

# Using Data for Program Improvement

## Interpreting Your Data

In Part I of *Using Data for Program Improvement*, we talked about how to read data presented in various formats. In Part II, we discuss how to interpret data to understand what it says about your program's strengths and weaknesses. We also discuss possible explanations for your results and how to use the findings to develop a program improvement plan. Although we use data from Michigan's 21<sup>st</sup> Century Community Learning Centers (21<sup>st</sup> CCLC) program to illustrate the process of interpreting results and explaining findings, the analysis process would be appropriate for any program.



## KEY INDICATORS OF PROGRAM SUCCESS

### *Student Outcomes*

Ultimately, the success of your program will be evaluated based on how it benefits participants in the areas the program is intended to influence. Thus, the first step in evaluating your 21<sup>st</sup> CCLC program is to review indicators of student performance to determine whether your program is achieving its intended results.

One crucial question that any program needs to answer is, "Are you reaching the performance targets expected by your funding source?" Other important questions include: "Are children at your site performing as well as other students in the program?" "Is there evidence that your program is influencing student performance?" "Are some groups of students benefitting more than others?"

*Are you reaching the performance targets expected by your funding source? Are children at your site performing as well as other students in the program?*

The U.S. Department of Education, which funds the 21<sup>st</sup> CCLC program, sets targets for improved academic performance among students who attend 21<sup>st</sup> CCLC programs. These targets apply to six indicators of academic improvement: grades in reading and math, reading and math test scores (in Michigan, the MEAP), and teacher ratings of homework completion and classroom behavior. The federal target for percent of students who will improve is different for different indicators, and in general the percent who must improve increases from year to year. The targets apply only to students who attended the program regularly (at least 30 days in the program year).

The state evaluators calculate the percent of program participants who improved for each program site as well as across the whole state. Table 1 compares the percent of students showing improvement in reading and math



grades at a hypothetical site (Site A) with the federal performance targets and student improvement statewide. One row in the table applies to each indicator, so by reading across the row, you can compare Site A's performance with the federal targets and state performance. According to this table, Site A is:

- Not meeting the federal target for improvement in reading or math grades; neither is the state as a whole
- Performing better than the state overall in reading grades
- Not doing as well as the state overall in math grades

*Table 1: Percent of Regular Attendees Who Improved in Grades\**

<i>Outcome</i>	<i>Federal Target</i>	<i>Site A</i>	<i>Statewide</i>
Reading grades	55%	48%	46%
Math grades	48%	35%	39%

\*Percent of *all* regular attendees (those who attended at least 30 days) who improved at least a half grade in reading or math from fall to spring



In Section 2 of this brief, Explaining Your Findings, we discuss some possible explanations for these disappointing but not uncommon results.

*Is there evidence that your program is influencing student performance?*

This is a crucial question in justifying your program and identifying areas to target for improvement. However, the only solid evidence of program effects comes from an evaluation that compares outcomes of individuals who participated in the program to those of similar individuals who didn't participate (a comparison or control group). Since the Michigan 21<sup>st</sup> CCLC state evaluation does not use a comparison group, we can only compare students who participated more regularly with those who participated less regularly. If students who attended for more days had better outcomes than students who attended for fewer days, this comparison may suggest that the program worked—but it may only mean that students with better outcomes were more likely to attend the program regularly. Without a control group, we can't establish that the program, rather than any other factor, was responsible for any improved outcomes.

The 21<sup>st</sup> CCLC programs receive information from the state evaluators on the percent of regular and non-regular participants whose grades improved, were unchanged, or declined during the year. **Logically, if the program had an effect, those who attended regularly should have benefitted more** (even if we can't prove it without a control group). So if your program is having an effect:

- *More* regular attendees should show *improvement*
- *Fewer* regular attendees should show *declines*
- *Fewer* regular attendees or a similar number should show *no change*



Table 2a displays a situation in which the program is showing a positive effect on reading grades. As you can see:

- *More* regular than non-regular attendees *improved* (48% vs. 34%)
- Similar percentages of each showed *no change*
- *Fewer* regulars than non-regulars *declined* (25% vs. 37%)

*Table 2a. Changes in Reading Grades:  
Program Shows a Positive Effect*

<i>Outcome</i>	<i>% Regular* Attendees</i>	<i>% Non-regular Attendees</i>
Improved	48%	34%
No Change	27%	29%
Declined	25%	37%

\*Regular attendees were defined as those who attended at least 30 days.

