	16	16	13	11
University	1	1	2	2
Sites serving students of different grades or grade combinations[b]				
Elementary	154	150	135	122
Middle school	78	75	69	76
High school	55	53	60	62
Elementary and middle school	45	48	53	40
Middle and high school	14	12	11	11
Elementary, middle and high school	3	2	2	2

[a] Numbers in parentheses treat the multiple subcontractors that Detroit Public Schools and Grand Rapids Public Schools used to provide their programs as grantees.

[b] Calculated based on the grades of students served.

Participating Students

Gender, Grade Level, and Family Income

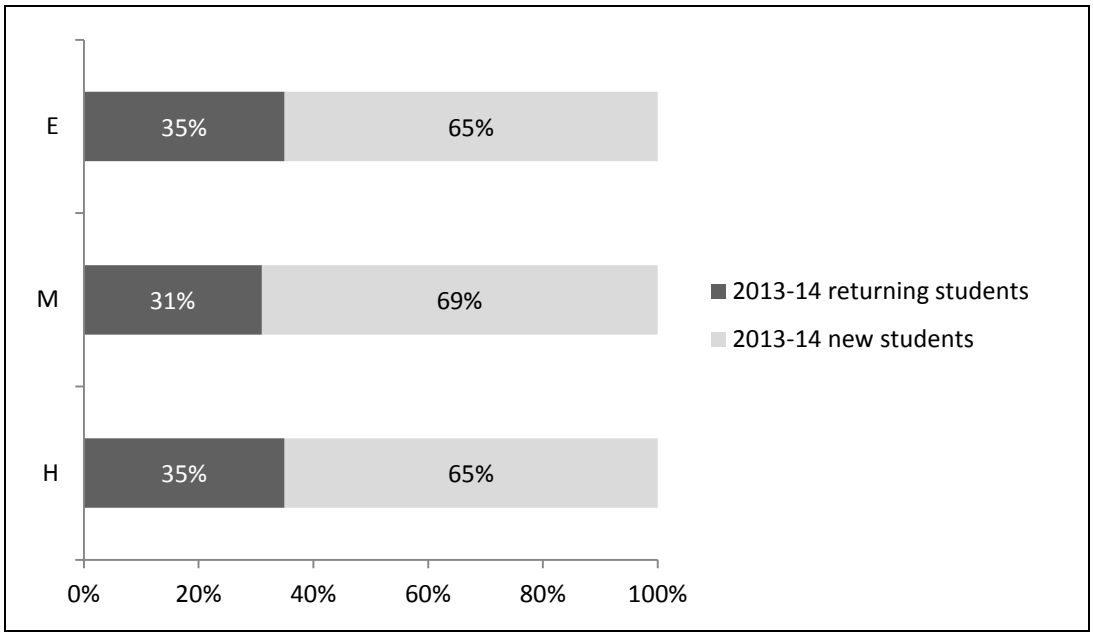
In the 2013-2014 program year, 29,297 students enrolled in the program. This number is about 5,500 students fewer than the previous year, but four fewer grants were awarded. As had been true in past years, students were almost equally divided between boys (14,709; 50%) and girls (14,588; 50%). Most participants were in elementary grades (K-5th grades; 13,222; 45%), with middle

school students second (6th-8th grades; 8,863; 30%). The smallest group were high school students (9th-12th grades; 7,212; 25%). Among those youth whose school outcome data were returned (22,020), about 82% were low income, which is defined as eligible for free/reduced price meals.

New vs. Returning Students

Participants could be either newly enrolled in this program year or returning for a second or third year. Getting students to participate for multiple years is important because sustained participation over time can lead to greater benefits, although the ability to do so can be limited as students move or age up to new schools. Figure 1 shows the average portion of students who were new in 2013-2014 or were returning from previous years. At each grade level, about one-third of participants had returned for a second or third year. The proportion of elementary and high school participants with sustained participation over multiple years was slightly higher than the proportion of middle school students, which typically have fewer grade levels and therefore less ability to retain students for multiple years.

Figure 1. Percent of New and Returning Students

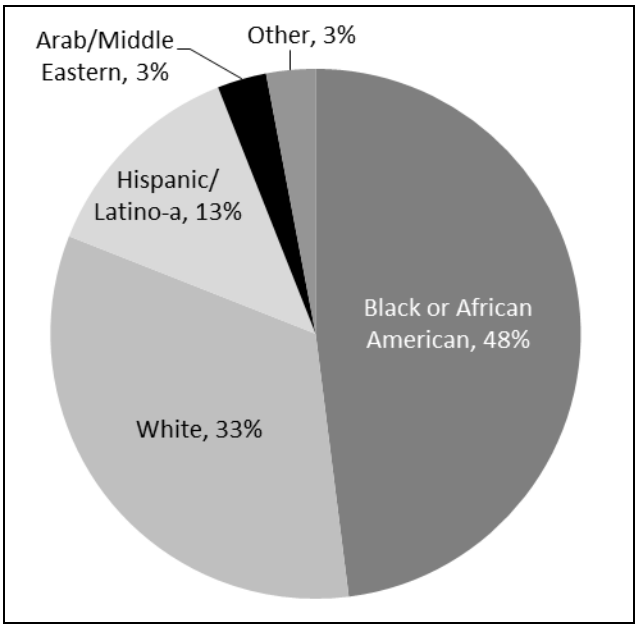


E = elementary school; M = middle school; H = high school

Race/Ethnicity

Figure 2 shows the distribution of participants according to race/ethnicity. Almost half (48%) of the students identified themselves as Black or African American; one-third (33%) identified themselves as White, 13% Hispanic/Latino-a, and 3% Arab/Middle Eastern. The large proportion of non-White participants reflects the urban focus of many programs. These proportions have remained stable over several program years.

Figure 2. Race/Ethnicity of Student Participants



Parents' Reasons for Enrolling Their Children

Parents who completed the end-of-year survey rated the importance they placed on various reasons for enrolling their child in the program. Table 2 shows the percent of parents at each grade level who rated each reason as "very important."

Reasons for enrolling children in the after-school program have remained stable over multiple program years. Most parents at all grade levels wanted a safe place for their child to go after school (92% overall). Most also thought participation would help the child do better at school (87% overall), although somewhat fewer

parents of high school students than parents of middle or elementary school students said this was a very important reason. A substantial percent at each grade level also hoped the program would help their child stay out of trouble (79% overall). Dependable and affordable child care was less important to parents of older children than to parents of younger children. Almost half of parents at each grade level (43-46%) enrolled their children to obtain help with a disability or learning problem.

Table 2. Parents' Reasons for Enrollment by Grade Level: Percent who Reported "Very Important"

	GRADE LEVEL			
Reason	*E*	*M*	*H*	*All*
It is a safe place for my child after school.	94%	91%	85%	92%
I hope it will help my child do better in school.	88%	89%	79%	87%
It provides dependable after-school care.	82%	72%	62%	76%
It will help my child stay out of trouble.	79%	79%	78%	79%
It provides affordable after-school care.	77%	67%	56%	71%
School staff suggested that my child enroll.	56%	53%	49%	54%
My child has a disability or learning problem that this program can help.	46%	44%	43%	45%

NOTE: E = elementary school; M = middle school; H = high school.

Sustaining Participation of Students with Low Academic Performance

Students with lower academic performance at the beginning of the school year are likely to benefit more from the additional academic support offered by 21st CCLC programs because they have more room for improvement and may need additional instruction to catch up with their peers. For this report, low academic performance was defined as either having a GPA of 2.5 or below at the beginning of the school year or at the year average, or having MEAP/MME scores below proficiency level.[3] Table 3 shows the percent of low-performing students and other students who attended for 30, 60, and 90 days. As noted in the table footnote, far more low-performing students than other students participated in the program. This year, the percent of low-performing students who attended at

[3] There were two exceptions to this definition: (1) Students attending alternative high schools were considered to be academically low-performing regardless of GPA; (2) Students attending schools that did not give letter grades were considered to be low-performing if they received a report of "no credit" as their grade.

least 30 and 60 days is 5% to 6% lower than for other students, and 8% fewer low-performing students attended at least 90 days, compared to other students.

Table 3. Percent of Students with Sustained Participation

Days of Attendance	*Low-Performing Students*	*Other Students*
30 days	60% ⓘ	65%
60 days	40% ⓘ	46%
90 days	25% ⓘ	33%

NOTE: Total students = 29,297; students with enough data to determine academic performance level = 18,792; low-performing students = 15,492; other students = 3,300.

