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21^{\text {st }} \text { Century Community }
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Learning Centers:
Evaluation of Projects Funded
For the $2003-04$ School Year


Office for Planning, Grants, and Evaluation
Texas Education Agency

# $21^{\text {st }}$ Century Community Learning Centers: Evaluation of Projects Funded For the 2003-04 School Year 

Project Staff
Andrew Moellmer
Joseph Shields
Sonia Castañeda

# Office for Planning, Grants, and Evaluation <br> Texas Education Agency January 2005 

## Texas Education Agency

Shirley Neeley, Commissioner of Education
Robert Scott, Chief Deputy Commissioner

## Office of Planning, Grants, and Evaluation

Nora Ibáñez Hancock, Associate Commissioner

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## Executive Summary

The $21^{\text {st }}$ Century Community Learning Centers ( $21^{\text {st }}$ CCLC) program is funded by the U.S. Department of Education to create or expand the role of community learning centers in providing academic enrichment activities to economically disadvantaged and other students in at-risk situations, in addition to other valuable services and activities (e.g., drug and violence prevention, character education, technology, art, music, recreation) which are intended to complement the students' regular academic program during non-school hours (e.g., after school, weekends, summer). One innovative feature of the program is the provision of academic and enrichment activities targeted at students’ adult family members and young siblings. In addition to the specific purposes outlined above, it is anticipated that the $21^{\text {st }}$ CCLCs will help working parents by providing a safe, supervised environment for their children during after-school hours and other periods when school is not in session (e.g., weekends, summer recess).

This report provides an evaluation of the first year of the $21^{\text {st }}$ CCLC program where sufficient data is available to conduct such an analysis. Although the program has been in existence for a number of years, grants funded during this year were the first to be subject to program enhancements contained in the NCLB Act of 2001, including a requirement that the program be continuously evaluated using federallyand state-determined performance measures. The 2003-04 school year was the first where data was collected by the Texas Education Agency (TEA) from $21^{\text {st }}$ CCLC grantees in Texas to fulfill this requirement. Previous research on the effectiveness of after-school programs conducted by the U.S. Department of Education, The Harvard Family Research Project, The National Institute on Out of School Time, and other entities has shown that such programs can have a positive impact on student classroom and out-of-school behavior, and on students' academic performance. This report examines the effect of program participation on various academic performance metrics. The findings presented in this report are a first step that suggest the direction that future longitudinal and control group studies may take once more data become available.

An examination of student demographic information shows that the typical $21^{\text {st }}$ CCLC participant during the 2003-2004 school year was economically disadvantaged, Hispanic, and enrolled in Kindergarten through Grade 5. Approximately one-third were classified as limited English proficient (LEP). Approximately one-third of the students participated regularly in community learning center activities, with the majority of activities providing instruction in the core areas of reading/language arts, math, science and social studies. Sports and arts activities were also very common. In all, the data show that the grantees were quite successful recruiting the targeted number of students in at-risk situations to the program. Approximately 80 percent of the participants were classified as economically disadvantaged and the number of students served by community learning was approximately 9 percent the targeted number of students originally established by the grantees. The data also show that services offered by most of the community learning centers were provided by certified teachers, working in collaboration with community based partners and volunteers.

The key findings presented in the report indicate that participation in $21^{\text {st }}$ CCLC funded activities appears to be associated with improved student performance in a number of key areas: reading and science ability, student school class passing rates, and regular school day class attendance. For example,

- A substantially higher percentage of students who participated in a majority of available reading tutorials improved their academic ability than students who participated in fewer tutorials. The positive direction of this relationship persists across tutorial categories and for both the fall and spring semesters during the 2003-2004 school year, although the results are not as consistent for participation in mathematics and science tutorials.
- After controlling for students' demographic information, logistic regression analyses showed that the odds of improvement in reading ability were nearly twice as high for students participating in 75 percent or more of available reading tutorials, as compared to students participating in 25 percent or less of the tutorials.
- Interestingly, students participating in 26 percent to 75 percent of science tutorials were more likely to improve their science ability compared to students participating in a lower percentage of tutorials and students participating in 75 percent or more of the science tutorials.
- There was no statistically significant effect of participation in mathematics tutorials after controlling for demographic information.
- Differences in levels of participation do not appear to be associated with differences in student average class grades. Although there was a statistically significant difference in average grades between students who participated in 50 percent or more of available activities and students who participated in less than 50 percent, this difference was small. Both groups of students had an average grade in the ' $B$ ' range.
- Students who participated in 50 percent or more of available program activities passed a higher percentage of their regular school day classes and had fewer class absences during the semester than students who participated in less than 50 percent of activities. These differences are statistically significant. ${ }^{1}$
- After controlling for students' demographic information, the relationship between participation in $21^{\text {st }}$ CCLC funded activities and other measures of student performance remained statistically significant. The odds of improving student ability in percent classes passed, average student grades, and reducing student absences were lowest for students who participated in 25 percent or less of available activities. Interestingly, the odds of improvement in these measures were highest

[^0]for students participating in 26 percent to 75 percent of available activities, not for those participating in more than 75 percent of activities.

- Students who had at least one adult family member participating with them in community learning center activities participated in an average of 20.8 percent more activities than students with no family members participating. This result was highly statistically significant.

Although mixed, these results indicate that participation in $21^{\text {st }}$ CCLC funded activities appears to be associated statistically with improved student performance. The fact that only one-half of the students participated in a majority of available activities suggests that there is room for improvement in encouraging students to increase their time spent in community learning center activities.

The findings on the effect of adult family member participation indicate that one way to accomplish this goal may be to focus more attention on encouraging family participation in center activities. Less than half of the targeted adults (49 percent) actually participated in community learning center activities during the 2003-04 school year. The data show that once they do participate, adult family members return to participate again at a very high rate (66 percent rate of return). Improving family member recruitment strategies could be an important means to increase student participation, and by extension lead to improved academic performance among the students in at-risk situations targeted by the $21^{\text {st }}$ CCLC program.

## I. Introduction

## Background

The 21st Century Community Learning Centers (CCLC) program is authorized under Title IV, Part B, of the Elementary and Secondary Education Act (ESEA), as amended by the No Child Left Behind (NCLB) Act of 2001. The purpose of the program is to create or expand the role of community learning centers in providing academic enrichment opportunities, in addition to other valuable services and activities (e.g., drug and violence prevention, character education, technology, art, music, recreation) that are intended to complement the students' regular academic program during non-school hours (e.g., after school, weekends, summer). One of the NCLB Act's provisions requires that school districts make supplemental educational opportunities available to economically disadvantaged and other students in at-risk situations outside the regular school day (Flynn, 2002). Many school districts in Texas have chosen to utilize $21^{\text {st }}$ CCLC grants to help them meet this requirement.

The enabling statute specifies that $21^{\text {st }}$ CCLC programs should accomplish the following:

1) Provide opportunities for academic enrichment, through tutorial services and other means to help students meet state and local student performance standards in core subject areas (e.g., reading, mathematics, science). The programs are to be geared toward economically disadvantaged students and students who attend low-performing schools;
2) Offer students a wide variety of additional services, programs, and activities (e.g., youth development activities, drug and violence prevention programs, counseling programs, art/music/recreation programs, technology education programs, and character education programs) which are designed to reinforce and complement the regular academic program of participating students; and
3) Offer families served by the community learning centers opportunities for literacy and related educational development.

In addition to the specific purposes outlined above, it is anticipated that the $21^{\text {st }}$ CCLCs will help working parents by providing a safe, supervised environment for their children during after-school hours and other periods when school is not in session (e.g., weekends, summer recess).

While the $21^{\text {st }}$ CCLC program has been in existence for a number of years, the grants funded for the 2003-04 school year are the first to be subject to program enhancements contained in the NCLB Act of 2001. Program evaluation from The United States Department of Education (USDE), conducted by Mathematica Policy Research (The National Evaluation of the 21st-Century Community Learning Centers Program, 2003), showed that $21^{\text {st }}$ CCLCs needed to be better aligned with the accountability and research principles of NCLB. Some of the major changes made to the authorizing statute by the NCLB Act are as follows:

- Requiring that program activities and teaching methods be based on rigorous scientific research. The programs must address the needs of the schools and communities and be continuously evaluated using performance measures;
- Requiring that programs provide academic enrichment components to economically disadvantaged students to help them meet state and local standards in core areas (e.g., reading, mathematics, science);
- Transferring the administration of programs from the federal to the state level with the state education agency (i.e., Texas Education Agency) managing grant competitions and grant awards to eligible organizations for local programs;
- Expanding eligibility to public and private non-school entities with an emphasis on collaboration with the local school districts to create comprehensive, high-quality programs;
- Targeting services to schools with a high concentration of economically disadvantaged students and schools that are identified as low-performing;
- Extending, at the discretion of the states, the duration of awards from three years to up to five years;
- Expanding the range of locations where programs may take place. Previously, they had to take place at an elementary or secondary school; and
- Other new requirements include: requiring funds to supplement, not supplant; allow states to require a local match (although it was not exercised in Texas); requiring consultation and coordination with appropriate state officials; and providing of funds to assist the states with carrying out administrative responsibilities.

Congress appropriated nearly $\$ 1$ billion for funding after-school programs across the nation in Fiscal Year (FY) 2003. Nationally, approximately 6,800 rural and inner-city public schools in 1,420 communities, in collaboration with other public and non-profit agencies, organizations, local businesses, post-secondary institutions, scientific/cultural and other community entities, are now participating as 21st CCLCs. ${ }^{2}$

The federal government awarded $\$ 24.5$ million to TEA in July 2002, which was used to fund grants to TEA's first cohort of $21^{\text {st }}$ CCLC grantees for school year 2003-04 (i.e., grant period July 1, 2003 to June 30 , 2004). Grantees may fund up to five centers, at a maximum funding level of $\$ 175,000$ per center. Thus, the largest grant a local education agency (LEA) may receive is $\$ 875,000$ per year. Grants are awarded through a competitive application process, administered by TEA. Continuation funding for $21^{\text {st }}$ CCLC grantees may be available for up to five years. Eligible entities include LEAs, community-based organizations, other public or private entities, and consortia of two or more of such agencies, organizations, or entities. Awards are given only to applicants that will primarily serve students who attend schools with concentrations of economically disadvantaged students ( $40 \%$ or greater economically disadvantaged). A federal priority will be given to an application that receives a score of not less than $70 \%$ of the total possible points proposing to target services to students who attend schools that have been identified as in need of improvement under Title I, section 1116 School Improvement, and that is submitted jointly by eligible entities consisting of not less than one local educational agency receiving

[^1]federal funds under Title I, part A (Improving Basic Programs Operated by LEAs) and a communitybased organization or other public or private entity.

In July 2003, TEA approved grant funding for 32 projects for Cycle 1 of the $21^{\text {st }}$ CCLC program. These projects represent 136 community learning centers, and include 215 participating elementary and middle school campuses. The Cycle 1 programs were projected to serve an estimated 32,128 students and 14,035 adults during the first year of operation. In total, approximately $\$ 23$ million was provided to 32 grantees for the 2003-04 school year, and one additional project was funded, with a start date of January 2004 (spring semester, 2003-04). This report focuses on the results for this first cohort of Texas $21^{\text {st }}$ CCLC grantees.

## The Importance of After-School and Extended Time Programs

Previous research indicates the importance of after-school programs to improving academic performance for students in at-risk situations. According to the USDE, students who spend no time in extracurricular activities are 49 percent more likely to use drugs and 37 percent more likely to become teen parents than students who spend time in extracurricular activities (cited in National Institute on Out of School Time, 2003). A large number of studies have been conducted to evaluate the effectiveness of after-school programs on improving student performance. After-school programs have been shown to increase student performance generally, provide a safe haven for at-risk youth, and reduce school violence (Harvard Family Research Project, 2002a). They have also been shown to improve students’ standardized reading, mathematics and science test scores (University of California, Irvine, 2001), improve grade performance and homework completion (Aguirre International, 2000), improve school attendance rates (Huang, et al, 2000), and reduce student drug use and alcohol consumption (Grossman, et al, 2000). A recent study of Texas Ninth Grade Success Initiative (NGSI) grants conducted for TEA found that most $9^{\text {th }}$ Grade students in at-risk situations were unlikely to attend extended-day tutorials voluntarily, but students who took advantage of extended-day tutorials apparently benefited (Texas Center for Educational Research, 2004). Although a meta-analysis of the available research concludes that much of the available information in published studies is sparse or of limited quality, a small number have employed sufficiently rigorous methodology to allow for the conclusion that there have been some effective programs (Hollister, 2003).