Table 2b shows a situation in which the program did not appear to have a positive effect on math grades:

- *Similar percentages* of regular and non-regular attendees *improved* (32% vs. 34%)
- *More* regulars than non-regulars *declined* (45% vs. 38%)

*Table 2b. Change in Math Grades:  
Program Shows No Positive Effect*

<i>Outcome</i>	<i>% Regular* Attendees</i>	<i>% Non-regular Attendees</i>
Improved	32%	34%
No Change	23%	28%
Declined	45%	38%

\*Regular attendees were defined as those who attended at least 30 days.

*Are some groups of students benefitting more than others?*

Often we find that programs are more effective in helping some groups of students than others. Factors such as children's age, ethnicity, or whether the family speaks English at home may influence a program's effectiveness. Since the 21<sup>st</sup> CCLC programs are designed to help students in low-performing schools, it is particularly important to know if the program is helping students who were low achieving when they entered the program.

Table 3 compares the reading performance of academically at-risk students who attended regularly to the performance of those who attended less regularly. "At-risk" is defined as having a grade of 2.5 or less in the subject in the first marking period of the school year. For these students:

- More regular than non-regular attendees *improved* (53% vs. 36%)
- Similar percentages of each showed *no change*
- Fewer regulars than non-regulars *declined* (22% vs. 37%)

*Table 3. Change in Reading Grades for Academically "At-Risk" Attendees\**

<i>Outcome</i>	<i>% Regular** Attendees</i>	<i>% Non-regular Attendees</i>
Improved	53%	36%
No Change	25%	27%
Declined	22%	37%

\*At-risk was defined as fall semester reading grade less than 2.5.

\*\*Regular attendees were defined as those who attended at least 30 days.

Not only does this table suggest that the program may be helping these students, but if you compare it to Table 2a, you can see that more students in this group improved (53% vs. 48%) and fewer declined in reading. Thus, the program may be more effective for academically at-risk students than for students overall.

### *Participant Recruitment and Retention*

A program cannot be successful unless students participate regularly in activities that focus on achieving the intended outcomes. In addition, the program must recruit the types of students it is intended to help and ensure that they participate with sufficient intensity to benefit from the activities. Thus, it is important to look at data on program participation as well as outcomes when assessing the program's success.

Along with input from staff, data can help you answer implementation questions related to student participation such as:

- How successful were you in recruiting and retaining students?
- Were the students who participated representative of students in your school? Did you successfully recruit students of all ethnicities, boys and girls, students from all grade levels?
- Did you successfully recruit the groups of students you targeted (for example, academically at-risk students)?





For example, Site A wants to know if they were successful in recruiting and retaining academically at-risk students, who were one of their target populations. As Table 4 shows:

- Of their participants, 61% were considered academically at risk in reading and 66% were at risk in math
- Of those at risk in reading, 56% attended at least 30 days, as did 45% of those with low performance in math

*Table 4. Program Enrollment and Retention of Academically "At-Risk" Students\**

<i>Risk Criteria</i>	<i>% Enrolled out of All Students</i>	<i>% Who Attended at Least 30 Days out of All At-Risk Students</i>
Fall reading grade less than 2.5 OR did not pass MEAP reading	61%	56%
Fall math grade less than 2.5 OR did not pass MEAP math	66%	45%

\*At-risk was defined as fall semester reading grade less than 2.5.

Whether these numbers indicate success depends in part on the program's targets for recruitment and retention of academically at-risk students. However, it is clear that although they recruited similar numbers of students who were low performing in reading and math, they were somewhat less successful in retaining those at risk in math than those at risk in reading.

Some comparisons that may help you determine if your program is successful and where you might target your improvement efforts are:

- **Compare results for different types of participants.** Participant characteristics—in particular, gender, age, ethnicity, and previous academic performance—can affect willingness to participate in the program or the results of program participation.
- **Compare current results with those of previous years.** In the 21<sup>st</sup> CCLC program, you receive data about outcomes over several years. You can look at changes over time to see if your overall program results are improving, stable, or declining.
- **Compare results for different sites.** Higher-performing sites in the same program may be providing better programming, or the differences may be attributable to external factors, such as the support of the principal and teaching staff at different schools.
- **Compare outcomes for different service delivery strategies.** Factors such as the size of the group participating in an activity, how often the sessions meet, or the total number of hours students spend in academic activities can affect your results.



## EXPLAINING YOUR FINDINGS



Once you have interpreted data about your program outcomes and participation rates, the next step is to think of possible explanations for the results. By considering what might have caused those results, you can identify areas of your program that you can improve. Also, when you present data to outside sources, it is important to provide possible reasons for unexpected or negative findings and outline a clear plan for addressing the factors that you can influence.

### *Possible Explanations for Program Results*

Multiple factors may influence your ability to achieve your participation and performance targets, some of which are beyond your control. It is important to recognize these factors (and point them out to your funders!), but at the same time, you want to focus your planning on those things you can control.