What Are Students Doing in the Program?

The primary purpose of the 21st CCLC program is to provide opportunities for academic enrichment to students attending low-performing schools. To enhance the academic component of the program, grantees must also offer other enrichment activities in various areas such as youth development, drug and violence prevention, technology education, the arts, and recreation.

Academics

Participation in Academics

All 21st CCLC programs were required to offer academics, although Table 4 shows that across the state approximately 5% of the students in all grades did not participate in any academic activities.

Table 4. Percent of Students who Participated in Each Type of Academic Activity

	GRADE LEVEL			
Type of Academic Activity	*E*	*M*	*H*	*All*
Academic enrichment focused on specific subjects ⓘ	49%	33%	36%	42%
Homework help	60%	57%	34%	54%
Embedded learning (academic activities occurring within non-academic enrichment) ⓘ	47%	33%	18%	37%
Tutoring (remedial instruction for 1-3 students per adult)	4%	2%	7%	4%
Credit recovery	N/A	N/A	11%	2%
STEM (science, technology, engineering, math)	65%	59%	32%	56%
Did not participate in any academic activities	3%	6%	7%	5%

NOTE: E = elementary school; M = middle school; H = high school. Students are counted as having participated in an activity if they attended the program for at least 10 days and attended that type of activity for at least 10 days.

High school students have a higher level of nonparticipation in academics (7%) than do middle school (6%) and elementary school (3%) students. Most students received academic instruction in the form of homework help (54%), although substantially more elementary (60%) and middle school (57%) participants than high school (34%) participants received homework help.

Overall, 42% received academic enrichment focused on specific subjects, and 37% participated in embedded learning activities. Embedded learning encourages students to learn academic skills through nonacademic projects, such as learning math through cooking. It is considered an indicator of high quality programming. A greater proportion of younger students than older students received academic enrichment.

Since STEM programming (science, technology, engineering and math) was added as a new academic category in 2011-2012, the proportion of students participating has increased greatly. However, participation varies greatly by grade level. In 2013-2014, almost two-thirds of elementary school participants, but only one-third of high school students, received STEM enrichment. As in previous years, very few students received academic tutoring (4%) or credit recovery (11% for high school, the only grade level eligible for this activity).

Program Policies for Academics

Table 5 shows program policies reported by administrators regarding participation in academics. Most program sites (80%) required homework help for all of their students, and 73% required other activities focused on academics. Twenty-two percent said they required tutoring for all students and an additional 17% required it for students with low academic performance. However, 14% did not offer academic tutoring at all.

Table 5. Percent of Sites Requiring Various Levels of Participation in Academic Activities

Type of Academic Activity	*Required for All Students*	*Required for Students with Low Academic Performance*	*Required for Some Other Group of Students but not All*	*Not Required for any Student*	*Did not Offer Activities of this Type*
Homework help	80%	5%	5%	10%	0%
Tutoring (remedial help for specific academic subjects with no more than 1-3 students/staff)	22%	17%	16%	32%	14%
Other activities where academic learning is the main emphasis	73%	4%	8%	14%	1%

NOTE: Rows may not sum to 100% due to rounding.

Student Perceptions of Academic Support

Table 6 shows students' perceptions of in the academic support provided by the after-school program and how it affected their in-school performance.

Table 6. Students' Perceptions of the Quality of the Academic Support Provided by Their 21st CCLC program

	GRADE LEVEL			
Item	*E*	*M*	*H*	*All*
This program helps me get my homework done.	89%	87%	89%	88%
This program helps me understand what we are doing in class.	82%	77%	82%	80%
At this program, I learn school subjects in fun ways.	83%	75%	78%	79%
My grades have gotten better because of this program.	78%	75%	82%	78%
The school work I do matches the school work we do in regular class.	69%	69%	76%	71%
NOTE: E = elementary school; M = middle school; H = high school.				

The majority of students at all grade levels thought the program helped them complete homework, understand classroom material, improve their grades, and learn in fun ways. High school students were more likely than elementary or middle school students to say the work they did in the program matched their school work; however, a majority of students at all grade levels agreed with this statement.

Other Enrichment Activities Offered

Program sites varied in the types of activities they offered to students in addition to academic activities. Table 7 shows the distribution of types of activities offered by grade level. Most program sites (85% or more) offered youth development, recreation, art, and sports. The percent of sites offering special events, or one-time, programming increased with grade level. Overall, 61% of sites offered technology, an increase of 7% from last year. More middle school sites (68%) than elementary school (61%) or high school (52%) sites offered technology. Only about one-third of sites at any grade level offered health-related activities. It should be noted that in this table, where information was reported at the site level instead of the student level, those sites crossing elementary, middle, and/or high school boundaries, such as a K-8 school, were omitted from both the elementary and the middle school categories but do appear in the All category.

Table 7. Types of Activities Offered by Program Sites

	GRADE LEVEL			
	E N=122	*M* N=76	*H* N=62	*All* N=313
Recreation(social events, games, free play, etc.)	91%	86%	77%	85%
Sport	84%	92%	81%	87%
Art	85%	93%	89%	90%
Youth development (character education, conflict resolution, life skills, resistance skills, etc.)	84%	99%	92%	91%
Special events	71%	82%	87%	77%
Health	38%	32%	29%	33%
Technology	61%	68%	52%	61%

NOTE: E = elementary school; M = middle school; H = high school. Activities are counted as having students participating for at least 10 days.

Participation in Other Enrichment Activities

Table 8 shows the percent of students at each grade level who participated in different types of enrichment activities.

Table 8. Percent of Students who Participated in Each Type of Enrichment Activity

	GRADE LEVEL			
Type of Activity	*E*	*M*	*H*	*All*
Recreation	56%	48%	30%	48%
Sports	46%	39%	21%	39%
Arts ⓘ	51%	37%	22%	41%
Youth development ⓘ	46%	45%	36%	44%
Technology ⓘ	18%	15%	5%	14%
Health/nutrition	7%	4%	3%	5%

NOTE: E = elementary school; M = middle school; H = high school. Students are counted as having participated in an activity if they attended the program for at least 10 days and attended that type of activity for at least 10 days.

More students participated in recreation (48%) than any other type of activity, followed by youth development (44%), arts (41%), and sports (39%). This is not surprising, as these activities are offered by the most programs. Fewer high school students than elementary or middle school students participated in any type of enrichment activity.

Staff Priorities for Programming

Staff priorities for programming are important because they tell us where staff are likely to focus their efforts. In Table 9 we see that improving the academic achievement of students was the top priority reported by 63% of the 21st CCLC program staff. Almost one-third (32%) of the staff said that helping low-performing students achieve grade-level proficiency was a top priority. About 31% said that allowing youth to relax, play, and socialize was a top program priority, and 25% thought improving social and emotional development was a high priority.

Table 9. Percent of Staff Reporting that Each Area is a Top Program Priority (First or Second Priority)

Program Area	*Percent of Staff*
Improve the academic achievement of youth ⓘ	63%
Enable the lowest-performing students to achieve grade-level proficiency ⓘ	32%
Allow youth to relax, play, and socialize	31%
Improve the social and emotional development of youth	26%
Help youth keep up with homework ⓘ	17%
Engage youth in fun leisure activities otherwise unavailable to them (i.e., arts, music, fitness, sports, etc.)	13%
Provide opportunities for youth to learn STEM or other academic subjects in a fun way	12%

Student Engagement in the Program

Participation in Decision-Making

To keep students involved in programs, it is important for them to have opportunities to make developmentally appropriate decisions about their activities.[4] Table 10 shows the percent of participants who said the program offered them various opportunities for choice and decision making.

About two-thirds of students agreed that the program allowed them to make choices about their own activities and program activities and that their opinions matter. However, only half had participated in a youth advisory committee.

[4] Akiva, T., Cortina, K. S., & Eccles, J. S. (2012). Youth experience of program involvement: Belonging and cognitive engagement in organized activities. *Applied Developmental Psychology, 34,* 208-218.