Recent innovations in after-school programming have expanded traditional academic improvement opportunities for students in at-risk situations to include extracurricular and enrichment activities such as sports, arts, and mentoring. The $21^{\text {st }}$ CCLC program uses USDE funds to provide such extracurricular and enrichment activities to students in at-risk situations and their families, often in communities where such opportunities have not previously been available. As discussed, although there are many studies that examine the effectiveness of after-school programs in improving student performance, few of these studies are scientific or quasi-experimental, with adequate methodology to limit selection bias and allow for the longitudinal study of control groups (Perkins, 2003). With its multi-year character and large number of grantees across Texas, the $21^{\text {st }}$ CCLC program provides an excellent opportunity to build a large database of information with which such a study of the effectiveness of after-school programs can
be conducted. This report on the first year of data available from the program in Texas is the first step toward accomplishing this goal. Future reports on $21^{\text {st }}$ CCLC participation in Texas will employ longitudinal studies of control groups as data become available.

## Data Analysis and Report Organization

Each of the Texas grantees funded for Cycle 1 of the $21^{\text {st }}$ CCLC program reported a wide spectrum of program performance measure data to TEA. The data reported to TEA include program-level performance/activity measures, center-level data related to the types of activities offered by the program and the frequency at which they are offered, and detailed student-level data, including demographic information and data related to the types of activities in which the student participated, student attendance, and academic achievement results. The data collection instruments were designed and distributed to grantees by TEA to meet federal reporting requirements and to gather additional information required to conduct a statewide evaluation of the program. TEA program evaluation staff determined the questions to be asked of grantees and conducted the analyses in this report.

Following this introductory section, this report is organized into the following main sections:
II. Profile of students served by the $21^{\text {st }}$ CCLC program;
III. Student participation in program activities;
IV. Relationship between program participation and student performance outcomes;
V. Profile of $21^{\text {st }}$ Century Community Learning Centers;
VI. Families and family members served by the $21^{\text {st }}$ CCLC program;
VII. Community partners and collaborators, and program planning activities conducted;
VIII. Teaching staff and volunteers used to implement the $21^{\text {st }}$ CCLC Program; and
IX. Concluding observations.

This report marks the first in a series of $21^{\text {st }}$ CCLC program evaluation reports that will be generated following the completion of each academic school year.

## II. Profile of Students Served by the $21{ }^{\text {st }}$ CCLC Program

Texas students enrolled in $21^{\text {st }}$ CCLC programs during the 2003-04 school year share demographic characteristics that distinguish them from the overall population of Texas public school students. The typical $21^{\text {st }}$ CCLC participant is enrolled in an elementary school, is Hispanic, and is classified as economically disadvantaged.

## Program Participation by Grade Level

Over 35,000 students were served by $21^{\text {st }}$ CCLC programs during the 2003-04 school year (Table 1). A total of 22,909 students participated in the programs during the fall 2003 term, and an additional 12,245 new students joined the program during the spring 2004 term.

Table 1. 21st CCLC Program Participants, by Grade Level

| Grade Level | Fall 2003 <br> New Students | Spring 2004 <br> New Students | Total Students <br> Served | Percent of Total <br> Students Served |
| :--- | :---: | :---: | :---: | :---: |
| Pre-K | 161 | 77 | 238 | $0.7 \%$ |
| Kindergarten | 1,104 | 451 | 1,555 | $4.4 \%$ |
| $1^{\text {st }}$ | 1,875 | 854 | 2,729 | $7.8 \%$ |
| $2^{\text {nd }}$ | 2,185 | 897 | 3,082 | $8.8 \%$ |
| $3^{\text {rd }}$ | 3,059 | 1,051 | 4,110 | $11.7 \%$ |
| $4^{\text {th }}$ | 3,037 | 1,020 | 4,057 | $11.5 \%$ |
| $5^{\text {th }}$ | 2,763 | 1,226 | 3,989 | $11.3 \%$ |
| $6^{\text {th }}$ | 3,181 | 1,872 | 5,053 | $14.4 \%$ |
| $7^{\text {th }}$ | 2,402 | 2,196 | 4,598 | $13.1 \%$ |
| $8^{\text {th }}$ | 2,049 | 1,938 | 3,987 | $11.3 \%$ |
| $9^{\text {th }}$ | 303 | 447 | 750 | $2.1 \%$ |
| $10^{\text {th }}$ | 168 | 183 | 351 | $1.0 \%$ |
| $11^{\text {th }}$ | 156 | 24 | 180 | $0.5 \%$ |
| $12^{\text {th }}$ | 466 | 9 | 475 | $1.4 \%$ |
| Total | 22,909 | 12,245 | 35,154 | $100.0 \%$ |

Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.

Over half of the students served by a community learning center were elementary school students enrolled in kindergarten through Grade 5 ( 56 percent). By way of comparison, only 49 percent of all students statewide fall within these grade levels. Approximately 39 percent of $21^{\text {st }}$ CCLC students were enrolled in middle school (Grades 6 through 8), and only a small percentage were enrolled in high school (5 percent). Statewide, middle school and high school students are approximately 23 percent and 28 percent of students, respectively. These data show that during its first year of operation under the new NCLB guidance, the primary service population for the program was younger, elementary school children.

## Proportions of New and Returning Students to the $21^{\text {st }}$ CCLC Program

One measure of after-school program success is the percentage of participants who return in subsequent semesters. Overall, nearly three quarters ( 74 percent) of the students who participated in the $21^{\text {st }}$ CCLC program during the fall semester of the 2003-04 school year returned to the program in the spring of 2004 (Table 2). Return rates tended to be highest among pre-K (91 percent) and elementary school students in grades K through 5 ( 78 to 81 percent), and lowest among middle school students in grades 6 through 8 ( 66 to 69 percent). Within the small population of high school students served by the $21^{\text {st }}$ CCLC program, return rates varied substantially by grade level: $9^{\text {th }}$ Grade ( 84 percent); $10^{\text {th }}$ Grade ( 65 percent); and 11th Grade (87 percent). ${ }^{3}$

Table 2. Percent of Fall 2003 21st CCLC Participants Who Returned in Spring 2004, by Grade Level

| Grade <br> Level | Fall 2003 <br> New Students | Spring 2004 <br> Returning Students | Return Rate |
| :--- | :---: | :---: | :---: |
| Pre-K | 161 | 146 | $90.7 \%$ |
| Kindergarten | 1,104 | 876 | $79.3 \%$ |
| $1^{\text {st }}$ | 1,875 | 1,465 | $78.1 \%$ |
| $2^{\text {nd }}$ | 2,185 | 1,729 | $79.1 \%$ |
| $3^{\text {rd }}$ | 3,059 | 2,471 | $80.8 \%$ |
| $4^{\text {th }}$ | 3,037 | 2,447 | $80.6 \%$ |
| $5^{\text {th }}$ | 2,763 | 2,146 | $77.7 \%$ |
| $6^{\text {th }}$ | 3,181 | 2,149 | $67.6 \%$ |
| $7^{\text {th }}$ | 2,402 | 1,668 | $69.4 \%$ |
| $8^{\text {th }}$ | 2,049 | 1,358 | $66.3 \%$ |
| $9^{\text {th }}$ | 303 | 254 | $83.8 \%$ |
| $10^{\text {th }}$ | 168 | 109 | $64.9 \%$ |
| $11^{\text {th }}$ | 156 | 135 | $86.5 \%$ |
| $12^{\text {th }}$ | 466 | 82 | $17.6 \%$ |
| Total | 22,909 | 17,035 | $74.4 \%$ |

Source. Grantee Progress/Evaluation Reports (Certification Statements), Texas Education Agency, 2004.

Overall the relatively high rates of return for students participating in the $21^{\text {st }}$ CCLC program are very promising and are assumed to be reflective of high quality programs that are benefiting a large and growing population of Texas students in at-risk situations.

## Program Participation by Ethnicity

The majority of $21^{\text {st }}$ CCLC participants are Hispanic. Approximately 66 percent of the students enrolled in the program in each semester during the 2003-04 school year were from this ethnic group (Table 3). This is higher than the proportion of Hispanic students in Texas public schools (43 percent).

[^2]More than one quarter of the students were African-American ( 26 percent in the fall and 25 percent in the spring). The percentage of African-American students in the $21^{\text {st }}$ CCLC program is also higher than the percentage of African-American students in Texas public schools (14 percent). By contrast, white students accounted for only six percent of all $21^{\text {st }}$ CCLC students in fall 2003 and nine percent in spring 2004. The percentage of white students participating in the $21^{\text {st }}$ CCLC program was much lower than the proportion of white students in the Texas public school system ( 40 percent).

Table 3. $21{ }^{\text {st }}$ CCLC Program Participants, by Ethnicity

| Ethnicity | Statewide | Fall 2003 <br> Percentage of Students | Spring 2004 <br> Percentage of Students |
| :--- | :---: | :---: | :---: |
| White | $39.8 \%$ | $6.1 \%$ | $8.5 \%$ |
| African-American | $14.3 \%$ | $26.2 \%$ | $24.6 \%$ |
| Hispanic | $42.7 \%$ | $66.3 \%$ | $65.5 \%$ |
| Asian/Pacific Islander | $2.9 \%$ | $1.2 \%$ | $1.3 \%$ |
| Native American | $0.3 \%$ | $0.2 \%$ | $0.2 \%$ |
| Total | $100.0 \%$ | $100 \%$ | $100 \%$ |

Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.
Statewide data are from TEA's Academic Excellence Indicator System (AEIS). These aggregate data are available at the following website: http://www.tea.state.tx.us/perfreport/aeis/2003/state.html.

## Program Participation by Gender

The distribution of participating students by gender reflects current population trends. A higher percentage of females than males were served by a community learning center. Approximately 53 percent and 52 percent of fall 2003 and spring 2004 participants, respectively, were female (Figures 1 and 2).

Figure 1. $21{ }^{\text {st }}$ CCLC Program Participants, by Gender, Fall 2003


Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.

Figure 2. 21st CCLC Program Participants, by Gender, Spring 2004


Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.

## Program Participation by Economically-Disadvantaged Status

The $21^{\text {st }}$ CCLC program targets economically disadvantaged and other students in at-risk situations with its services. In keeping with one of the NCLB Act's mandates, effective program recruitment efforts should lead to a majority of students who are classified as at-risk. Overall, the Cycle 1 - Year 1 grantees appear to have been successful in achieving this goal.

The proportion of students participating in the $21^{\text {st }}$ CCLC program who were classified as economically disadvantaged was virtually the same each semester, with the overwhelming majority of fall ( 81 percent) and spring ( 82 percent) students in this category (Figure 3). By contrast, a considerably lower percentage (52 percent) of Texas public school students generally were similarly classified.

Figure 3. 21st CCLC Program Participants, by Economically Disadvantaged Status


Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.
Statewide data are from TEA's Academic Excellence Indicator System (AEIS). These aggregate data are available at the following website: http://www.tea.state.tx.us/perfreport/aeis/2003/state.html.

## Program Participation by Limited English Proficient Status

Approximately one-third ( 33 percent) of fall 2003 program participants served by 21st CCLCs were classified as LEP (Figure 4). A somewhat lower percentage of spring 2004 students (28 percent) were similarly classified. This difference might be explained by the higher percentage of White students served by a community learning center during the spring semester. It could also be that many LEP students participating in the first semester tested out of LEP status by the second semester. Even so, these percentages are significantly higher than the percentage of LEP students in the Texas public school system (15 percent).

Figure 4. $21{ }^{\text {st }}$ CCLC Program Participants, by Limited English Proficient Status


Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.
Statewide data are from TEA’s Academic Excellence Indicator System (AEIS). These aggregate data are available at the following website: http://www.tea.state.tx.us/perfreport/aeis/2003/state.html.

The fact that substantially higher percentages of $21^{\text {st }}$ CCLC students were classified as LEP and economically disadvantaged, as compared to the general student population in Texas, suggests that the $21^{\text {st }}$ CCLC program is realizing one of the fundamental goals of the program-targeting Texas students in at-risk situations to offer them additional academic and enrichment program opportunities.

## III. Student Participation in Program Activities

While Section II of this report established that the $21^{\text {st }}$ CCLC programs in Texas are serving populations of students clearly in need of educational services (e.g., economically disadvantaged, LEP, etc.), it is also critical to measure the degree to which students are using the wide array of program activities offered through $21^{\text {st }}$ CCLCs. This section of the report explores how effective $21^{\text {st }}$ CCLC programs were at meeting service objectives and at getting students involved in a variety of different activities.