#### *Factors external to the program*

Many things that are beyond the control of your program can influence outcomes. For example:

- School closings or consolidations scatter children to many other programs and disrupt their attendance or program start dates
- A new principal decides to de-emphasize recruiting children for the after-school program
- Plans to transport students home after the program fall apart because the district discontinues bus service to cut costs

#### *Factors internal to the program*

Factors within your program can also influence results. You can influence some of these factors by improving policies or practices. For example:

- High staff turnover disrupts programming
- You cannot find staff with the experience and qualifications needed
- Parents do not perceive the program to be helping their children
- Students do not regularly participate in activities that are most important for building academic skills, a central focus of your program

You probably will not have data to test all of the possible explanations for your results. However, if you discuss your results with staff, they may be able to provide insights and explanations to supplement what the data tell you.

## An Example of Using Data to Explain Results

Let's look at an example of how you can use data to explain your results and identify areas needing improvement.

Site A enrolls many students but few attend regularly. Although more regular than non-regular participants are improving in math and reading, Site A is not meeting federal targets for improvement.

From the data provided thus far, we know that:

- Regular attendees are improving
- ...but few students attend regularly
- ...and Site A is not meeting federal targets for improvement

These results suggest that the activities are appropriate to meet achievement goals, but something is keeping students from attending regularly. Parent and student satisfaction data may give you some clues as to why you are not achieving your retention or performance goals. For example, look at Table 5, which displays student responses about staff interactions at Site A.



*Table 5. Student Perceptions of Staff Interactions*

<i>Item</i>	<i>Percent*</i>
Staff make activities interesting and fun	25%
Staff punish kids without really knowing what happened	35%
I feel safe and comfortable	78%
Staff try to be fair	40%
Staff treat kids with respect	50%

\*Percent of grades 4-12 attendees who answered "A lot of the time" to the listed items.

This table tells us:

- Overall, most students feel safe and comfortable at this site
- Half (50%) feel staff treat them with respect and 40% think staff try to be fair
- One-third (35%) believe that discipline is arbitrary
- One-quarter (25%) think the activities are interesting and fun

These data, if corroborated by staff discussions, indicate staff are experiencing difficulty with classroom management and constructive discipline. Also, the program needs to reevaluate activities to make them more engaging for students.

## USING DATA TO IMPROVE YOUR PROGRAM



Regular review and discussion of program data with staff can help you develop better program improvement plans. Organizational learning should focus on identifying program strengths and areas needing improvement. Staff can pose possible explanations for the shortfalls and devise a plan to address those factors that the program can control. It is also important to acknowledge factors that are outside the control of the program but still influence the program's effectiveness.

Some possible uses for data in program improvement follow.

### *Provide Direction for Staff*

Good outcomes energize staff; less than optimal results can focus staff on aspects of the services that need more attention. For review, you can raise questions such as, "What have we done well and why?" "Where do we need to improve?"

**Problem:** The majority of participants have improved in math, but few have improved in reading, despite the fact that most participate in academic enrichment and homework help.

**Strategy:** Consider program changes in reading activities such as aligning activities with the school reading curriculum, connecting individually with the reading teachers of students who are not improving, and implementing a tutoring program for students who are behind grade level.

**Problem:** Attendance data show that few students attend math sessions and most students are not improving in their math grades.

**Strategy:** Plan to work on engaging students in math sessions by involving them in planning projects and by focusing more on projects that have embedded learning; work with the school to identify ideas for increasing math attendance.

### *Identify Training and Technical Assistance Needs*

Analysis of program data can indicate areas where staff and/or volunteers are having difficulties and may need more training or support.

**Problem:** Many students enroll but few attend regularly. Youth Program Quality Assessment (YPQA) data show that staff are stronger in providing a safe and supportive environment but score lower in interaction and engagement.

**Strategy:** Offer training in developing opportunities for student leadership and decision making to staff.

**Problem:** Participation and activity data indicate that few embedded learning activities are offered and few students participate.

**Strategy:** Offer training in how to design and implement embedded learning activities in their subject area to staff.



**Problem:** Students identified by their teachers as needing help in reading receive tutoring from college student volunteers. Students attend regularly but few are showing improvement.

**Strategy:** Have volunteer tutors receive pre-service training from a literacy tutoring organization and meet regularly with a supervising teacher to review progress and challenges.

## CONCLUSION

Data can help programs demonstrate their effectiveness as well as identify strengths and weaknesses. Data help you learn who participated in your program and whether they benefitted from their participation in the ways you had intended. It can also help you understand some of the reasons for the successes and shortcomings of the program. In combination with staff discussions, data can help you focus program improvement efforts on factors that will be most likely to improve program outcomes.



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