Table 10. Opportunities for Choice, Decision-Making, and Governance: Percent of Students who Agreed or Strongly Agreed ⓘ

Survey Item: At This Program…	*E*	*M*	*H*	*All*
I get to decide how to complete some projects or activities.	66%	65%	75%	68%
My opinions matter when decisions are made about the program.	66%	66%	76%	66%
I get to choose my activities.	58%	65%	80%	66%
I help decide what kinds of activities are offered.	59%	63%	73%	64%
I am involved in important decisions about this program.	59%	57%	67%	60%
I have participated in a youth advisory committee.	53%	48%	50%	50%

Skill Building

It is important to recognize that skill building and mastery are gradual processes for students, as very few people are good at doing things well the first time. Staff need to be accomplished at creating an environment where students know that mistakes are fine as they are learning, and that staff will recognize both perseverance and proficiency. Table 11 shows that a large majority of participants thought the program created an atmosphere in which students could feel free to build mastery of new skills.

Table 11. Skill-Building and Mastery Orientation: Percent of Students who Agreed or Strongly Agreed ⓘ

Survey Item: At This Program…	*E*	*M*	*H*	*All*
It's ok to make mistakes as long as you're learning.	91%	90%	92%	91%
Trying hard is very important.	89%	86%	89%	88%
How much you improve is really important.	88%	87%	90%	88%
It's important that we really understand the activities that we do.	88%	85%	88%	87%
Learning new ideas and concepts is very important.	88%	86%	90%	88%
Staff notice when I have done something well.	84%	84%	90%	85%

Sustaining Participation

Finally, being engaged helps sustain student participation (Akiva et. al., 2013[5]). Table 12 suggests that students were engaged with the program through learning new skills, thinking new thoughts, and doing things that they didn't get to do anywhere else.

[5] Akiva, T., Cortina, K. S., & Smith, C. (2014). Involving youth in program decision-making: How common and what might it do for youth? *Journal of Youth and Adolescence, 43*(11), 1844-60. doi: 10.1007/s10964-014-0183-y

Table 12. Engagement: Percent of Students who Agreed or Strongly Agreed ⓘ

Survey Item: At This Program…	*E*	*M*	*H*	*All*
I get to do things I like to do.	80%	80%	86%	81%
The activities challenge me to learn new skills.	81%	78%	85%	81%
The activities we do really make me think.	76%	72%	81%	76%
I do things that I don't get to do anywhere else.	64%	65%	73%	66%

How is the 21st CCLC Program Connected to the School Day?

In order to improve students' school-day performance, the 21st CCLC program must be formally connected to their school-day classes. Table 13 lists various ways that the after-school programs connect to the school day.

Table 13. Formal Policies for Connecting with the School Day: Percent of Sites Selecting Each Policy Option

	Percent of Sites
Policy	
• School-day staff (teachers, principal, counselors) identified and recommended students to come to the after-school program for academic support.	97%
• Site coordinator responsibilities included communicating regularly with school-day staff about student needs.	96%
• The objectives for the after-school activities were intentionally influenced by grade-level content standards.	82%
• The curricula used during the school day were used as part of the after-school program's academic activities.	73%
• Someone was responsible for attending teacher staff meetings at least monthly and reporting back to the after-school program.	72%
Program staff	
• Corresponded with school-day teachers at least once per week about individual students' academic progress and needs	82%
• Had access to and reviewed students' grades for each marking period and standardized test scores throughout the year	76%
• Had a process for identifying low-achieving students within one week of their enrollment in the after-school program	55%
• Had access to and use of school data systems (one example is Powerschool) that display students' progress and grades on school-day class work	65%
• Used written progress reports to correspond with school-day teachers about individual students' academic progress and needs	39%
• Had written policies and procedures about connecting with school-day teachers to support students' academic learning	44%
• Conducted any assessments to monitor students' academic learning	52%

More than 95% of program sites made the site coordinator responsible for communicating with school-day staff and accepted recommendations from those staff for students in need of academic support. Most (82%) reported that their after-school activities were intentionally influenced by grade-level content

standards. Most program staff communicated regularly with school-day teachers about individual students' needs and 72% assigned someone to attend teacher staff meetings. Although staff in most programs had access to and reviewed student performance data, only about half (55%) had a process in place to identify low-achieving students early in the year. Fewer sites reported having written policies for connecting with school day teachers to support their students' learning or using written progress reports to connect with school day teachers about individual students' academic progress and needs.

What School or Program Factors Affected the Program?

The context in which the 21st CCLC program operates influences its likelihood of success. For example, when many changes occur, such as program administrators or school leaders leaving or excessive turnover among the staff, the continuity that creates a positive learning environment can be difficult to maintain. In addition, staff job satisfaction and opportunities for professional development contribute to staff capacity to create a positive learning environment.

Program Director and Site Coordinator Stability

Three programs out of 35 (3%) grantees changed program directors in 2013-14 (ⓘ). Among the six single-site grantees, only one used the same person as project director and site coordinator. Five (14%) grantees reported having part-time program directors. Having a full-time program director is important because frequently the program director needs to make contact with school personnel and thus needs to be there during the school day.

Thirty-two percent of the site coordinators did not return for the 2013-2014 program year, and 17% left during the program year (ⓘ).

Staff Stability

Table 14 shows site reports of staff stability. Sites reported on the percent of staff who stayed for the program year and the percent of staff who returned from the previous year.

Sixty percent of sites reported that at least three quarters of activity staff stayed for most or all of the program year. However, 22% of sites retained less than half of their program staff through the 2013-2014 program year. Forty-one percent

reported that most of their staff returned from the previous year, while 39% retained less than half of their staff from previous years.

Table 14. Staff Stability: Percent of Sites

	STAFF RETENTION RATES			
Staff Changes	*0-25%*	*26-50%*	*51-75%*	*76-100%*
What percent of your paid REGULAR STAFF who provided activities STAYED for most or all of the 2013-2014 school year?	10%	12%	18%	60%
What percent of this year's REGULAR STAFF also provided activities last year? (Omits the sites that did not continue)	22%	17%	20%	41%

Sites Reporting School-Related Changes

Changes in the host school can affect awareness of and support for the 21st CCLC program. As seen in Table 15, the most frequent school change reported by program sites was a change in school leadership; 23% reported a new school principal and 11% reported a different superintendent. About 8% reported cuts in school budgets that affected the 21st CCLC program, and 9% faced a school reorganization.

Table 15. Percent of Sites Reporting School-Related Changes

Changes	*Percent of Sites*
Principal of the school changed ⓘ	23%
Superintendent changed or established	11%
Host school was faced with budget cuts that affected your site	8%
School reorganized ⓘ	9%
Program moved to a new school	6%
Other major changes at the school or district that affected your program	13%

How Did Students' Academic Performance Change?

We report on students' academic performance for 21st CCLC programs in the following categories:

- Percent of students showing improvement in mathematics and English/ language arts/reading grades of at least ½ grade (e.g., 2.5 to 3.0) from fall to spring
- Percent of students whose teachers reported any improvement in homework completion and class participation
- Percent of students whose teachers reported any improvement in student classroom behavior

We also present the students' and parents' perceptions of how the 21st CCLC program helped the students improve in various aspects of their academic and non-academic performance and behavior.

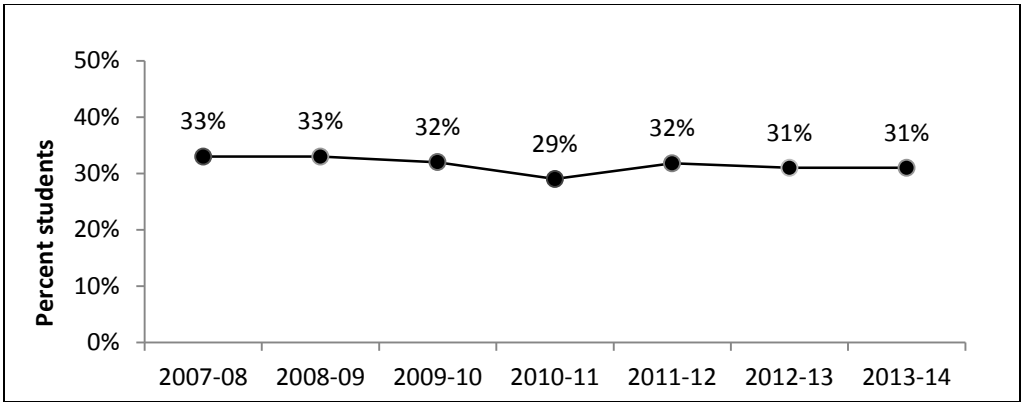
Data for this section were collected through the EZReports program reporting system, Excel files through which sites provided school grades from school records, and teacher surveys collected by 21st CCLC program staff.