## Overall Program Participation Rates

A useful measure to evaluate the effectiveness of program recruitment efforts involves a comparison of the number of students eligible to be served by the $21^{\text {st }}$ CCLC program and number of eligible students actually served.

Figure 5. Percentage of Eligible Students Actually Participating in $\mathbf{2 1}^{\text {st }}$ CCLC Programs, 2003-04 School Year


Source. Grantee Progress/Evaluation Reports (Program and Student-Level Files), Texas Education Agency, 2004.

The number of eligible students was determined by each grantee by counting the number of students in their jurisdiction classified as at-risk (economically disadvantaged, LEP, etc.). In fall 2003, the very first semester that $21^{\text {st }}$ CCLCs began providing services to Texas students under the guidance of the NCLB Act of 2001, approximately 30 percent of eligible students ( 22,909 students) were served by a community learning center (Figure 5). A higher percentage of students ( 35 percent) were served in spring 2004 ( 29,280 students). It should be noted that the number of eligible students, as determined by the grantees,
increased by the spring semester. This increase in student participation by five percentage points is interpreted as an improvement in recruiting eligible students to participate in the $21^{\text {st }}$ CCLC program.

## Program Participation Compared to Initial Service Projections

When $21^{\text {st }}$ CCLC grantees submitted their applications for funding, they estimated the number of students who would be served by their respective programs. The total number of students served by community learning centers during the 2003-04 school year surpassed the yearly targets established by the grantees (Figure 6). A total of 35,154 students were served during the 2003-04 school year—nine percent above the annual target. These findings suggest that the Cycle 1 - Year 1 grantees appear to have been successful in achieving their goal of serving the targeted number of student in at-risk situations during the grant period.

Figure 6. Projected Number of Students to be Served in 21st CCLC Programs and the Number of Students Actually Served, 2003-04 School Year


Source. Grantee Progress/Evaluation Reports (Student-Level Files) and Funded Grant Applications, Texas Education Agency, 2004.

## Student Participation by Program Activity

A different measure of program success is the proportion of students who regularly participated in a majority of available program activities. For the $21^{\text {st }}$ CCLC program, data were collected on the number and type of activities in which students participated, the number of program days attended, and the number of reading, mathematics, science, and social science tutorials in which students participated at a community learning center. It is expected that higher levels of participation in these various activities would contribute to improved student performance.

Table 4. Percent of Available Program Activities in which 21 ${ }^{\text {st }}$ CCLC Students Participated

| Percentage of Available Program Activities | Fall 2003 <br> Percent of Students | Spring 2004 <br> Percent of Students |
| :--- | :---: | :---: |
| 25 Percent or Less | $22.8 \%$ | $25.8 \%$ |
| 26 to 50 Percent | $26.8 \%$ | $20.9 \%$ |
| 51 to 75 Percent | $16.0 \%$ | $19.7 \%$ |
| More than 75 Percent | $34.4 \%$ | $33.6 \%$ |
| Total | $100 \%$ | $100 \%$ |

Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.

The highest percentage of students participated in more than 75 percent of available activities, with over one-third of fall 2003 and spring 2004 students ( 34 percent each semester) in this category (Table 4). The majority of students ( 50 percent in fall and 53 percent in spring) participated in 51 percent or more of the available activities at their community learning center.

Table 5. Percent of Available Program Days Attended by 21 ${ }^{\text {st }}$ CCLC Students, Spring 2004 Term Only

| Percentage of Available Program Days Attended by Students | Percent <br> of Students |
| :--- | :---: |
| 25 Percent or Less | $38.5 \%$ |
| 26 to 50 Percent | $18.1 \%$ |
| 51 to 75 Percent | $12.0 \%$ |
| More than 75 Percent | $31.4 \%$ |
| Total | $100 \%$ |

Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.
Note. Information on the number of program days attended by students in fall 2003 was not requested from grantees for the student-level data.

It seems logical to assume that the more $21^{\text {st }}$ CCLC program days a student attends, the more likely student performance would improve. Based on this reasoning, an effective program would encourage students to participate in as many program days as possible. Although a substantial proportion of the students ( 39 percent) attended a quarter or less of the available program days, over 43 percent of students attended 51 percent or more of available program days, and just under one-third ( 31 percent) attended more than 75 percent of available program days (Table 5).

Tutorials funded by the $21^{\text {st }}$ CCLC program focus explicitly on meeting student academic needs. Reading tutorials were the most popular among students in both the fall ( 50 percent) and the spring ( 50 percent) (Table 6). Mathematics tutorials were attended by a somewhat smaller percentage of students, with 44 percent of students in the fall and 48 percent of students in the spring participating in at least one mathematics tutorial. Science tutorials were less common, with only 16 percent and 21 percent of fall
and spring students, respectively, attending a science tutorial. Social studies tutorials were the least common type, with just 12 percent of students in the spring taking one of these tutorials. ${ }^{4}$

Table 6. Percent of All Students Who Attended at Least One $21^{\text {st }}$ CCLC Funded Tutorial, by Tutorial Subject Matter

| Tutorial <br> Subject Matter | Fall 2003 <br> Percent of Students | Spring 2004 <br> Percent of Students |
| :--- | :---: | :---: |
| Reading | $50.1 \%$ | $50.2 \%$ |
| Mathematics | $44.0 \%$ | $47.6 \%$ |
| Science | $16.1 \%$ | $21.4 \%$ |
| Social Studies | N/A | $12.1 \%$ |

Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.
Note. Information on participation in fall 2003 social studies tutorials was not requested from grantees for the student-level data.
The number of students taking at least one tutorial varied by semester and tutorial type:
fall reading tutorials $-\mathrm{N}=11,620$; fall mathematics tutorials $-\mathrm{N}=10,198$; fall science tutorials $-\mathrm{N}=3,729$;
spring reading tutorials $-\mathrm{N}=15,714$; spring mathematics tutorials $-\mathrm{N}=14,900$; spring science tutorials $-\mathrm{N}=6,692$;
spring social science tutorials $-\mathrm{N}=3,789$.

In fall 2003, approximately four out of every ten students attended the majority (i.e., 51 percent or more) of available reading ( 40 percent) and mathematics ( 37 percent) tutorials, while just over one-quarter of the students (28 percent) attended the majority of available science tutorials (Table 7). In the spring, student participation in regularly scheduled tutorials improved over fall 2003 rates of participation. In spring 2004, students attended more tutorials on average, with a higher percentage of students attending over 50 percent of available reading ( 46 percent), mathematics ( 42 percent) and science ( 48 percent) tutorials than in the fall. Approximately 56 percent attended a majority of available social studies tutorials. The greatest improvement was in science tutorial attendance, where in spring 2004, the proportion of students that attended over half of the tutorials rose by nearly 20 percentage points. Compared to fall 2003, attendance in spring 2004 reading tutorials increased by six percentage points and in mathematics tutorials by five percentage points.
${ }^{4}$ Data on social studies tutorials was not collected for the fall 2003 term.

Table 7. Percent of Available 21st CCLC Funded Tutorials Attended Per Student, Among Students Who Attended At Least One Tutorial

| Percentage of Available Tutorials <br> Attended | Fall 2003 <br> Percent of Students | Spring 2004 <br> Percent of Students |
| :--- | :---: | :---: |
| Reading Tutorials |  |  |
| 25 Percent or Less | $25.4 \%$ | $27.2 \%$ |
| 26 to 50 Percent | $34.9 \%$ | $27.2 \%$ |
| 51 to 75 Percent | $12.7 \%$ | $17.7 \%$ |
| More than 75 Percent | $27.1 \%$ | $28.0 \%$ |
| Total | $100.1 \%$ | $100.1 \%$ |
| Mathematics Tutorials | $28.0 \%$ | $31.3 \%$ |
| 25 Percent or Less | $34.6 \%$ | $26.6 \%$ |
| 26 to 50 Percent | $12.8 \%$ | $15.7 \%$ |
| 51 to 75 Percent | $24.5 \%$ | $26.4 \%$ |
| More than 75 Percent | $99.9 \%$ | $100.0 \%$ |
| Total | $28.4 \%$ | $28.1 \%$ |
| Science Tutorials | $43.6 \%$ | $24.4 \%$ |
| 25 Percent or Less | $9.2 \%$ | $22.1 \%$ |
| 26 to 50 Percent | $18.8 \%$ | $25.5 \%$ |
| 51 to 75 Percent | $100.0 \%$ | $100.1 \%$ |
| More than 75 Percent | N/A |  |
| Total | N/A | $32.2 \%$ |
| Social Studies Tutorials | N/A | $12.3 \%$ |
| 25 Percent or Less | N/A | $27.8 \%$ |
| 26 to 50 Percent | N/A | $27.7 \%$ |
| 51 to 75 Percent |  | $100.0 \%$ |
| More than 75 Percent |  |  |
| Total |  |  |

[^3]The $21^{\text {st }}$ CCLCs provide activities in foundation content areas (reading/language arts, mathematics, science, and social studies) and in areas of academic enrichment. Among the foundation content areas, in both fall 2003 and spring 2004, days with Reading/Language Arts (RLA) activities were the most commonly attended by students.

Table 8. Average Number of Program Days Attended for 21st CCLC Foundation Content Activities

| 21st CCLC Foundation Content Activity | Fall 2003 <br> Average Number of Days <br> Attended | Spring 2004 <br> Average Number of Days <br> Attended |
| :--- | :---: | :---: |
| Reading/Language Arts | 10.3 | 13.9 |
| Mathematics | 9.9 | 11.5 |
| Science | 9.3 | 7.3 |
| Social Studies | 8.9 | 6.1 |

Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.
Note. Grantees were not asked to provide data on the total number of days possible where instruction in Foundation Content activities was provided. The percentage of available days attended by students cannot be calculated accordingly.

Fall and spring students attended an average of 10 and 14 days, respectively, where RLA instruction was provided (Table 8). In spring 2004, an average of 4 more days of RLA instruction, and 2 more days of mathematics instruction, was provided to students than in the fall. By comparison, the average number of science and social studies days declined by 2 days and 3 days, respectively, between fall 2003 and spring 2004.

Among the areas of academic enrichment, students attended computer-based activities most often, with an average of 10 days of activities devoted to Learning Technology as a Tool to Accomplish Classroom Objectives, and 5 days of activities devoted to learning Technology Applications. Together, these comprise an average of 15 days where computer-based activities were attended by students. Days where sports activities were provided were the second most popular, with students attending an average of 10 days of such activities in the spring. Fine Arts activities were also popular, with students attending an average of 9 program days where such instruction was provided.

Table 9. Average Number of Program Days Attended in Which an Academic Enrichment Activity was Provided, Spring 2004

| Academic Enrichment <br> Activity | Average Number of 21 ${ }^{\text {st }}$ CCLC Days <br> Attended Per Student Where Academic <br> Enrichment Activity was Provided |
| :--- | :---: |
| Fine Arts | 8.5 |
| Sports | 9.9 |
| Youth Development | 4.7 |
| Language Acquisition for LEP Students | 4.2 |
| Learning Technology as a Tool to Accomplish Classroom Objectives | 9.7 |
| Technology Applications | 4.9 |
| Parent/Mentoring | 3.5 |
| Community Service | 1.4 |
| Service Learning | 1.2 |

Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.
Note. Information on the number of days students attended enrichment activities in fall 2003 was not collected from the grantees.

In summary, approximately one-third of students overall participated in more than 75 percent of available $21^{\text {st }}$ CCLC program activities and attended more than 75 percent of available program days. Nearly onehalf attended at least one reading or mathematics tutorial, with approximately one in five students or fewer taking a science or social studies tutorial. In the analyses to follow in Section IV, the percentage of available activities attended is a key variable used to explain student performance outcomes. As suggested by results reported in previously published research on the topic, the basic hypothesis for all of these analyses is that increased participation leads to higher levels of student performance.

## IV. Relationship between Program Participation and Student Performance Outcomes

As noted earlier, previous research has suggested that after-school programs have a positive impact on academic performance for students in at-risk situations. If true, it follows that the greater the number of $21^{\text {st }}$ CCLC program days attended, and the more tutorials and activities students in which students participate, the more students' grade performance and regular school day (RSD) attendance would improve. This section of the report examines whether a relationship exists between measures of student participation in $21^{\text {st }}$ CCLC activities and the following student outcome results:

- student performance as measured by pre- and post-tests administered at the $21^{\text {st }}$ CCLCs to students who enroll in reading, mathematics and science tutorials;
- the number of regular school day (RSD) classes passed;
- semester grades; and
- regular school day class attendance rates.