Grades

Math Grades

Overall. Figure 3 shows the percent of participants whose math grades improved in each year in Michigan (2007-2014). The percent showing improvement in Michigan has been stable, with almost a third of students improving in math each year.

Figure 3. Percent Showing Improvement in Math Grades (2007-2014)



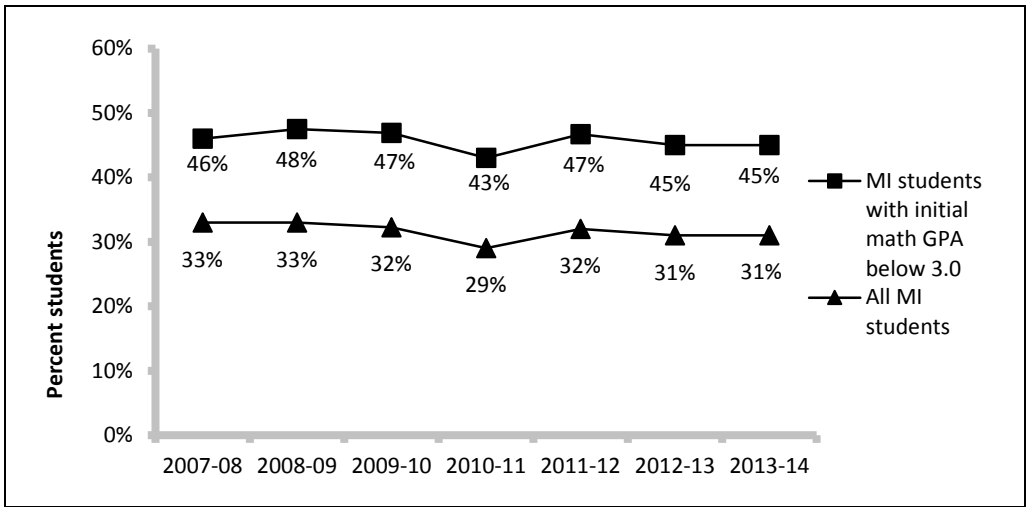
NOTE: Improvement is defined as ½ grade increase from fall to spring within a year. Includes only students who participated at least 30 days.

Students with room for improvement. Students who had lower grades when they entered the program had more opportunity to improve during the program year. Figure 3, above, includes all regularly attending students, both those who started with the highest grades, as well as those who had room to improve (defined as having a GPA in math of less than 3.0 at the beginning of the year). As shown in Figure 4, when Michigan students with room for improvement were compared with all Michigan students, a substantially higher percentage of those with room for improvement showed gains (14%). Over the past 7 years, the difference in improvement between all students and those with GPAs below 3.0 has been very stable.

Reading Grades

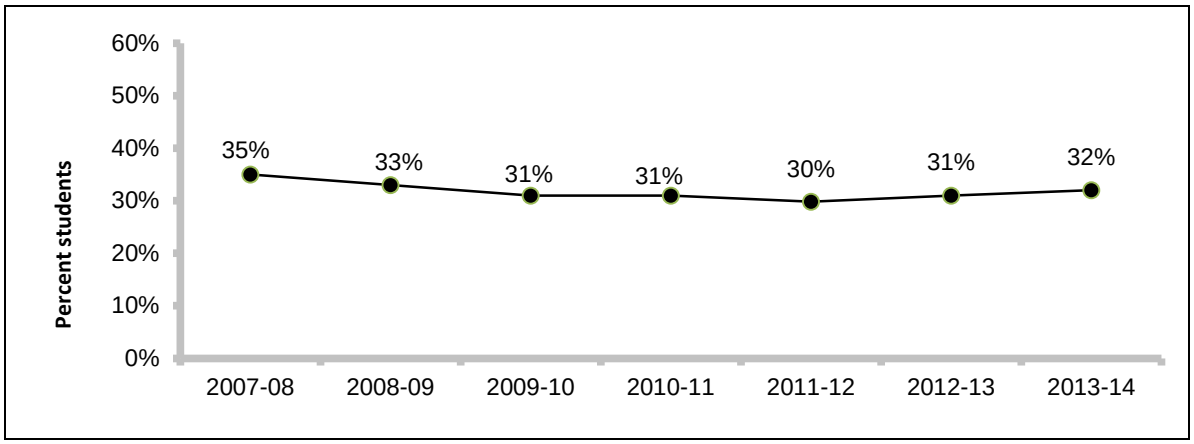
Overall. Figure 5 shows the percent of participants who improved in reading grades each year in Michigan (2007-2014). The percent who improved has remained stable during this period, with about one-third showing improvement.

Figure 4. Percent Showing Improvement in Math Grades for All Students vs. Students with Room for Improvement (2007-2014)



NOTE: Improvement is defined as ½ grade increase from fall to spring within a year.
Includes only students who participated at least 30 days.
Room for improvement is defined as having a fall grade below 3.0.

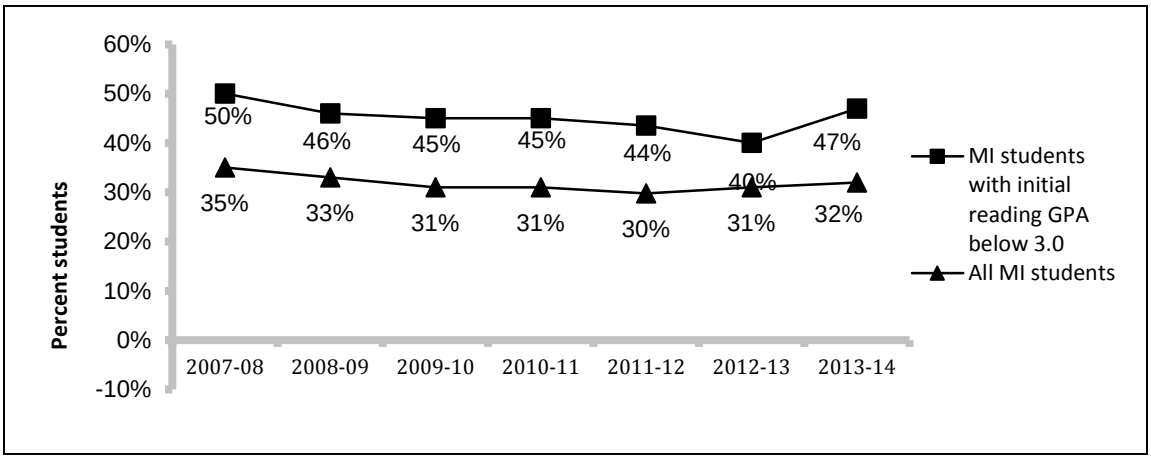
Figure 5. Percent Showing Improvement in Reading Grades (2007-2014)



NOTE: Improvement is defined as ½ grade increase from fall to spring within a year.
Includes only students who participated at least 30 days.

Students with room for improvement. When we compare the performance of Michigan regular participants with room for improvement to that of all regular Michigan participants (Figure 6), a substantially higher percentage of students with room for improvement showed at least a half grade gain in reading compared to all students. This has been true over the past 7 years of the program. However, this year the percent of students with room for improvement who actually improved in reading grades increased 7% after an unexplained dip last year.

Figure 6. Percent Showing Improvement in Reading Grades for All Students vs. Those with Room for Improvement (2007-2014)



NOTE: Improvement is defined as ½ grade increase from fall to spring within a year.
Includes only students who participated at least 30 days.
Room for improvement is defined as having a fall grade below 3.0.

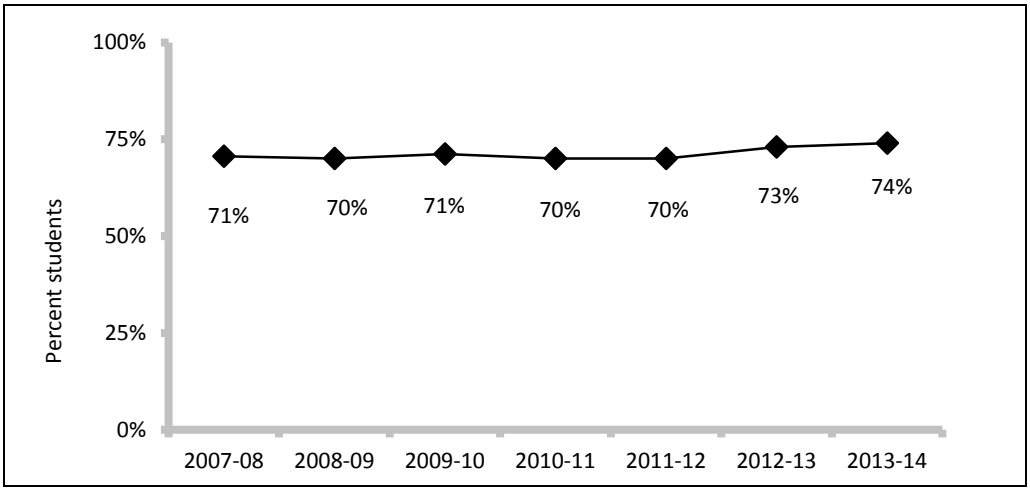
Teacher Ratings

Each year, teachers rate students attending the 21st CCLC program on the extent to which their performance changed over the year in homework completion/ classroom participation and classroom behavior. Teachers may rate student performance or behavior as improved, unchanged, declined, or did not need to improve.

Homework Completion/Classroom Participation

Homework completion/classroom participation included behaviors such as turning in homework on time and completing it to the teacher's satisfaction as well as participating and volunteering in class. Figure 7 shows the percent of students who improved in homework completion/classroom participation according to teachers over the past seven years. The percent of Michigan students improving has improved very gradually in recent years to a current level of 74%.

Figure 7. Percent Showing Improvement in Teacher-Reported Homework Completion and Classroom Participation (2007-2014)

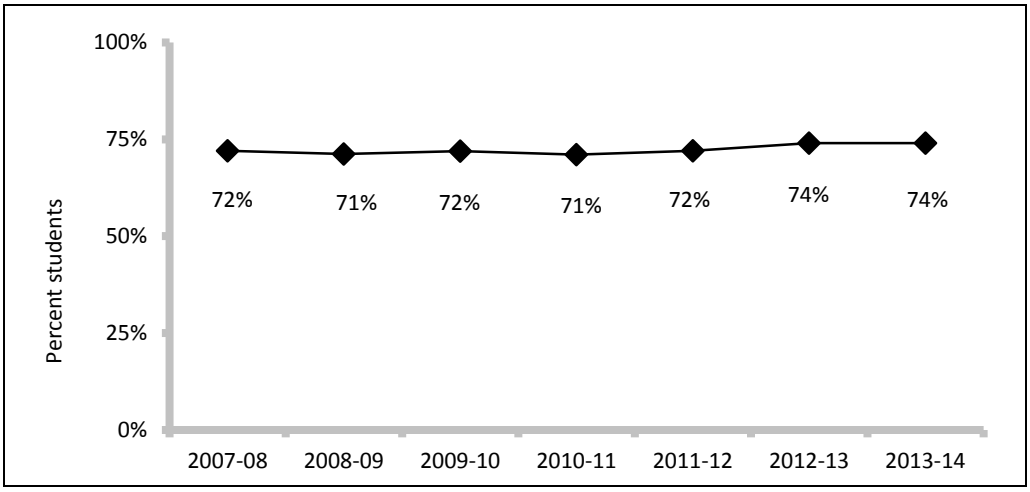


NOTE: Includes only students who participated at least 30 days.

Classroom Behavior

Classroom behavior included items such as behaving well in class and getting along with other students. As shown in Figure 8, the proportion of Michigan students who showed improvement has remained stable (71-74%).

Figure 8. Percent Showing Improvement in Teacher-Reported Classroom Behavior (2007-2014)



NOTE: Includes only students who participated at least 30 days.

Student and Parent Perceptions of Program Impact

Students and parents reported on their perceptions of whether the 21st CCLC program helped them/their children improve in various aspects of their academic and non-academic performance and behavior. Note that Table 16 includes only results from those students with room for academic improvement. About two-thirds of students said the program helped them improve in academic areas including reading and math, science/technology, and other subjects. Large majorities said the program helped them to perform better academically and improve their attitudes about school.

Table 16. Student and Parent Perceptions of Program Impact: Percent who Reported the Program Helped "Some" or "A Lot"

Outcome	*Percent of Students*	*Percent of Parents*
Academic areas		
Reading, English, language arts, writing	68%	87%
Math	69%	85%
Science/technology	63%	81%
Other school subjects (history, social studies)	64%	81%
Academic engagement		
Getting better grades	78%	88%
Completing homework	88%	89%
Care more about getting good grades	77%	87%
Think that doing well in school was important for having a successful career	81%	86%
Think that success in school would help you have a good life when you grow up/as an adult (parent version)	81%	88%
Want to go to college	74%	80%
Look forward to coming to school	71%	86%
Non-academic areas		
Creative skills like art, music, dance, drama	66%	86%
Sports, athletics, physical activities	67%	81%
Working with computers/Internet	65%	80%
Staying away from drugs and alcohol	70%	85%
Making and keeping friends	71%	89%
Positive youth development		
Social/psychological learning	46%	N/A
Pro-social skills	54%	N/A
Teamwork	60%	N/A
Leadership	55%	N/A

Somewhat fewer, but still a majority, said the program was helpful with other types of skills, such as creativity, physical fitness, technology, and social skills. However, note that these results do not take into account whether students actually participated in activities designed to improve the specific outcomes listed.

Parent perceptions of their student's improvement were generally higher than the student's perception of her/his improvement in most categories.

Did Students with Greater Participation in the 21st CCLC Program Have Better Academic Outcomes?

The previous sections describe overall changes in outcomes for participants, regardless of which aspects of the program in which they participated. In this section, we explore the question of whether students who participated to a greater extent overall, or participated in particular activities, demonstrated greater changes in academic outcomes. To assess school outcomes, we used several measures of school performance and adjustment, as well as student and parent evaluations of the extent to which the program helped their school performance and engagement.

School Performance and Adjustment

Grades

- Change in reading grades from fall to spring
- Change in math grades from fall to spring

Teacher reports

- Change in homework completion
- Change in school behavior

School records

- Total percentage of school attendance
- Total days of school suspension

Student and Parent Evaluations

Student/parent reports of program curriculum connected to school learning

- This program helps me (my child) get my homework done.
- My (child's) grades have gotten better because of this program.
- (Student-only) This program helps me understand what we are doing in class.
- (Student-only) At this program, the school work I do matches the school work we do in a regular class.
- (Student-only) At this program, I learn school subjects in fun ways.

Student/parent reports of programs helping with academic subjects

- Reading, English, language arts, writing
- Math
- Science/technology/engineering
- Other school subjects (social studies, history)

Student/parent reports of programs helping to increase commitment to school

- Because of this program, I (my child) care more about doing well/getting good grades.
- Because of this program, I (my child) think that success in school will help you have a good life when you grow up.
- I (my child) look forward to coming to school more because of this program.
- Because of this program, I (my child) is more aware of/more interested in going to college.
- Because of this program, I (my child) think that doing well in school is important for having a successful career.

Analytical Approach

Because outcomes may be similar for students in different programs if they have somewhat similar experiences, we used a series of multilevel models that test

whether change occurred, while taking into account differences among sites. Activities included in the analyses were regularly offered (not special events or field trips) during the 2013-14 regular school year (spring and fall semesters; not summer). Attendance was calculated by days of participation overall and in certain types of activities. The analytical approach included three steps, described below.

The first step was to determine the extent to which **the differences among sites contributed to differences in student outcomes**. For the academic outcomes reported here, results from the intra-class correction (ICC) analyses indicated that site-level characteristics potentially explained about 6% to 9% of the differences among parent evaluations. The smaller numbers here suggested that parents' perceptions of how programs helped their children academically tended to be very similar across programs; they didn't differ substantially depending on the site. Following the same rationale, site-level characteristics potentially accounted for 9% to 13% of the variations among student evaluations, 12% of the variation in reading and math grades, 14% – 16% of the differences among teacher ratings, and 32% – 39% of the differences among school attendance and suspensions. The larger ICC scores on school attendance and suspensions suggested that students' school attendance and suspension behaviors varied greatly depending on the school that provided students for the program.