## Impact of Tutorials on Reading, Mathematics, and Science Abilities

The relationship between student participation in $21^{\text {st }}$ CCLC funded reading, mathematics and science tutorials and these students' reading, mathematics and science ability was assessed by the grantees by taking the difference between students’ pre- and post-program testing in the subjects of reading, mathematics, and science. Grantees reported data derived from a variety of instruments to assess student ability, including such tests as ITBS, Plato, Stanford 9 and 10, Texas Assessment of Knowledge and Skills (TAKS), and also by comparing student classroom grades before and after participation in the $21^{\text {st }}$ CCLC program. ${ }^{5}$

Although the results were mixed, the data suggest that as the number of $21^{\text {st }}$ CCLC funded tutorials that students attended during the 2003-04 school year increased, their post-test results were likely to rise. For example, less than-half ( 46 percent) of students who attended 25 percent or less of available tutorials showed improved reading ability at the end of the semester, compared to 64 percent of students who attended more than 75 percent of reading tutorials (Table 10). Conversely, 40 percent of the 21st CCLC participants who attended less than one quarter or less of the reading tutorials in fall 2003 experienced a decline in their reading ability, as measured by pre- and post-tests, compared to just 20 percent of students who attended more than 75 percent of the reading tutorials. Similar results were observed for reading in the spring 2004 term.

[^4]This evidence suggests that the degree of participation in reading tutorials appears to be associated with students' tested reading skills. Although it may seem unusual that students' reading ability could decline after participating in tutorials, one possible explanation is that there may be a high percentage of students with low reading skills taking $21^{\text {st }}$ CCLC funded tutorials. It is suggestive that a substantially lower percentage of students whose tested reading ability declined was found among those who took more than 75 percent of available reading tutorials, than among students who took 25 percent or fewer of available tutorials and whose tested reading ability declined. Despite the presence of students whose tested reading ability declined after taking a tutorial, the fact that a higher percentage of students participating in a majority of available tutorials improved their tested reading ability, and a lower percentage of these students declined in their tested ability, is indicative that the $21^{\text {st }}$ CCLC reading tutorials may be having the desired effect.

As more data become available, it will be possible to more thoroughly investigate the relationship between tutorial attendance and student performance. The most that can be said at this stage is that there appears to be an association between the number of reading tutorials taken and student performance, as indicated by high levels of reading tutorial participation being associated with higher percentages of students who improved in their tested reading ability, and lower percentages of students whose tested reading ability actually declined after participation.

Similar trends are evident for mathematics and science tutorials, but these differences are not as consistent as those described above for reading. In the fall, 41 percent of students who attended one quarter or less of the mathematics tutorials improved their tested mathematics abilities, compared to 62 percent of the students who attended more than three-fourths of the mathematics tutorials - a difference of more than 20 percentage points. This trend was much less evident in the spring, where 50 percent of those students attending one quarter or less of the mathematics tutorials improved their tested mathematics abilities versus only 56 percent of the students who attended more than 75 percent of the mathematics tutorials. This is a difference of only 6 percentage points. Likewise, among students whose tested mathematics ability declined in the spring, the difference between students who took more than 75 percent of the mathematics tutorials and those who took 25 percent or less was only 4 percentage points.

The impact on student performance in science was also inconsistent compared to the effect of reading tutorials, with significantly stronger results reported in the fall 2003 semester. In the fall 2003 term, only 47 percent of those attending one quarter or less of the science tutorials improved their science abilities, compared to 76 percent of those attending at least three quarters of the science tutorials. Positive results were observed in the spring 2004 term, but (like the mathematics tutorials) the impact was not nearly as profound. Additionally, participation in a higher percentage of science tutorials did not appear to have a relationship with a lower incidence of declining tested science abilities in the spring 2004 term, after showing promise in this regard during the fall 2003 semester.

It is unclear why the efficacy of spring 2004 mathematics and science tutorials may have been substantially lower than in fall 2003, and why students participating in the mathematics and science tutorials performed less well than students in the reading tutorials. Possible explanations for the former might include a higher proportion of spring 2004 students with low mathematics or science skills entering
the $21^{\text {st }}$ CCLC program for the first time, staff turnover, or changes to curriculum or instruction practices within the tutorials. Possible explanations for the latter may include the amount of resources devoted to reading instruction in regular school time, and the overall higher emphasis in regular school time on improving literacy among elementary school age children in at-risk situations. This outcome could also be related to differences between the quality of reading instruction and the quality of mathematics and science instruction in the community learning center.

Table 10. The Effect of Student Participation in $21^{\text {st }}$ CCLC Funded Tutorials on Students’ Reading, Mathematics, and Science Ability

| Percentage of Available <br> Tutorials Attended | Percent of Students With <br> Increased Tested Ability |  | Percent of Students With No <br> Change In Tested Ability |  | Percent of Students With <br> Decreased Tested Ability |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fall 2003 | Spring 2004 | Fall 2003 | Spring 2004 | Fall 2003 | Spring 2004 |
| Reading Tutorials |  |  |  |  |  |  |
| 25 Percent or Less | $46.0 \%$ | $48.6 \%$ | $13.7 \%$ | $6.4 \%$ | $40.3 \%$ | $45.0 \%$ |
| 26 to 50 Percent | $52.4 \%$ | $56.6 \%$ | $6.7 \%$ | $6.1 \%$ | $40.9 \%$ | $37.3 \%$ |
| 51 to 75 Percent | $54.2 \%$ | $55.0 \%$ | $11.3 \%$ | $3.3 \%$ | $34.6 \%$ | $41.7 \%$ |
| More Than 75 Percent | $63.6 \%$ | $62.4 \%$ | $16.1 \%$ | $6.1 \%$ | $20.3 \%$ | $31.5 \%$ |
| Total | $55.5 \%$ | $56.0 \%$ | $12.4 \%$ | $5.8 \%$ | $32.1 \%$ | $38.2 \%$ |
| Mathematics Tutorials |  |  |  |  |  |  |
| 25 Percent or Less | $40.7 \%$ | $50.1 \%$ | $14.0 \%$ | $7.4 \%$ | $45.2 \%$ | $42.5 \%$ |
| 26 to 50 Percent | $51.7 \%$ | $56.5 \%$ | $6.1 \%$ | $6.4 \%$ | $42.1 \%$ | $37.1 \%$ |
| 51 to 75 Percent | $55.9 \%$ | $55.2 \%$ | $11.8 \%$ | $3.9 \%$ | $32.3 \%$ | $40.8 \%$ |
| More Than 75 Percent | $62.1 \%$ | $56.2 \%$ | $11.6 \%$ | $5.4 \%$ | $26.3 \%$ | $38.4 \%$ |
| Total | $52.5 \%$ | $54.4 \%$ | $10.2 \%$ | $6.1 \%$ | $37.3 \%$ | $39.5 \%$ |
| Science Tutorials |  |  |  |  |  |  |
| 25 Percent or Less | $47.3 \%$ | $50.8 \%$ | $7.2 \%$ | $12.2 \%$ | $45.5 \%$ | $37.1 \%$ |
| 26 to 50 Percent | $33.3 \%$ | $59.0 \%$ | $7.1 \%$ | $4.4 \%$ | $59.5 \%$ | $36.6 \%$ |
| 51 to 75 Percent | $56.9 \%$ | $65.9 \%$ | $8.3 \%$ | $3.2 \%$ | $34.7 \%$ | $30.9 \%$ |
| More Than 75 Percent | $76.2 \%$ | $59.1 \%$ | $1.8 \%$ | $6.7 \%$ | $22.0 \%$ | $34.2 \%$ |
| Total | $55.6 \%$ | $57.0 \%$ | $5.9 \%$ | $7.7 \%$ | $38.5 \%$ | $35.3 \%$ |

Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.

A recent study of teacher training academies in Texas conducted for TEA found that reading-related teacher training had a more profound and consistent impact on student achievement results than mathrelated training. The impact of the Texas Mathematics Academy teacher training on Grade 5 student achievement results was significantly more positive at the middle school level than the elementary school level, where the majority of the $21^{\text {st }}$ CCLC population attends school. ${ }^{6}$ Further, the study found that student performance in mathematics is related to the content of mathematics instruction provided at different educational levels (Gibson Consulting Group, 2004). In particular, there was limited evidence of the use of differentiated instruction for groups of students by mathematics teachers. ${ }^{7}$ The study also

[^5]found that there appears to be a qualitative difference in the way mathematics instruction is provided at Texas elementary schools, as compared to middle and high schools, with an over-emphasis of pedagogical topics and under-emphasis of challenging mathematics at the elementary level. A majority of $21^{\text {st }}$ CCLC students during the 2003-2004 school year were in elementary school, suggesting that there may be a relationship between instructional methods used in the tutorials and student achievement outcomes. In light of this possibility, it would be interesting to examine and compare instructional strategies used in the $21^{\text {st }}$ CCLC reading, mathematics, and science tutorials to determine their relationship to student performance. It would also be interesting to determine whether it was the same students whose abilities improved or deteriorated across semesters. Due to data limitations, it is not possible to investigate these possibilities further among the Cycle 1 - Year 1 grantees.

To further investigate the relationship between tutorial attendance and student performance results, statistical tests were performed on the data. Table 11 presents the results of t-tests that examine the relationship between $21^{\text {st }}$ CCLC funded tutorial attendance and student academic assessment among students who took at least one tutorial. Only data from students who attended at least one tutorial were included in the analysis. Groups are divided between students who participated in at least half of the regularly scheduled tutorials and those who participated in less than 50 percent of the tutorials, and the percentage of students who improved their academic ability is compared. ${ }^{8}$

## Table 11. Percent of Students who Improved in Their Reading Ability, by Percentage of Available Tutorials Taken, Spring 2004

| Tutorial <br> Subject Matter | 50\% or More of Tutorials <br> Taken | Less than 50\% of <br> Tutorials Taken | Difference | t-value |
| :--- | :---: | :---: | :---: | :---: |
| Reading Assessment | $63.1 \%$ | $54.3 \%$ | $8.8 \%$ | 6.5 |
| Mathematics Assessment | $59.9 \%$ | $57.0 \%$ | $2.9 \%$ | 2.0 |
| Science Assessment | $65.0 \%$ | $63.6 \%$ | $1.4 \%$ | 0.5 |

Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.

The results indicate that a statistical association exists between $21^{\text {st }}$ CCLC funded tutorial attendance and student assessment results. Among students who participated in reading or mathematics tutorials, a higher percentage that participated in 50 percent or more of available tutorials than participated in less than 50 percent of tutorials improved in their academic ability. This difference is most pronounced for students who participating in reading tutorials (approximately 9.0 percent). The effect of tutorial attendance on students' reading and mathematics assessments is statistically significant, and in the expected direction (i.e., higher attendance rates associated with better testing results). ${ }^{9}$ The relationship between science tutorial attendance and student academic ability is not statistically significant.

[^6]The t-tests only examined the effect of one variable (tutorial attendance) on student assessment results, which begs the question: Would the effect of tutorial attendance still remain statistically significant if more variables are added to the mix?

Table 12 presents the results of a second statistical test that includes student demographic information as independent variables, along with the range of available reading, mathematics, and science tutorials in which a student may have participated. As in the previous models, only data from students who attended at least one tutorial were included in the equations. In each of the models the dependent variable is dichotomous in nature. That is, they take on only two values - whether students improved or did not improve in their academic ability as measured by assessment testing. The models seek to predict the occurrence of the 'event' of increased performance.

After controlling for demographic factors, there still appears to be a statistically significant relationship between tutorial participation and student assessment results, but primarily for the effects of participation in reading and science tutorials. These results must be interpreted in reference to the excluded participation category - students who participated in 25 percent or fewer of available tutorials. Thus, for students who participated in 26 percent to 50 percent, and 51 to 75 percent, of available reading tutorials, the odds of improving their academic ability were slightly higher (odds ratio=1.2, respectively) than for students in the reference category (Table 12). For students who participated in 76 percent or more of available tutorials, the odds of improvement were nearly twice as high (odds ratio=1.8) compared to students in the reference category. These relationships are highly statistically significant.