The second step was to get a baseline understanding of **how students from different demographic groups, grade levels or sites with different characteristics, showed different average scores on academic performance, regardless of their program participation.** This step was important in order to identify changes in academic outcomes that might be due to non-participation related factors; for example, academically low-performing students showed greater improvement in grades as a result of having more room to show improvement than students who were already performing well. The analyses took into account a number of differences among sites: type of operating organization for the program (school or CBO), the size of the program, the extent to which programs had students who attended regularly (at least 30 days), and the grade levels served. Analyses also took into account different demographic

characteristics among individual students: grade level; gender; race/ethnicity; whether the student was academically low-performing; low family income (defined as student receiving free/reduced price lunch); Limited English Proficiency or English as a Second Language (LEP/ESL) or special education status. These particular student/family characteristics were included because they are known from research to be associated with school performance. Finally, because students' and parents' perceptions of the extent to which a program helped participants with academic learning is presumably highly dependent on their overall program experience, a program satisfaction score was calculated and statistically controlled in all analyses pertaining to student and parent evaluations, respectively. Thus, whether students or parents felt programs were helpful with participants' academic learning was not dependent on their overall program satisfaction.

During the third step, we examined **the effects of total days of participation** as well as **total days of participation in specific types of activities** on different outcomes. Each activity was entered into EZReports by site staff with a description and objectives. MSU evaluation staff then reviewed each activity and coded them into the following categories: academic activities (traditional academics or enrichment), sports, recreation, arts, youth development, STEM (science, technology, engineering, and math), technology, and health.

Study Sample

The sample for the analyses was drawn from 22,334 K-12 students enrolled in Michigan 21st CCLC programs during the 2013-14 regular school year. The sample was evenly distributed between males and females. The majority of students were racial/ethnic minorities (64%), were academically low-performing (83%), and received free/reduced price lunch (83%). A small proportion were identified as LEP/ESL (11%) or special education (14%). Among the 267 sites, the majority of fiduciary agents were school-based (69%) grantees. However, most programs were operated by other types of organizations (67%), such as CBOs or parks and recreation departments. On average, sites served 33 students per day and operated about 128 days during the regular school year (not including summer). About 36% of the sites were elementary school sites, 26% served

middle schools, and 20% served high schools. About 21% of the sites served mixed grades across elementary, middle, and high school levels.

The data included 7,037 student surveys from 258 sites, 5,592 parent surveys from 257 sites, 10,354 teacher surveys from 263 sites reporting on students who attended at least 30 days, and 16,326 sets of reading and math grades from 250 sites for students who attended the program at least once during the school year. The statistical program employed in this analysis, HLM 6.02, eliminates cases that do not have complete data across all variables in the equation. Although most students had complete demographic information on gender, grade level, and race/ethnicity as entered in EZReports, other student factors, such as their participation in free/reduced price lunch, LEP/ESL, and special education, reduced the sample size by about 23%. We decided to include these characteristics in the analyses because we think they are important factors known to be associated with student academic performance. Sample sizes dropped by an additional 26% when testing the effects of participation in major activities (academic, youth development, physical activity, recreation, and arts) because some sites did not offer all five types of activities, resulting in missing participation information for one or more activity types. Given the limited availability of offerings in health/nutrition and technology, these activities were tested respectively with a subset of the sample: health and nutrition (about 18% of the complete sample) and technology (about 38% of the complete sample). Because of the growing interest in STEM activities, an additional analysis was conducted with STEM participation that included activities such as math, science, engineering and media production and computers for technology (about 49% of complete sample). A detailed display of the sample sizes of students and sites included in the analyses by each outcome can be found in Tables 17 and 18.

Table 17. Sample Sizes by Academic Outcomes: School Outcomes

	GRADE IMPROVEMENTS				*TEACHER REPORT IMPROVEMENTS*				*SCHOOL RECORDS*			
	Reading		*Math*		*Homework Completion*		*School Behavior*		*% of Attendance*		*Days of Suspensions*	
Sample Size (N)	*Youth*	*Sites*	*Youth*	*Sites*	*Youth*	*Sites*	*Youth*	*Sites*	*Youth*	*Sites*	*Youth*	*Sites*
Total initial sample	16,362	250	16,626	251	8,590	263	7,904	263	20,052	264	19,549	259
Sample A = Sample with full demographics*	13,299	220	13,605	221	7,186	234	6,591	234	16,493	234	16,818	233
Sample B = Sample with full demographics + major activity dosages (Academics, Sports, Recreation, Youth development, Arts)	8,910	143	8,928	143	4,748	152	4,343	152	10,936	149	11,403	152
Sample C = Sample B + STEM	8,632	140	8,657	140	4,542	147	4,165	147	10,483	144	10,950	147
Sample D = Sample B + Technology	6,584	104	6,687	104	3,391	108	3,127	108	7,992	105	8,416	108
Sample E = Sample B + Health and Nutrition	3,148	49	3,096	50	1,795	55	1,640	55	3,880	53	4,047	55

* Complete demographic information (race, grades, free/reduced price lunch status, LEP/ESL, special ed., academic performing level)

Table 18. Sample Sizes by Academic Outcomes: Student and Parent Evaluations

	STUDENT REPORTS						*PARENT REPORTS*					
	Curriculum Connection		*Help with Academic Subjects*		*School Commitment*		*Curriculum Connection*		*Help with Academic Subjects*		*School Commitment*	
Sample Size (N)	*Youth*	*Sites*	*Youth*	*Sites*	*Youth*	*Sites*	*Youth*	*Sites*	*Youth*	*Sites*	*Youth*	*Sites*
Total initial sample	6,849	258	5,454	258	4,552	258	5,547	257	5,547	257	5,548	257
Sample F = Sample with full demographics	5,842	230	4,632	229	3,857	229	4,785	229	4,782	228	4,785	229
Sample G = Sample with full demographics + major activity dosages (Academic, Sports, Recreation, Youth development, Arts)	3,858	149	3,004	148	2,520	148	3,195	146	3,192	146	3,197	146
Sample H = Sample G + STEM	3,732	145	2,915	144	2,438	144	3,096	142	3,093	142	3,098	142
Sample I = Sample G + Technology	2,861	106	2,224	106	1,862	106	2,309	105	2,305	105	2,311	105
Sample J = Sample G + Health and Nutrition	1,351	53	1,000	52	841	52	1,304	51	1,303	51	1,305	51

* Complete demographic information (race, grades, free/reduced price lunch status, LEP/ESL, special ed., academic performing level)

Results

What Characteristics of Sites and Students are Associated with Differences in Students' Academic Outcomes?

Tables 19 and 20 show which site and student characteristics were significantly related to each of the academic outcomes. Asterisks indicate those site and student characteristics that were significantly related to the outcomes. We found significant differences, although the effect sizes (the size of the differences) were small. In analyzing the relation between participation in program activities and academic outcomes, we controlled for these differences.

Table 19. School Outcomes Varied by Site and Student Characteristics

	GRADE IMPROVEMENTS		*TEACHER REPORT IMPROVEMENTS*		*SCHOOL RECORDS*	
Effect Size (R)	*Reading*	*Math*	*Homework Completion*	*School Behavior*	*% of Attendance*	*Days of Suspensions*
Site characteristics						
Size	0.06	0.07	0.10	0.11	0.04	0.01
% of regular attendees	0.18**	0.19**	0.13*	0.12	0.13*	0.00
Elementary site	0.15*	0.15*	0.05	0.00	0.05	0.07
Middle school site	-0.16*	-0.13*	0.01	0.04	0.01	0.23**
High school site	0.06	0.03	0.00	0.02	0.06	0.14*
School-operated site	0.05	0.02	0.03	0.02	-0.15*	0.17**
Student characteristics						
Male	0.00	0.01	-0.07***	-0.08***	0.02	0.06***
Grade	-0.03**	-0.04***	0.01	0.00	0.00	0.04***
Black	0.01	0.01	0.01	0.02	0.01	0.04***
Hispanic	0.01	0.01	0.02	0.01	0.00	-0.02*
Arabic	0.03**	0.03***	0.01	0.02	0.01	0.00
Low income	-0.02*	-0.02*	0.02	0.01	-0.04***	0.04***
LEP	0.00	0.00	0.05***	0.04**	0.03***	-0.02*
Special education	0.01	0.01	0.02	0.03	-0.02**	0.02*
Academically low performing	0.08***	0.08***	-0.05***	-0.05***	-0.04***	0.06***

NOTE: Analyses were conducted based on Sample A. Effect size r interpretation: .10 - .29 = small effect; .30 - .49 = medium effect; ≥ .50 = large effect. Effect sizes cannot be negative; sign (-) shows direction of relationship for interpretation of significant factors.

*p < .05, **p < .01, ***p < .001.

For most outcomes, a positive number indicates a better outcome, but in the case of school suspensions, a positive number indicates a worse outcome. For example, being a middle school site was associated with lower student reading and math grades but a higher rate of school suspensions.

Table 20. Student and Parent Evaluations Varied by Site and Student Characteristics

	STUDENT REPORTS			*PARENT REPORTS*		
Effect Size (R)	*Curriculum Connection*	*Help with Academic Subjects*	*School Commitment*	*Curriculum Connection*	*Help with Academic Subjects*	*School Commitment*
Site characteristics						
Size	0.08	0.03	0.02	0.00	0.10	0.07
% of regular attendees	0.01	0.10	0.12	0.08	0.14*	0.05
Elementary site	0.05	0.07	0.01	0.01	0.03	0.04
Middle school site	0.03	0.01	0.08	0.03	0.10	0.01
High school site	0.09	0.07	0.16*	0.02	0.09	0.06
School-operated site	0.13*	0.16*	0.02	0.03	0.00	0.12
Student characteristics						
Male	0.01	0.03*	0.01	-0.05**	0.01	-0.08***
Grade	0.02	0.01	0.02	0.04*	0.06***	0.07***
Black	0.01	0.01	0.01	0.02	0.03*	0.10***
Hispanic	0.00	0.02	0.04*	0.04*	0.03	0.05**
Arabic	0.03	0.02	0.06**	0.03*	0.04**	0.04*
Low income	0.00	0.03*	0.02	0.02	0.04**	0.02
LEP	0.03*	0.05**	0.03	0.03*	0.04**	0.06***
Special education	0.01	0.02	0.00	-0.04**	-0.04**	-0.03*
Academically low performing	0.03	0.00	0.02	0.11***	0.08***	0.10***

NOTE: Analyses were conducted based on Sample F. Effect size r interpretation: .10 - .29 = small effect; .30 - .49 = medium effect; ≥ .50 = large effect. Effect sizes cannot be negative; sign (-) shows direction of relationship for interpretation of significant factors.

*p < .05, **p < .01, ***p < .001.

Site Characteristics

Percent of regular attendees. Compared to programs constantly serving new faces, programs keeping more regular attendees (defined by having 30 days or more attendance) showed greater average improvement in reading and math grades, more improvement in homework completion rated by school-day teachers, and better school attendance. Parents of students who participated in programs having more regular participants were more likely to report that programs helped their child with academic subject learning.

Grade level. Elementary sites showed greater improvement in reading and math grades among their students than middle and high school sites. Students at

middle and high school sites, on average, had more suspension days than students at the elementary school sites. These differences may be related to the age groups the sites were serving. However, students participating in high school sites were more likely to report the program helped them build a stronger commitment to school than did younger students.

Program operating types. In general, students participating in non-school-operated programs showed better school attendance and fewer suspensions than those in school-operated programs. On the other hand, students at school-operated programs reported that the curriculum was more aligned with school curriculum, and they received more help with academic subjects than those participating in non-school-operated programs.

Student Characteristics

Gender. Girls tended to receive better evaluations by teachers than boys on their improvement in homework completion and school behaviors. Girls' parents also were more likely than boys' parents to say that the programs were helpful in developing their children's school commitment and connection with school curriculum. Boys had more suspension days than girls, but they also reported getting more help with academic subject learning through program participation than did girls.

Grade. Students in the lower grades showed greater improvement in reading and math grades than those in higher grades; they also had fewer school suspensions. Parents of older students tended to say that the program helped build school commitment and improve children's school learning, and that the program curriculum connected with the school-day curriculum more than parents of younger students.

Race/ethnicity. Racial/ethnic minority students and their parents were more likely than White students and their parents to perceive benefits of program participation. Specifically, students of Hispanic or Arabic backgrounds more often reported that participating in the programs helped develop their school commitment. Parents of Hispanic and Arabic students were more likely to report that the program was connected to school-day curriculum, and parents of Black

and Arabic students reported greater help with academic learning. Parents in all three minority groups reported greater help with school commitment than parents of White students. However, there were significant differences by racial/ethnic group in school outcomes. Black students had more days of school suspensions, while Hispanic students had significantly fewer suspensions. Arab students showed the greatest improvement in reading and math grades.

Income. Students from low-income families (students who received free/reduced price lunch) showed smaller improvements in reading and math grades, poorer school attendance, and more school suspensions than did students from higher income families. However, both students and parents from low-income families were more likely to say the programs helped with academic learning than those from higher income families.

Low-performing students. Academically low-performing students showed greater improvement in reading and math grades than other students in the program. Their parents were more likely than parents of other students to say that programs connected with school curriculum, helped subject learning and helped their children develop a commitment to school. However, academically low-performing students also tended to have poorer school attendance, more suspensions, and lower teacher ratings on the improvement of their school behaviors than other students.

English language learners. Both students who received LEP/ESL education and their parents reported higher ratings in almost all aspects of academic benefits (curriculum connection, subject learning, and school commitment). Teacher ratings of LEP/ESL students' improvement in homework completion and school behaviors were higher than those of native English-speaking students; they also had higher school attendance and fewer suspensions.

Special education. Parents of students with special education needs were less satisfied than parents of other students with the help programs provided to their children with all aspects of program academic benefits (curriculum connection, subject learning and school commitment). Students with special education needs also showed poorer school attendance and received more suspensions.

Did More Days of Attendance Overall Relate to Better Academic Outcomes?

The answer is "yes." Results (shown in Tables 21 and 22) suggest that:

- Students who participated for more days had greater improvement in math grades and teacher ratings on homework completion and school behavior; they also had better school attendance and received fewer suspensions.

- They were also more likely than students who participated fewer days to report that programs helped them with subject learning and to develop a sense of school commitment.

The effects are small but significant, and hold true even after accounting for site and student characteristics (See Tables 21 and 22 for effect sizes).

Table 21. School Outcomes Varied by Total Days of Attendance

	GRADE IMPROVEMENTS		*TEACHER REPORT IMPROVEMENTS*		*SCHOOL RECORDS*	
Effect Size (R)	*Reading*	*Math*	*Homework Completion*	*School Behavior*	*% of Attendance*	*Days of Suspensions*
Total days	0.01	0.02*	0.06***	0.05***	0.08***	-0.07***

NOTE: Analyses were conducted based on Sample A. Effect size r interpretation: .10 - .29 = small effect; .30 - .49 = medium effect; ≥ .50 = large effect. Effect sizes cannot be negative; sign (-) shows direction of relationship for interpretation of significant factors.
*p < .05, **p < .01, ***p < .001.

Table 22. Student and Parent Evaluations Varied by Total Days of Attendance

	STUDENT REPORTS			*PARENT REPORTS*		
Effect Size (R)	*Curriculum Connection*	*Help with Academic Subjects*	*School Commitment*	*Curriculum Connection*	*Help with Academic Subjects*	*School Commitment*
Total days	0.03*	0.04*	0.03*	0.01	0.02	0.01

NOTE: Analyses were conducted based on Sample F. Effect size r interpretation: .10 - .29 = small effect; .30 - .49 = medium effect; ≥ .50 = large effect. Effect sizes cannot be negative; sign (-) shows direction of relationship for interpretation of significant factors.
*p < .05, **p < .01, ***p < .001.

There is also a **threshold effect** for some outcomes; that is, students meeting a certain minimum number of days of attendance showed better outcomes than those who didn't:

- **Math.** Students' math grades improved progressively with increased attendance. In addition, students who attended more than 20 days showed significantly greater math grade improvement than those who attended less than 20 days.

- **Reading.** Interestingly, no progressive correlation was found between attendance and reading grade improvement. Students needed to reach 90 days of attendance in order to show significantly greater average improvement on reading grades than those attending fewer days.

- **Classroom behavior.** Because teacher ratings were only collected on students participating more than 30 days, we could not identify a specific threshold below 30 days; however, the data suggested that the more days students attended, the better the teacher ratings. Also, students who attended at least 40 days showed significantly better average teacher ratings than those who attended fewer than 40 days.

- **School attendance/suspensions.** School attendance and suspensions were significantly related to program participation. Students who participated in programs for more than 20 days showed better school attendance and had fewer suspensions than those who did not. The more days of program participation, the better the student's school attendance and suspension records.