After controlling for demographic information, there does not appear to be a statistically significant relationship between mathematics tutorial attendance and student performance. Among students who participated in science tutorials, only those who participated in 26 percent to 50 percent, and 51 percent to 75 percent, of available tutorials showed statistically significant improvement in their science ability after controlling for demographic information. The results for these students indicate that the odds of improvement in science ability were nearly twice as high (odds ratio=1.7 and 1.9, respectively) than for students in the reference category. These results are statistically significant. There was no statistically significant difference in performance between students who participated in 76 percent or more of available science tutorials and students in the reference category.

Interestingly, it seems that a moderate level of participation in science tutorials may produce better results overall, as compared to participation in reading tutorials, where participation in all or most of the available reading tutorials seems to be associated with better results. This is a relationship that merits further investigation.

Overall, a statistical association exists between participation in reading and science tutorials and student performance. The relationship between participation in mathematics tutorials and student performance was not statistically significant at all. When combined with the results of the descriptive analysis, these findings suggest that participation in reading tutorials appears to have the most consistent positive effects. As noted earlier, the amount of resources devoted to reading instruction, and the overall higher emphasis
on improving literacy among elementary school age children, may explain why the effects of participation in reading tutorials were somewhat better. This possibility also merits further research.

Table 12. Effect of Demographic Factors and Participation in $21^{\text {st }}$ CCLC Funded Tutorials on Academic Skills Among Students who Took at Least One Tutorial

| Independent Variables (Predictors) | Improved <br> Reading Skills |  | Improved <br> Mathematics Skills |  | Improved <br> Science Skills |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Odds <br> Ratio | p | Odds <br> Ratio | p | Odds <br> Ratio | p |
|  | 0.9 | 0.58 | 1.0 | 0.81 | 0.7 | 0.55 |
| African American | 0.8 | 0.06 | 0.8 | 0.09 | 0.5 | 0.16 |
| Female | 0.8 | 0.00 | 1.0 | 0.79 | 1.3 | 0.07 |
| Middle School | 0.7 | 0.00 | 0.8 | 0.00 | 0.6 | 0.04 |
| High School |  |  |  |  |  |  |
| LEP | 1.7 | 0.00 | 0.9 | 0.28 | 0.9 | 0.81 |
| Econ. Disadvantaged | 1.0 | 0.99 | 1.1 | 0.27 | 0.8 | 0.67 |
| Attended 26\%-50\% of Tutorials | 1.2 | 0.01 | 1.0 | 0.57 | 1.7 | 0.05 |
| Attended 51\%-75\% of Tutorials | 1.2 | 0.05 | 1.0 | 0.68 | 1.9 | 0.01 |
| Attended 76\%-100\% of Tutorials | 1.8 | 0.00 | 1.0 | 0.59 | 1.1 | 0.54 |

Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.
Note. A p-value of .05 or less using a sample of this size establishes statistical significance. The parameters for High School were set to zero since this variable is collinear with other independent variables in the models. The number of observations per model is as follows: reading tutorial model ( $\mathrm{N}=4933$ ); mathematics tutorial model ( $\mathrm{N}=3937$ ); science tutorial model ( $\mathrm{N}=796$ ).

The most that can be said from this analysis is that there is a statistical association between $21^{\text {st }}$ CCLC funded reading and science tutorial attendance and student performance. The results of the t-tests and the descriptive analyses discussed earlier suggest that these relationships may be positive. But due to data limitations, the degree of improvement in test scores for the typical student in these academic subject areas cannot be determined for the Cycle 1 - Year 1 participants. Without the standardization provided by administering the same assessment instrument across all students, it is impossible to determine how much improvement in test scores is predicted by a 1 percent increase in tutorial participation rates. Despite this limitation, we can say that the tutorials do appear to increase the odds of improving reading and science ability. This is particularly apparent for the reading tutorials. But whether that would be an increase of 1 percent or 20 percent after tutorial attendance cannot be determined. It is incumbent on future grantees in the $21^{\text {st }}$ CCLC program to utilize the same assessment instrument so that the effect of tutorial attendance on student performance can be more precisely determined.

## Relationship between 21st CCLC Activities and Average Regular School Day Grades

In both fall 2003 and spring 2004, the average grade for all $21^{\text {st }}$ CCLC participants’ RSD classes was in the ' $B$ ' range (Table 13). ${ }^{10}$ In the fall, average grades were in the low ' $B$ ' range, with average grades in the spring improving to the high ' B ' range. Additionally, students who participated in a higher percentage of available activities had slightly higher average grades than students who participated in fewer activities. For example, in the fall students in the former category had an average grade value of 6.6, as compared to 6.3 for students participating in 25 percent or less of available activities. A similar trend is evident in the spring. It would be interesting to determine whether it was the same students whose grades improved in this manner, but such an analysis is currently not possible due to data limitations.

We cannot examine the degree to which individual student grades improved after participation in the $21^{\text {st }}$ CCLC program. These findings on grade performance are, therefore, best viewed as intriguing data that warrants further investigation. It may be that many students entering the program did so with a high prior grade point average. The high percentage of students who earned a ' $B$ ' grade average in both fall 2003 and spring 2004 is a concern given the purpose of the $21^{\text {st }}$ CCLC program to target at-risk students, including those who are struggling academically. If a majority of the students recruited to participate in the program during this first year of funding already had a high grade point average before entering the program, this may suggest a problem in grantee recruitment strategies.

Table 13. Average Student Semester Grade Performance among $21^{\text {st }}$ CCLC Participants

| Percentage of Available Activities | Fall 2003 <br> Average Grade | Spring 2004 <br> Average Grade |
| :--- | :---: | :---: |
| 25 Percent or Less | 6.3 | 7.0 |
| 26 to 50 Percent | 6.7 | 7.4 |
| 51 to 75 Percent | 6.6 | 7.3 |
| More Than 75 Percent | 6.6 | 7.5 |

Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.
Note. Average grade was determined by the grantees and recoded according to the following scheme: A: 8-9; B: 6-7; C: 4-5; D: 2-3; F: 1 .

## Relationship between 21st CCLC Activities and Passing Regular School Day Classes

There appears to be a relationship between the percentages of $21^{\text {st }}$ CCLC funded activities in which students participate and their regular school day (RSD) class passing rates at the end of the semester. Although the relationship is strongest in fall 2003 data, it exists to a lesser degree in the spring 2004 data (Table 14). Approximately 1 in 5 students (21 percent) who participated in one-fourth or less of the

[^7]available $21^{\text {st }}$ CCLC activities passed all of their classes that semester, compared to 39 percent of students who participated in more than three quarters of the available $21^{\text {st }}$ CCLC activities. Similarly, a simple majority of students who passed all of their classes in the spring participated in more than three-fourths of available activities. It is clear, however, that the relationship between $21^{\text {st }}$ CCLC program participation and RSD class passing rates is not nearly as strong as the relationship observed between tutorial attendance and improvement in subject-specific abilities. Especially as compared to the effect of participation in reading tutorials, these percentage differences in RSD class passing rates between students who participated in different percentages of available activities are much less pronounced. Also, similar to the effects of the mathematics and science tutorials, the association between participation in $21^{\text {st }}$ CCLC activities and the percentage of students who passed all of their classes was much stronger in fall 2003 than in spring 2004.

Table 14. Percent of Students Who Passed All of their Regular School Day Classes, by Percent of Available 21 ${ }^{\text {st }}$ CCLC Activities in Which Students Participated

| Percentage of Available Activities in <br> which Students Participated | Fall 2003 <br> Percent of Students | Spring 2004 <br> Percent of Students |
| :--- | :---: | :---: |
| 25 Percent or Less | $21.0 \%$ | $26.2 \%$ |
| 26 to 50 Percent | $23.6 \%$ | $22.5 \%$ |
| 51 to 75 Percent | $16.3 \%$ | $22.1 \%$ |
| More Than 75 Percent | $39.1 \%$ | $29.2 \%$ |
| Total | $100 \%$ | $100 \%$ |

Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.

## Relationship between 21st CCLC Activities and Regular School Day Attendance

Another critical factor related to student performance is regular school day class attendance. If participation in after-school activities improves overall student performance, then we might expect to find student absences declining as the percentage of $21^{\text {st }}$ CCLC funded activities that students attend increases.

As the data show, this may be the case for students who participated in $21^{\text {st }}$ CCLC funded activities during the 2003-04 school year. In fall 2003, nearly one-half ( 48 percent) of the students who participated in more than three quarters of available $21^{\text {st }}$ CCLC activities had fewer than five absences (Table 15). This is 25 percentage points higher than the next highest group of students in the fall, a substantial difference. These findings compare to about one-third ( 33 percent) of the students who participated in activities to the same degree in spring 2004, a difference of eight percentage points more than the next highest group of students in the spring.

Table 15. Percent of Students Who Were Absent Five Regular School Days or Less, by Percent of Available $21{ }^{\text {st }}$ CCLC Activities in Which Students Participated

| Percentage of Available Activities in <br> which Students Participated | Fall 2003 <br> Percent of Students <br> Absent 5 Days or Less | Spring 2004 <br> Percent of Students <br> Absent 5 Days or Less |
| :--- | :---: | :---: |
| 25 Percent or Less | $17.3 \%$ | $25.5 \%$ |
| 26 to 50 Percent | $22.9 \%$ | $20.7 \%$ |
| 51 to 75 Percent | $12.0 \%$ | $20.7 \%$ |
| More Than 75 Percent | $47.9 \%$ | $33.2 \%$ |
| Total | $100 \%$ | $100 \%$ |

Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.
Note. Percentages do not all sum to 100.0 due to rounding.

## Further Analysis of the Impact of 21st CCLC Participation on RSD Classes Passed, Average Semester Grades, and RSD Attendance

To further examine the relationship between participation in a majority of available program activities and average semester grades, percent classes passed, and the class attendance absence rate, t-tests were performed on the data. Student groups were divided into those who participated in 50 percent or more of available activities and those who participated in less than 50 percent of available activities. The results suggest that students who participated in at least half of available $21^{\text {st }}$ CCLC funded activities had better overall results than students who participated in a lower percentage of activities.

The mean semester grade for students who participated in 50 percent or more of the available program activities was similar to students who participated in less than 50 percent of available activities. For both groups, the mean semester grade was in the B range, with students participating in 50 percent or more of available activities having a slightly higher grade average (Table 16). Participation in a majority of $21^{\text {st }}$ CCLC funded activities does not appear to have had a substantial impact on grade performance, as compared to students who participated in fewer activities.

Students who participated in at least half of the available $21^{\text {st }}$ CCLC activities passed an average of 92.0 percent of their regular school day classes. Students who participated in less than half of available $21^{\text {st }}$ CCLC activities passed an average of 90.2 percent of their regular school day classes, a difference of 1.8 percentage points. Although small, this difference is statistically significant. There appears to be a statistical relationship between participation in a higher percentage of available community learning center activities and the number of regular school day classes passed.

Students who participated in 50 percent or more of the available $21^{\text {st }}$ CCLC activities were absent approximately two regular school days less in the spring term than students who participated in less than 50 percent of the available $21^{\text {st }}$ CCLC activities. This difference is highly statistically significant. There does appear to be a statistical relationship between increased participation in community learning center activities and student absences during the regular school day.

Table 16. Effect of Participation in a Majority of 21 ${ }^{\text {st }}$ CCLC Funded Activities on Various Measures of Student Performance, by Percent of Available Activities Participated In, Spring 2004

| Outcome | $\mathbf{5 0 \%}$ or More <br> of Activities | Less than $\mathbf{5 0 \%}$ of Activities | Difference | t-Value |
| :--- | :---: | :---: | :---: | :---: |
| Grade Average | 7.4 | 7.2 | 0.2 | 9.3 |
| Percent Classes Passed | 92.0 | 90.2 | 1.8 | 6.5 |
| Number of Regular School Day <br> Absences | 3.0 | 5.3 | 2.3 | 21.6 |

Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.

These findings suggest that program participation in $21^{\text {st }}$ CCLC funded activities may have had a positive impact on whether students would have higher average grades, pass all of their classes, or have fewer regular school day absences. But would these relationships still exist after controlling for important demographic variables?

A logistic regression analysis examines the effect of program participation on average grades, percent classes passed and the regular school day absence rate (Table 17). The models control for demographic information to see whether the relationships between participation and performance discussed above retain their statistical significance.