- **Student perceptions of academic help.** Total days of afterschool program participation was also positively related to students' perceptions of how programs connected with school curriculum, helped with their academic subject learning, and built their school commitment. On average, students with at least 40 days of attendance rated the program significantly higher on helping to build school commitment than those who participated less; positive effects on ratings of curriculum connection

and academic subject learning were found with as little as 20 days of program participation.

- **Parent perceptions of academic help.** Interestingly, parents' ratings of program effects on bringing about positive academic outcomes were not related to their child's actual participation. No correlations or threshold attendance were found.

Table 23 presents a summary of the effects of program participation on academic outcomes and each identified threshold. These results are promising but should be interpreted cautiously. It is possible that students who participated for more days had other factors such as stability or investment in the program that contributed both to attending more days and to improving academically. Furthermore, the purpose of examining differences across site and student characteristics and students' total attendance was to provide a baseline understanding of how academic outcomes may have differed, regardless of students' participation in different types of activities.

In the next step in the analysis, we further explored whether participation in specific types of activities made a difference in outcomes.

Table 23. Summary of Total Days of Participation in 21st CCLC Programs Related to Academic Outcomes

		Better results with greater attendance	*Threshold*
Grade changes	Reading		90 days
	Math	✓	20 days
Teacher report improvements	Homework completion	✓	40 days
	School behavior	✓	40 days
School records	% of attendance	✓	20 Days
	Days of suspensions	✓	20 Days
Student reports	Curriculum connection	✓	20 days
	Help with academic subjects	✓	20 days
	School commitment	✓	40 days
Parent reports	Curriculum connection		–
	Help with academic subjects		–
	School commitment		–
NOTE: "–" = No threshold found.			

Did Participation in Specific Types of Activities Relate to Increases in Academic Outcomes?

In this section, we determined whether participating in different types of activities was related to the differences in the various academic outcomes. Programs offered activities that fell into the following categories:

- Academic activity – Academic-focused activities, including:
  - Traditional academics – Direct instruction in academic skills (homework help, tutoring, lessons, exam preparations, credit recovery)
  - Academic enrichment – Project-based or embedded learning in which academic skills are taught indirectly (e.g., math instruction embedded within cooking)
- Sports – Team- and non-team sports, dance, and physical education
- Recreation – Physical free play (e.g., recess, open gym), games (e.g., checkers or card games) and social events
- Arts – Music, painting, and crafts
- Youth development – Character development and leadership
- STEM – Science, technology, engineering, and math
- Technology – Computer programs (Excel, PowerPoint, programming) or media and video production
- Health – Health awareness, nutrition and food

During the 2013-14 school year, all Michigan 21st CCLC programs offered academic activities, and most offered activities in sports, youth development, arts, and recreation (social events and free play). A total of 158 sites (61%) offered technology activities and 80 sites (31%) offered health and nutrition activities. Although participation in some of these activities was not related to greater improvements in academic outcomes, programs can influence other important developmental outcomes, such as better health and socio-emotional development, that may warrant further investigation. These activities are important to a well-rounded program in positive youth development and may help sustain participation by engaging youths' interest. Table 24 and 25 show the

specific effect sizes for relationships between activity participation and academic outcomes. All starred effects were small but statistically significant.

Table 24. Effect Sizes for the Relations Between Participation in Activity Types and School Outcomes

	GRADE IMPROVEMENTS		*TEACHER REPORT IMPROVEMENTS*		*SCHOOL RECORDS*	
Effect Size (R)	*Reading*	*Math*	*Homework Completion*	*School Behavior*	*% of Attendance*	*Days of Suspensions*
Academic activity	0.01	0.01	0.02	0.01	0.05***	-0.04***
Traditional academics	0.02	0.01	0.00	0.00	0.03**	0.01
Academic enrichment	0.03**	0.02	0.01	0.01	0.03**	-0.04**
Sports	0.02	0.01	0.02	0.02	0.00	0.01
Recreation	0.00	0.00	0.02	0.03	0.01	0.00
Arts	0.01	0.00	0.03	0.04*	0.02	0.00
Youth development	0.06	0.00	0.00	0.01	0.01	0.00
STEM	0.02	0.04**	0.01	0.02	0.02*	0.01
Technology	0.01	0.01	0.01	0.01	0.01	0.00
Health and nutrition	0.00	0.00	0.01	0.01	0.03	0.02

NOTE: Analyses were conducted based on Sample B for academic, sports, recreation, arts, and youth development participation; Sample C for additional participation in STEM; Sample D for additional participation in technology; and Sample E for additional participation in health and nutrition activities. Effect size r interpretation: .10 - .29 = small effect; .30 - .49 = medium effect; ≥ .50 = large effect. Effect sizes cannot be negative; sign (-) shows direction of relationship for interpretation of significant factors.

*p < .05, **p < .01, ***p < .001.

Table 25. Effect Sizes for the Relations between Participation in Activity Types and Student and Parent Evaluations

	STUDENT REPORTS			*PARENT REPORTS*		
Effect Size (r)	*Curriculum Connection*	*Help with Academic Subjects*	*School Commitment*	*Curriculum Connection*	*Help with Academic Subjects*	*School Commitment*
Academic activity	0.05**	0.05**	0.02	0.03	0.03	0.03
Traditional academics	0.06**	0.03	0.00	0.09***	0.04	0.04*
Academic enrichment	0.02	0.02	0.04	0.01	0.01	0.02
Sports	-0.03*	0.01	0.00	0.03	0.00	0.00
Recreation	0.03	-0.04*	0.00	0.01	0.00	-0.05*
Arts	0.00	0.02	0.01	0.02	0.02	0.01
Youth development	0.01	0.00	0.02	0.02	0.00	0.01
STEM	0.02	0.02	0.00	0.05**	0.03	0.04*
Technology	0.01	0.07**	0.03	0.02	0.04	0.01
Health and nutrition	0.02	0.02	0.01	0.04	0.04	0.04

NOTE: Analyses were conducted based on Sample G for academic, sports, recreation, arts, and youth development participation; Sample H for additional participation in STEM; Sample I for additional participation in technology; and Sample J for additional participation in health and nutrition activities. Effect size r interpretation: .10 - .29 = small effect; .30 - .49 = medium effect; ≥ .50 = large effect. Effect sizes cannot be negative; sign (-) shows direction of relationship for interpretation of significant factors.

*p < .05, **p < .01, ***p < .001.

Reading and math grades

Students' participation in academic enrichment, but not traditional academic activities, was related to greater improvement in reading grades. Participation in STEM activities was related to improved math grades.

Teacher ratings of student performance

Greater participation in arts activities was associated with better teacher ratings on school behavior.

School attendance and suspensions

Participation in any type of academic activity was related to better school attendance and fewer suspensions. Specifically, students who participated in a lot of academic enrichment activities showed better attendance and fewer suspensions. There is also a significant association between students' participation in traditional academic activities and better school attendance but not fewer suspensions.

Student evaluations of academic learning

Students who had greater participation in academic activities in any form were more likely to report that the program was better connected with school curriculum and helped them with subject learning. In particular, students participating in more days of traditional academic activities more often reported that the curriculum was relevant to school learning. Technology participation was also related to greater subject learning reported by students. However, sports participation was negatively associated with student ratings of program connection with the school curriculum, and participation in recreation (social events and free play) was negatively associated with the help students reported with subject learning. Thus, students who participated intensively in sports and recreation (social events and free play) were less likely to report that the program helped them with school learning.

Parent reports on academic learning

Similar sets of questions were given to parents in regard to how programs helped their child with academic learning. Results of the analysis showed that parents felt programs were the most helpful academically when their children participated in a lot of traditional academics and STEM activities. Parents whose children participated intensively in recreation activities also tended to rate the program more negatively in building children's commitment to school.

Table 26 summarizes the results of all different types of activity participation and associated outcomes.

Table 26. Summary of the Associations between Participation in Specific Types of 21st CCLC Activities and Academic Outcomes

		Better Results With Greater Attendance in Different Categories
Grade changes	Reading	Academic enrichment
	Math	STEM
Teacher report improvements	Homework completion	—
	School behavior	Arts
School records	% of attendance	STEM and academic activities in general; both traditional academics and academic enrichment
	Days of suspensions	Academic activities in general, especially academic enrichment
Student reports	Curriculum connection	Academic activities in general, especially traditional academics
	Help with academic subjects	Technology and academic activities in general
	School commitment	—
Parent reports	Curriculum connection	STEM and traditional academics
	Help with academic subjects	—
	School commitment	STEM and traditional academics
NOTE: "—" = Not found.		