Even after controlling for demographic factors, the association between participation in $21^{\text {st }}$ CCLC funded activities and student performance seems to retain its statistical significance. The relationship between participation and average grade is in the expected direction, with higher levels of participation in available activities associated with higher RSD grades. ${ }^{11}$ The overall effect of participation, as measured by the odds ratio, is small, however. This is evident by the fact that the odds ratio for students who participated in 50-75 percent of available activities (1.3), and for students who participated in 75 percent or more of available activities (1.3), is only slightly higher than one. These results indicate that the odds of earning higher grades for the students in these categories were 1.3 times higher than for students in the reference category (those who participated in 25 percent or less of available activities). This narrow difference confirms what was seen in the descriptive analysis, where $21^{\text {st }}$ CCLC students had average grades in the ' $B$ ' range, despite the percentage of available activities in which they participated. There does not appear to be a particularly strong association between participation in $21^{\text {st }}$ CCLC activities and student average grades.

[^8]More robust results are evident for the relationship between program participation and student RSD class passing rates and the number of student RSD absences during the semester. The regression models for predicting the percentage of regular school day classes passed and student absences use dependent variables that are dichotomous (i.e., yes/no variables). That is, they seek to predict the occurrence of the 'events’ called All Classes Passed and No Absences. In both cases, higher levels of student participation predict these events' occurrence.

In both cases, the odds ratios for the defined participation categories are greater than one, indicating that participation in more than 25 percent of the available activities is associated with better results, as compared to students that participated in 25 percent or less of available activities. More concretely, for students who passed all of their RSD classes, the odds of doing so were the highest (odds ratio=1.6) if they participated in 51 to 75 percent of available activities.

Table 17. Effect of Demographic Factors and Participation in $21^{\text {st }}$ CCLC Funded Activities on Regular School Day Grades, Classes Passed, and Attendance

| Independent Variables (Predictors) | Average Grade |  | All Classes Passed |  | No Absences |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Odds <br> Ratio | $\mathbf{p}$ | Odds <br> Ratio | $\mathbf{p}$ | Odds <br> Ratio | $\mathbf{p}$ |
| Hispanic | .08 | 0.00 | 0.8 | 0.00 | 1.3 | 0.00 |
| African American | .06 | 0.00 | 0.6 | 0.00 | 1.0 | 0.43 |
| Female | 1.3 | 0.00 | 1.5 | 0.00 | 1.1 | 0.08 |
| Middle School | 0.7 | 0.00 | 0.7 | 0.00 | 0.8 | 0.00 |
| High School | 0.5 | 0.00 | 0.4 | 0.00 | 1.7 | 0.00 |
| LEP | 0.8 | 0.00 | 0.6 | 0.00 | 1.1 | 0.01 |
| Economically Disadvantaged | 0.8 | 0.00 | 0.8 | 0.00 | 1.4 | 0.10 |
| Attended 26\%-50\% of Activities | 1.3 | 0.00 | 1.3 | 0.00 | 1.4 | 0.00 |
| Attended 51\%-75\% of Tutorials | 1.0 | 0.52 | 1.6 | 0.00 | 1.4 | 0.00 |
| Attended 76\%-100\% of Tutorials | 1.3 | 0.00 | 1.2 | 0.00 | 1.1 | 0.01 |

Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.
Note. A p-value of .05 or less using a sample of this size establishes statistical significance. The number of observations per model is as follows: average grade model ( $\mathrm{N}=20,982$ ); all classes passed model ( $\mathrm{N}=17,737$ ); no absences model $(\mathrm{N}=22,353)$

The results were somewhat weaker, though still positive, for the number of student absences during the semester, where the odds of having no RSD absences were 1.4 times higher for students in the reference category. These relationships are statistically significant. In other words, higher levels of participation in available $21^{\text {st }}$ CCLC activities appear to be associated with student performance, as measured by whether students would pass all of their regular school day classes and end the semester with no regular school day absences.

It is interesting that the odds of improved student performance in percent classes passed and student absences were higher for moderate levels of participation, as compared to participating in 75 percent or more of available activities. These results differ from the effect of reading tutorial attendance on student academic ability, where participating in 75 percent or more of available tutorials was associated with better results, but are similar to the effects of participation in science tutorials. It does appear that in some cases, moderate levels of participation are associated with better results than participation in all or most of the available $21^{\text {st }}$ CCLC activities. This is a relationship that merits additional research.

In summary, these findings on the effects of program participation indicate that even after controlling for demographic differences among students, there is still a statistically significant association between participation in community learning activities and student performance. These results confirm earlier research findings and are an indication of the success Cycle 1, Year 1 grantees in Texas may have had in achieving one of the primary goals of the $21^{\text {st }}$ CCLC program (i.e., improving the academic performance of students participating in the program).

## V. Profile of 21st Century Community Learning Centers

Each of the 33 community learning centers funded by TEA for the 2003-04 school year provided detailed information related to the array of services and activities offered by the program. As Table 18 indicates, foundation content activities (reading/language arts, mathematics, science and social studies) accounted for nearly half of all activities ( 43 percent) in spring 2004. Given the primary purpose of the program to improve academic performance among students in at-risk situations, this result is not a surprise. Fine Arts and Sports accounted for another 29 percent of $21^{\text {st }}$ CCLC activities. Altogether, these comprise nearly three-fourths ( $73 \%$ ) of all $21^{\text {st }}$ CCLC activities offered to Texas students during the spring term.

Table 18. Distribution of $21^{\text {st }}$ CCLC Student Activities, Spring 2004

| Activity | Percent of Activities |
| :--- | :---: |
| Reading/Language Arts | $19.7 \%$ |
| Fine Arts | $16.1 \%$ |
| Sports | $13.3 \%$ |
| Mathematics | $13.0 \%$ |
| Technology Skills | $9.5 \%$ |
| Science | $6.3 \%$ |
| Youth Development | $5.9 \%$ |
| Mentoring | $4.3 \%$ |
| Social Studies | $4.1 \%$ |
| Limited English Proficient | $3.4 \%$ |
| Community Service | $1.1 \%$ |
| Other | $3.4 \%$ |
| Total | $100 \%$ |

Source. Grantee Progress/Evaluation Reports (Center-Level Activity Files), Texas Education Agency, 2004.

Activities funded by the $21^{\text {st }}$ CCLC program can be classified into required and elective (i.e., choice) activities, and activities that were conducted individually or in a group setting. For ease of reading and due to little variation in program content across semesters, the focus of this review is on the most recent term - spring 2004. A higher percentage of foundation content activities were required overall during the spring term, as compared to enrichment content activities. This is not surprising given the academic focus of the $21^{\text {st }}$ CCLC program generally (Table 19). Nearly two-thirds ( 63 percent) of mathematics activities offered at Texas $21^{\text {st }}$ CCLCs were required. Reading/Language Arts and Social Studies activities were fairly evenly split, with 56 percent and 47 percent of activities in these subject areas being required, respectively. Science comprised the lowest percentage ( 40 percent) of foundation content activities that were required.

Approximately one-half ( 51 percent) of the reading/language arts activities were offered individually. A majority of activities in mathematics ( 61 percent), science ( 69 percent), and social studies ( 72 percent) were offered only in a group setting. It would be interesting to determine the percentage of $21^{\text {st }}$ CCLC
funded reading tutorials that were offered individually, as compared to mathematics and science tutorials. The higher percentage of RLA activities offered individually suggests a possible link between this type of instruction and the superior student performance outcomes observed for students taking reading tutorials during the 2003-2004 school year. As already discussed, this could be a function of a greater degree of differentiated instruction used for RLA activities, as compared to mathematics and science activities (Gibson Consulting, 2004). This is a relationship that should be explored further in future studies. However, due to data limitations it is not possible to examine this hypothesis further.

Table 19. Classification of Foundation Content Activities, by Activity Type

| Activity Type | Reading/Language <br> Arts | Mathematics | Science | Social Studies |
| :--- | :---: | :---: | :---: | :---: |
| Required | $55.9 \%$ | $63.4 \%$ | $39.5 \%$ | $47.2 \%$ |
| Choice | $44.1 \%$ | $36.6 \%$ | $60.5 \%$ | $52.8 \%$ |
| Total | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ |
|  |  |  |  | $28.0 \%$ |
| Individual | $50.7 \%$ | $39.1 \%$ | $31.0 \%$ | $72.0 \%$ |
| Group | $49.3 \%$ | $60.9 \%$ | $69.0 \%$ | $100.0 \%$ |
| Total | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ |  |

Source. Grantee Progress/Evaluation Reports (Center-Level Activity Files), Texas Education Agency, 2004.

A substantially higher percentage of LEP-related ( 80 percent), technology skills ( 67 percent), and mentoring ( 47 percent) activities were required of $21^{\text {st }}$ CCLC students, as compared to other enrichment content areas (Table 20). Similarly, a higher percentage of LEP (43 percent) and technology skills (59 percent) activities were offered individually to students, as compared to activities in other enrichment content areas. Approximately three-fourths or more of the activities in these other areas were offered only in a group setting.

Table 20. Classification of Enrichment Content Activities, by Activity Type

| Activity <br> Type | Fine Arts | Sports | Youth <br> Developme <br> nt | LEP | Technology <br> Skills | Mentoring | Community <br> Service |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Required | $11.6 \%$ | $7.0 \%$ | $22.8 \%$ | $79.6 \%$ | $66.8 \%$ | $46.5 \%$ | $6.7 \%$ |
| Choice | $88.4 \%$ | $93.0 \%$ | $77.2 \%$ | $20.4 \%$ | $33.2 \%$ | $53.5 \%$ | $93.3 \%$ |
| Total | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ |
|  |  |  |  |  |  |  |  |
| Individual | $12.8 \%$ | $6.1 \%$ | $16.2 \%$ | $43.4 \%$ | $58.8 \%$ | $26.3 \%$ | $13.8 \%$ |
| Group | $87.2 \%$ | $93.9 \%$ | $83.8 \%$ | $56.6 \%$ | $41.2 \%$ | $73.7 \%$ | $86.2 \%$ |
| Total | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ |

Source. Grantee Progress/Evaluation Reports (Center-Level Activity Files), Texas Education Agency, 2004.

One of the most innovative facets of the $21^{\text {st }}$ CCLC program is its focus on providing services to both students and their families, including adult family members and young siblings. Based on USDE
guidelines, $21^{\text {st }}$ CCLC programs are only open to adults and young siblings who are family members of participating students. ${ }^{12}$ The purpose of these activities is primarily to support parental involvement and family literacy. Literacy classes for parents and other family members were most common, accounting for more than one-third ( 35 percent) of all activities. This is not surprising given the ethnic composition of students participating in $21^{\text {st }}$ CCLC activities (Table 21). As noted earlier, approximately two-thirds of all students participating in 2003-2004 were Hispanic. The comparatively high percentage of literacy classes among adult family member activities suggests that the parents of Hispanic students and adult family members are taking advantage of opportunities offered by the $21^{\text {st }}$ CCLC program to improve their English language skills. Activities designed to improve adult family members’ employability and job skills through GED preparation and computer skills training tied for the second most common program services/activities used by adult family members; GED Preparation and Technology Classes each account for another 17 percent of all activities. Combined with literacy classes, these activities account for more than two-thirds ( 69 percent) of all activities offered to adult family members in the $21^{\text {st }}$ CCLC program during the spring term.

Table 21. Distribution of $21^{\text {st }}$ CCLC Adult Family Member Activities, Spring 2004

| Activity | Percent of Activities |
| :--- | :---: |
| Literacy Classes | $34.5 \%$ |
| GED Preparation | $17.1 \%$ |
| Technology Classes | $17.1 \%$ |
| Parenting Skills | $15.8 \%$ |
| Job Training | $1.8 \%$ |
| Citizenship | $1.4 \%$ |
| Other | $12.2 \%$ |
| Total | $100 \%$ |

Source. Grantee Progress/Evaluation Reports (Center-Level Activity Files), Texas Education Agency, 2004.

Apart from technology classes, the vast majority of $21^{\text {st }}$ CCLC funded activities offered to adult family members were provided in a group setting (Table 22). Only for technology classes (45 percent) were a substantial proportion of activities offered to adults individually. None of the adult family member activities were classified as required.

[^9]Table 22. Classification of Adult Family Member Activities, by Activity Type

|  | Parenting <br> Skills | GED <br> Preparation | Literacy <br> Classes | Technology <br> Classes | Job <br> Training | Citizenship <br> Classes |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Individual | $23.2 \%$ | $26.8 \%$ | $24.0 \%$ | $45.1 \%$ | $13.3 \%$ | $16.7 \%$ |
| Group | $76.8 \%$ | $73.2 \%$ | $76.0 \%$ | $54.9 \%$ | $86.7 \%$ | $83.3 \%$ |
| Total | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ |

Source. Grantee Progress/Evaluation Reports (Center-Level Activity Files), Texas Education Agency, 2004.

Grantees were also required to provide data on activities that were offered to the younger siblings of student participants. Comparatively few of these activities statewide were classified as required for young sibling participants (Table 23). Nearly one-third (31 percent) of the pre-literacy classes were offered individually, while only 17 percent of the child care activities and none of the story time activities were provided individually.

Table 23. Classification of Young Sibling Activities, by Activity Type

|  | Childcare | Pre-Literacy Classes | Story time |
| :--- | :---: | :---: | :---: |
| Required | $2.1 \%$ | $6.5 \%$ | $11.4 \%$ |
| Choice | $97.9 \%$ | $93.5 \%$ | $88.6 \%$ |
| Total | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ |
|  |  |  | $0.0 \%$ |
| Individual | $16.5 \%$ | $30.6 \%$ | $100.0 \%$ |
| Group | $83.5 \%$ | $69.4 \%$ | $100.0 \%$ |
| Total | $100.0 \%$ | $100.0 \%$ |  |

Source. Grantee Progress/Evaluation Reports (Center-Level Activity Files), Texas Education Agency, 2004.

Grantees were also asked to provide data on the operations of their $21^{\text {st }}$ CCLCs, including days of the week and hours that services were provided to students and their families. As Figure 7 illustrates, slightly more than half ( 52 percent) of the $21^{\text {st }}$ CCLCs offered activities to students and their families on Mondays through Thursdays. Approximately one-third ( 31 percent) offered activities five days per week on Mondays through Fridays. Another 12 percent offered activities six days per week, including Saturdays, and the remainder ( 6 percent) offered activities at other times during the week.

On average, $21^{\text {st }}$ CCLCs provided services to students and their families for a few hours each day. Nearly two-thirds (65 percent) of the centers provided activities an average of 3 hours per day (Figure 8). Another 21 percent offered activities for only 2 hours per day on average, and nearly 14 percent offered activities for 4 or 5 hours per day. Only a very small percentage (less than 1 percent) offered activities for a single hour per day.

Figure 7. Weekly Schedule among $21{ }^{\text {st }}$ CCLCs, Spring 2004


Source. Grantee Progress/Evaluation Reports (Center-Level Activity Files), Texas Education Agency, 2004.

Figure 8. Average Daily Hours of Operation per 21st CCLC, Spring 2004


Source. Grantee Progress/Evaluation Reports (Center-Level Activity Files), Texas Education Agency, 2004.

On average, the typical $21^{\text {st }}$ CCLC provided services for 11 to 15 hours per week. Nearly two-thirds ( 60 percent) of the centers were in this category (Figure 9). Another 20 percent of the centers provided activities for 6 to 10 hours per week, or 16 to 20 hours per week, respectively. Only a small percentage of centers (less than 2 percent) were in operation for 2 to 5 hours per week.

Figure 9. Average Weekly Hours of Operation per 21st CCLC, Spring 2004


Source. Grantee Progress/Evaluation Reports (Center-Level Activity Files), Texas Education Agency, 2004.

## VI. Families and Family Members Served by the $\mathbf{2 1}{ }^{\text {st }}$ CCLC Program

Very few students had adult family members participating in community learning center programs. Only five percent of students participating in the $21^{\text {st }}$ CCLC program during the fall 2003 semester, and seven percent of spring $200421^{\text {st }}$ CCLC participants, had one or more adult family members participating in after school activities. In fall 2003, a total of 5,073 eligible adult family members were served by a community learning center and 8,188 eligible adults were served in spring 2004. Across both semesters, approximately 9 percent of eligible adults participated (Figure 10). This compares to approximately onethird of eligible students who were served during the 2003-2004 school year.

Figure 10. Percentage of Eligible Adult Family Members Served by 21st CCLC Programs


Source. Grantee Progress/Evaluation Reports (Program-Level Files), Texas Education Agency, 2004.

Of the 14,035 adult family members who were targeted for participation in $21^{\text {st }}$ CCLC activities during the 2003-2004 school year, 6,811 were actually served by the program (Figure 11). The program achieved 49 percent of the annual target, compared to student participation rates that were 9 percent above the annual target.

Approximately 14 percent of families who were eligible to participate in $21^{\text {st }}$ CCLC funded activities were actually served by a community learning center during the 2003-2004 school year (Figure 12). A total of 5,416 families were served by the program in fall 2003, and 7,801 families were served during the spring 2004 term.

Figure 11. Projected Number of Adult Family Members to be Served in 21st CCLC Programs and the Number of Adults Actually Served, 2003-2004 School Year


Source. Grantee Progress/Evaluation Reports (Program-Level Files), Texas Education Agency, 2004.

Figure 12. Percentage of Eligible Families Served by 21st CCLC Programs


Source. Grantee Progress/Evaluation Reports (Program-Level Files), Texas Education Agency, 2004.

The percentage of students' family members who participated in fall 2003 that returned to the program in spring 2004 was high among both adult family members and young siblings (Table 24). This was especially so among young siblings, nearly three-fourths of whom ( 73 percent) returned. Adult family members returned at a somewhat lower rate ( 66 percent), but the return rate was still high. The high return rates among adult family members and younger siblings may be reflective of the quality of program content and delivery by $21^{\text {st }}$ CCLC programs.

Table 24. Percentage of Family Members Who Participated in Fall 2003 21st CCLC Activities and Returned in Spring 2004

|  | Fall 2003, <br> New Program Participants | Spring 2004, <br> Returning Participants | Return Rate |
| :--- | :---: | :---: | :---: |
| Parents/Adult Family | 4,595 | 3,030 | 65.9 |
| Young Siblings | 357 | 261 | 73.1 |
| Total | 4,952 | 3,291 | 66.5 |

Source. Grantee Progress/Evaluation Reports (Program Certification Statement Files), Texas Education Agency, 2004.

An important factor to consider is the effect that family member participation in $21^{\text {st }}$ CCLC activities might have on student participation, particularly the participation of adult family members. An examination of the relationship revealed a very large difference between the participation rates of students with no adult family members in the program and students who have at least one adult family member attending after-school programs with them (Table 25). ${ }^{13}$

Table 25. Percentage of $21^{\text {st }}$ CCLC Funded Activities in Which Students Participated by Adult Family Member Participation

| \# of Adult | Percentage of Fall 2003 Activities in Which Students Participated |  |  |  | Percentage of Spring 2004 Activities in Which Students Participated |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Members Participating | 25 Percent or Less | 26 to 50 Percent | 51 to 75 Percent | 75 Percent or More | 25 Percent or Less | 26 to 50 <br> Percent | 51 to 75 Percent | 75 Percent or More |
| None | 22.2 | 26.1 | 16.2 | 35.5 | 27.6 | 20.7 | 19.4 | 32.4 |
| 1 or More | 5.6 | 7.7 | 8.0 | 78.7 | 7.6 | 10.3 | 24.7 | 57.4 |

Source. Grantee Progress/Evaluation Reports (Student-Level Data Files), Texas Education Agency, 2004.

More than three-fourths ( 79 percent) of fall $200321^{\text {st }}$ CCLC student enrollees with at least one adult family member in the program participated in 75 percent or more of available after school activities, compared to just 36 percent of students with no adult family members participating in the program. The difference is less pronounced among spring 2004 students, but the evidence is just as clear that adult family member participation contributes to increased student participation in $21^{\text {st }}$ CCLC activities. In

[^10]spring 2004, more than half (57 percent) of the students with at least one adult family members participated in 75 percent or more of available activities, compared to only 32 percent of students with no adult family members in the program.

This is not a surprising finding, but the size of these differences emphasizes how critical parental involvement is to student success in the 21st CCLC program. A comparison of the mean participation rate shows that students with at least one adult family member participating in center activities participate in an average of 21 percent more activities than students whose adult family members do not participate in the program (Table 26). This difference is highly statistically significant. If students do better by participating in a higher percentage of available center activities, they appear to be far more likely to participate in more activities if their parents or other adult family members are also involved with the program.

Table 26. Effect of Adult Family Member Participation on Student Participation in $21{ }^{\text {st }}$ CCLC Funded Activities, Spring 2004

| Outcome | At Least One <br> Adult Family <br> Member <br> Participating | No Family Members <br> Participating | Difference | t-value |
| :--- | :---: | :---: | :---: | :---: |
| Percentage of Available Activities <br> in which Students Participate | 74.3 | 53.5 | 20.8 | 25.4 |

Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.

These important findings suggest that increasing recruitment efforts among eligible adult family members would likely have the effect of increasing student participation and by extension, would likely have a positive impact on students' performance and attendance in regular school day classes. It is important to keep in mind that some non-participating parents are ineligible. As discussed earlier, the purpose of adult family member participation is to support parental involvement and family literacy; if adult family members have no need to improve their English language ability or complete their high school credential, they may not be eligible to participate in the program. Given that comparatively few eligible and targeted adult family members actually participated in $21^{\text {st }}$ CCLC programs, however, these findings suggest that an opportunity exists for more outreach and recruitment efforts among students’ adult family members.

## VII. Community Partners and Collaborators and Program Planning Activities Conducted

In 2003, the $78^{\text {th }}$ Texas Legislature passed additional support (Rider 66) for the $21^{\text {st }}$ CCLC program. Rider 66 specified that collaboration and cooperation among eligible campuses, community-based partners, non-profit/for profit organizations, and faith-based groups was to be a basic component of the $21^{\text {st }}$ CCLC program. The federal NCLB Act of 2001, which amended the $21^{\text {st }}$ CCLC's authorization legislation, mandated greater state and local flexibility in how funds are used by states to support higher academic achievement among youth in at-risk situations. Explicit strategies include facilitating greater involvement of local staff in program planning and implementation. Cycle 1 grantees were asked to provide information on the number of partners and collaborators already confirmed at the project's inception, the number of partners and collaborators added during the semester, and the number of meetings held that involved local staff, partners, and collaborators in planning, coordinating and implementing the $21^{\text {st }}$ CCLC program.

By the end of fall 2003, there were a total of 431 partners and collaborators helping the 32 Cycle 1 grantees to implement the $21^{\text {st }}$ CCLC program (Figure 13). By the end of spring 2004, there were a total of 562 community partners and collaborators, a 30 percent increase over the course of the school year. ${ }^{14}$

During the 2003-2004 school year, the $21^{\text {st }}$ CCLC projects constantly evolved as new partners and community-based collaborators joined the projects at various points in time. In fall 2003, 242 new partners and collaborators came on board, and 221 more joined the 33 grant projects in spring 2004 (Figure 14).

[^11]Figure 13. Total Number of Community-Based Partners and Collaborators on Board, by Semester


Source. Grantee Progress/Evaluation Reports (Program-Level Data Files), Texas Education Agency, 2004.

Figure 14. Total Number of Partners and Community-Based Collaborators Added During Each Semester During the 2003-2004 School Year


Source. Grantee Progress/Evaluation Reports (Program-Level Data Files), Texas Education Agency, 2004.

A significant degree of planning and preparation is necessary to effectively implement a quality afterschool program. Planning and meeting information reported by Cycle 1 grantees for their first year of operations reflect this fact. Over the duration of the 2003-2004 school year, there were a total of 2,029 meetings held by the 33 Texas $21^{\text {st }}$ CCLC grantees to plan, coordinate and implement the program, and nearly one-half ( 48 percent) of these meetings involved local staff and community-based partners working in collaboration to achieve the program's goals (Table 27). This finding indicates some progress towards meeting one of the primary goals of Rider 66. Another 48 percent of all meetings were for the purpose of coordinating and implementing the $21^{\text {st }}$ CCLC academic-based supplemental learning time program. Of these, the vast majority ( 96 percent) involved local and center staff, in keeping with the NCLB Act's mandates on increased local control.

Table 27. Total Number of Meetings Held to Plan, Coordinate, and Implement the 21st CCLC Program, Cycle 1, Year 1

| Meeting Type | Fall 2003 | Spring 2004 | Total |
| :--- | :---: | :---: | :---: |
| a) Total Number of Meetings Held to Plan, <br> Coordinate and Implement the Program | 931 | 1,098 | 2,029 |
| b) Total Number of Joint Meetings Held to Plan, <br> Coordinate and Implement the Program <br> Involving Local Staff and Partners | $\underline{441}$ | $\underline{527}$ | $\underline{968}$ |
| Joint Meetings as a Percentage of Total Meetings Held (b/a) | $47.4 \%$ | $48.0 \%$ | $47.7 \%$ |
| c) Total Number of Meetings Held to Implement <br> the Academic-Based Supplemental Learning <br> Time Program | $\underline{423}$ | $\underline{541}$ | $\underline{964}$ |
| Academic-Based Meetings as a Percentage of Total Meetings Held (c/a) | $45.4 \%$ | $49.3 \%$ | $47.5 \%$ |
| d) Total Number of Meetings Held to Implement <br> the Academic-Based Supplemental Learning <br> Time Program Involving Local and Center Staff | $\underline{420}$ | $\underline{503}$ | $\underline{923}$ |
| Academic Meetings Involving Local and Center Staff as a Percentage of <br> All Academic-Based Supplental Learning Time Program Meetings (d/c) | $99.3 \%$ | $93.0 \%$ | $95.7 \%$ |

Source. Grantee Progress/Evaluation Reports (Program-Level Data Files), Texas Education Agency, 2004.

## VIII. Teaching Staff and Volunteers Used to Implement the $\mathbf{2 1}^{\text {st }}$ CCLC Program

As stated, one of the fundamental goals of the program is to facilitate collaboration between program staff and members of the local community. The $21^{\text {st }}$ CCLC programs rely on both highly qualified teaching staff, some of whom work with program participants during the regular school day, and on volunteers to effectively deliver the academic enrichment services offered by the programs. In fall 2003, there were a total of 556 volunteers, 98 of whom (18 percent) were senior citizen volunteers (Figure 15). In spring 2004, a total of 861 volunteers were working at $21^{\text {st }}$ CCLC programs, and 176 were senior volunteers ( 20 percent).

Figure 15. Total Number of Volunteers Used to Implement 21st CCLC Activities


Source. Grantee Progress/Evaluation Reports (Program-Level Data Files), Texas Education Agency, 2004.

Another measure of program quality is the percentage of teachers on staff who are certified. As Figure 16 illustrates, the vast majority of teachers in the $21^{\text {st }}$ CCLC program was certified, whether in fall 2003 (83 percent) or spring 2004 ( 79 percent). The presence of a majority of teachers who are certified is one measure assumed to indicate the high quality of instruction that Texas students appear to be receiving in the $21^{\text {st }}$ CCLC program.

Figure 16. Percentage of $21{ }^{\text {st }}$ CCLC Teaching Staff Implementing Academic-Based Activities Who Are Certified


Source. Grantee Progress/Evaluation Reports (Program-Level Data Files), Texas Education Agency, 2004.

## IX. Concluding Observations

The $21^{\text {st }}$ CCLC program was designed to target school children in at-risk situations and offer after-school and extended time academic learning and enrichment activities to help them progress through the grade levels and graduate from high school in a timely manner. This evaluation report has described program activities and student demographics for the first cohort of Texas $21^{\text {st }}$ CCLC grantees (providing services during the 2003-2004 school year) and has provided an analysis of the student-level data reported by grantees. The goal of the evaluation was to determine whether the program is effectively serving students in at-risk situations, and whether those services and activities have had an impact on student achievement during the 2003-2004 school year.

Data provided by grantees show that the typical $2{ }^{\text {st }}$ CCLC student participant served during the 20032004 school year was Hispanic, economically-disadvantaged, and enrolled in Kindergarten through $5^{\text {th }}$ Grade. Approximately one-third were classified as limited English proficient (LEP). The presence of a large number of LEP students and the high percentage of students who were classified as economically disadvantaged (over 80 percent) is in keeping with one of the program's goals to target students in at-risk situations.

Texas 21st CCLC's focused most of their efforts on providing accelerated instruction and tutorials in basic academic skills - reading, mathematics, science and social studies - and on fine arts and sports activities. Together, these comprised nearly three-fourths ( 73 percent) of all activities offered to students statewide during the school year. These activities were also provided in settings where the vast majority of teaching staff were certified and where community involvement was evident (i.e., a large number of trained volunteers, collaborators and partners). The findings presented in this report support the notion that Texas $21^{\text {st }}$ CCLC grantees are adhering to the mandate of the program's authorizing legislation to provide high quality instruction with local flexibility and community involvement.

The most important findings derived from student-level data are the effects of program participation on various measures of student achievement. Reading and science tutorial attendance were shown to have a statistical association with students' academic skills. Although the results were somewhat mixed, there is evidence that the more tutorials students attended, the greater the likelihood their academic skills would improve. This trend was most noticeable among students participating in reading tutorials. However, the degree of test score improvement for the typical student participant could not be determined due to data limitations. Although the data show that tutorial attendance has a positive impact on student performance, the degree of improvement in test scores could be modest.

Participation in $21^{\text {st }}$ CCLC activities was also shown to have a statistical association with whether students would pass all of their regular school day classes and whether the number of students' regular school day absences would be low. There did not appear to be a clear relationship between participation and student average grades.

Students who participated in 25 percent or fewer of available activities generally did not perform as well in terms of percent classes passed and student absences as students who participated in a higher percentage of available activities. One interesting finding from these analyses is that in some cases, encouraging students to participate in 75 percent or more of available program activities may produce lower results than might otherwise be achieved by encouraging them to participate in a moderate level of activities. Students who participated in 26 to 75 percent of activities had better results on some performance measures than students who participated in 25 percent or less and 76 percent or more of available activities. It is unclear why this is so. Perhaps this is related to the possibility that students whose academic ability is below grade level or even deteriorating are the ones required to attend the most tutorials and program activities. This relationship should be investigated further in future analyses.

Another important finding is the positive impact that family participation appears to have on student performance in the $21^{\text {st }}$ CCLC program. In particular, it was found that students who had at least one family member participating participated in approximately 21 percent more student activities than students with no family members participating in the program. If increased levels of student participation in after school and extended time learning opportunities have a positive impact on performance, as the findings presented in this report suggest, then it follows that increasing family involvement in community learning center activities should be an important goal for program administrators.

The findings in this report on student performance should be viewed as a first step in the $21^{\text {st }}$ CCLC program's evaluation, given the early stage of data collection efforts. The relationship between program participation and student performance is complex, with many interrelated causal variables. For example, other factors to consider in future analyses might include the effect of a center's geographic location on participation and whether there are scheduling conflicts between $21^{\text {st }}$ CCLC activities and a community learning center's other programs. For instance, many centers are located at a school campus and have time constraints imposed by the regular school schedule. For each grant cycle, interim and year-end data will continue to be collected which will enable program evaluators to conduct longitudinal studies to track student participation and performance outcomes over time, allowing for better assessment of causal relationships. Future evaluation studies will be conducted longitudinally and, contingent on the availability of resources, could include case studies to provide greater depth. Control groups will also be included in the analysis to provide a more comprehensive examination of the effect of program participation on student academic achievement over time.

## Recommendations

The principle policy implications of this evaluation study are as follows:

1) the program is effectively serving a large and growing population of students in at-risk situations;
2) students who participated in a majority of community learning center activities were clearly more likely to improve their academic abilities overall; and
3) students who participated in program activities at the same time as one or more of their adult family members were more likely to participate in a majority of activities.

If there is a statistical association between program participation and improved student performance, as the results of this evaluation suggest may exist, then finding ways to increase student participation in $21^{\text {st }}$ CCLC activities and tutorials is an important goal. One way to increase levels of student participation in community learning center activities may be to increase family member participation. Approximately one-third of eligible students participated in the program during the 2003-2004 school year, resulting in program administrators exceeding the annual target established by the grantees at the beginning of the grant period by 9 percent. The results on adult family member participation are less stellar, however. As stated earlier, one of the more innovative aspects of the $21^{\text {st }}$ CCLC program is its simultaneous focus on students and their families to provide a more comprehensive approach to targeting students in at-risk situations with important academic learning and enrichment activities to help them improve academically and progress through the grade levels. Although family involvement in education has long been known as an important predictor of student success, there is little research that evaluates the impact of family participation in after school and extended time programs on student performance (Harvard Family Research Project, 2002b). Evaluation of $21^{\text {st }}$ CCLC programs is thus at the forefront of efforts to evaluate the effectiveness of family participation in after school programs on improving student performance.

At this early stage in the $21^{\text {st }}$ CCLC program's implementation, it is incumbent on future grantees to examine the obstacles to family participation and to increase efforts to persuade eligible families and adult family members to take advantage of the available opportunities at $21^{\text {st }}$ CCLC funded community learning centers. Improving family member recruitment strategies could be an important means to increase student participation and, by extension, lead to improved academic performance among the students in at-risk situations targeted by the $21^{\text {st }}$ CCLC program.

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[^0]:    ${ }^{1}$ A result is statistically significant if it is unlikely to have occurred by chance.

[^1]:    ${ }^{2}$ To learn more about the 21st Century Community Learning Centers program, see the following website: http://www.ed.gov/programs/21stcclc/index.html.

[^2]:    ${ }^{3}$ Due to graduation and other factors (e.g., eligibility), just 17 percent of 12 th grade students returned to the 21 st CCLC program in Spring 2004, following their fall 2003 participation.

[^3]:    Source. Grantee Progress/Evaluation Reports (Student-Level Files), Texas Education Agency, 2004.
    Note. Percentages do not all sum to 100 percent due to rounding. Information on participation in fall 2003 social studies tutorials was not requested from grantees on a student-level basis.

[^4]:    ${ }^{5}$ TAKS scores and classroom grades are general measures of student ability across time. They are not as useful as tests administered immediately before and after tutorial attendance to measure the effect of tutorials on student ability. As such, observations that reported TAKS scores and student grades as pre- and post- measures were excluded from the analyses to follow. After excluding these observations, a total of 2,013 fall students were tested in reading, 1,559 fall students were tested in mathematics, and 390 fall students were tested in science. A total of 7,954 spring students were tested in reading, 7,031 spring students were tested in mathematics, and 1,627 spring students were tested in science.

[^5]:    ${ }^{6}$ This may be due in part to the fact that Reading Academy training was funded for a longer period of time and reached a significantly larger population of teachers than the Math Academies.
    ${ }^{7}$ Differentiated instruction is defined as instruction that uses a wide repertoire of curricular and instructional methods to address the diverse needs, experiences, abilities and interests of students. It provides a blend of whole-class, group, and individual instruction. See the following website for more resources on differentiated instruction:
    http://www.ascd.org/portal/site/ascd/menuitem.3adeebc6736780dddeb3ffdb62108a0c/

[^6]:    ${ }^{8}$ As discussed, grantees used a variety of different instruments to assess student performance before and after tutorial attendance. Although the tests may have differed across students, for each student the same test was used to measure pre- and post-tutorial performance. To standardize the test results, the test result variable was reformulated to reflect two values only: 1 - academic ability improved, 2 - academic ability did not improve.
    ${ }^{9} \mathrm{~A}$ t-value of 1.96 or greater, or -1.96 or less on a sample of this size establishes statistical significance.

[^7]:    ${ }^{10}$ Grantees were asked to provide an average of each student's semester grades using the following numeric scheme: A: 1-2; B: 3-4; C: 5-6; D: 7-8; and F: 9. For the purposes of the analysis, this variable was recoded so that higher values are associated with higher grade averages. The new coding scheme is as follows: A: 8-9; B: 6-7; C: 4-5; D: 2-3; F: 1 .

[^8]:    ${ }^{11}$ For the model predicting students’ average grade performance, recall that higher values on this variable indicate a higher grade average. An association where higher levels of participation are associated with higher values on the recoded grade variable would indicate that higher levels of participation are associated with superior grade performance. In terms of the odds ratio, this would be reflected in a ratio of more than one. An odds ratio of less than one would indicate that higher levels of participation are associated with lower values on the grade variable, meaning more participation is associated with lower grade averages. Interpretation of the odds ratio in a logistic regression is not as straightforward when the dependent variable is not dichotomous. In this case, the odds ratio depicts the odds of having higher values on the grade variable associated with a higher percentage of participation in available activities.

[^9]:    ${ }^{12}$ For information on family member eligibility see U.S. Department of Education, 21st Century Community Learning Centers Non-Regulatory Guidance (February 2003), available at the following website: http://www.ed.gov/programs/21stcclc/guidance2003.pdf.

[^10]:    ${ }^{13}$ Very few grantees provided any information on the number of young siblings participating in the program. It would be interesting to determine whether a relationship exists between young sibling participation and student participation. This kind of analysis requires collecting data on young sibling participation from all of the grantees.

[^11]:    ${ }^{14}$ During the spring of 2004, one additional $21{ }^{\text {st }}$ CCLC grant was funded, raising the total number of Cycle 1 grantees to 33 .

