

Evaluation

Introduction

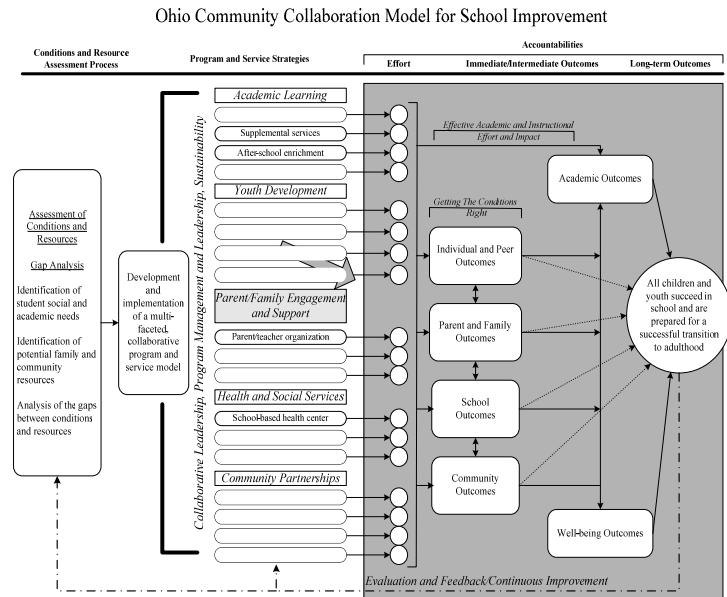
This chapter presents conceptual and technical information about the final component of the Ohio Community Collaboration Model for School Improvement (OCCMSI) – evaluation. We emphasize a comprehensive approach to evaluation because comprehensive school improvement requires comprehensive evaluation. In what follows, we offer our best advice about how a district or school can approach evaluation planning and implementation in a way that will increase the chances it will produce meaningful information (“data”) for continuous improvement.

In this chapter, we focus on processes and technologies that address the two major goals of any evaluation:

- The efficient collection and analysis of data about the delivery of programs and services to intended target groups and the *impact* of these programs and services on those targets; and
- The use of evaluation data to guide decision-making about the *improvement* of these programs and services.

The material in this chapter is anchored in two key concepts: data-based decision-making and continuous improvement. These two concepts and their relationship – data-based decision-making in service of continuous improvement – have influenced a great deal of thought, writing and policy-making in education (Bernhart, 1999; Johnson, 2002; Holcomb, 1999; Ohio Department of Education, 2000). These two concepts also are tied to another vital one: accountability for results (e.g., Doran, 2003).

Further, our approach has been influenced by action science (Argyris, 1985), the development of learning organizations (Argyris, 1999; Senge, 1990; Senge, et al., 2000), and empowerment evaluation (Fetterman, 2001). These concepts and perspectives all converge on the notion that accountability systems and evaluation strategies are intended to guide decisions and action.



Our approach to data-based decision-making started in the conditions, needs and resources assessment section of this guide. In that section, we described methods you can use to develop a list of conditions facing youth and families in your school community that are important to address in order to increase student achievement. We also described ways you can identify school and community resources available to help you address those key conditions. These data generated through your conditions and resources assessment are the foundation upon which you build your programs and partnerships.

This chapter links to and extends the conditions, needs and resources discussion. Your evaluation strategy will be aimed at assessing the extent to which you were successful in meaningfully addressing youth, family, school and community conditions.

In essence, the conditions you found in the conditions and resources assessment stage become desired outcomes you assess in the evaluation stage. The data you generate now through the evaluation of desired outcomes will in turn guide your future assessments of conditions and resources through an ever-evolving continuous improvement process.

As we have emphasized throughout this document, for the model to work, each component in the process must be planned and implemented with careful forethought. Evaluation is no different. In the next few sections, we identify tasks and activities necessary for you to undertake sound evaluations. Note that plural “evaluations” – it is a continuous process, not a once and then completed task.

The suggested tasks and activities are grounded in recommended evaluation practices (Worthen, et. al., 1997). Before that discussion, however, the following are pieces of general advice:

- Do not view evaluation as something tacked on at the back end; it starts when you start;
- Do not wait until the last minute to plan for evaluation - this is a classic mistake that usually results in questionable products; start early in evaluation planning;
- Do evaluation for the right reasons - it is the main way you will find out what you need to do to improve, it helps you learn as you improve and it is an essential management tool;
- Like all of continuous improvement, evaluation should be a team effort; collaborative leadership (discussed in a special chapter) also is needed with evaluation;
- Emphasize the fact that evaluation “closes the loop” in continuous improvement - it is where you get answers to key questions that will inform important decision processes; and
- Emphasize that evaluation paves the way for learning - the data it provides and the directions it signals enable individuals, groups and entire organizations to learn

Finally, we really do urge you to think comprehensively about evaluating school improvement. The current emphasis placed on state-mandated accountabilities – high-stakes tests, performance index scores and adequate yearly progress – actually serve to narrow the perception of what districts and schools do with and for students and families. In our approach to school improvement, we think that, in addition to academic progress, districts, schools and communities will be interested in evaluating efforts to impact youth development, to engage parents and families, to link and engage health and social services and to effectively engage community partnerships.

The empowerment perspective

There have been some recent advances in conceptualizing evaluation that are critically important to the evaluation of the comprehensive school improvement model presented in this document. Empowerment evaluation has emerged – both philosophically and practically – as a marriage between the idea that information is more valuable to people the more involved they are in its creation and the traditional tools and technologies of doing evaluations. Fetterman (2001) notes that empowerment evaluation uses evaluation concepts, techniques and findings for fostering improvement and self-determination. It has an unambiguous value orientation; it is designed to help people help themselves and improve their programs.

The importance of this perspective is shown in Table 10.1. These are “Principles of Empowerment Evaluation.” Please note how closely these principles fit with the overall school improvement philosophy and framework.

Table 10.1: Principles of empowerment evaluation*	
Principle and strategy	What this looks like
Improvement	<ul style="list-style-type: none"> • Programs help develop relationships and connections among youth and healthy adults • Evaluation focuses on making things better • Improvement is incremental or can include radical transformative change
Group ownership	<ul style="list-style-type: none"> • A group is in charge of the conceptual orientation and execution of the evaluation • In the context of school improvement, the group refers to the school and its community being in charge of the evaluation
Inclusion	<ul style="list-style-type: none"> • Critical stakeholders are invited to the evaluation table, particularly those that have been excluded • Key partnerships are developed through evaluation, much in line with the spirit of the school improvement model
Research supported practices	<ul style="list-style-type: none"> • Programs and services that have been found to be effective in other settings are used, thus enhancing the likelihood of change and effectiveness • Evidence-based practices, model programs and research supported principles are used, and their evaluation strategies are implemented
Capacity-building	<ul style="list-style-type: none"> • People learn how to conduct evaluations by actually conducting evaluations in practice • They learn the logic of evaluation, specific techniques and procedures and how to use evaluation to improve program performance

Table 10.1: Principles of empowerment evaluation*

Principle and strategy	What this looks like
Organizational learning	<ul style="list-style-type: none"> • Data is used for decision-making; it encourages inquiry and critical thinking and, optimally, leads to organizational learning and growth
Accountability	<ul style="list-style-type: none"> • Evaluation supports both internal and external accountability requirements

Empowerment evaluation has significant positive implications for schools working with the Ohio Community Collaboration Model for School Improvement. It represents an approach that helps develop ownership for the accountabilities implied by the model. It also helps build evaluation capacity in the school community by teaching various conceptual and technical skills. With an empowerment commitment, evaluation becomes an integrated component of the school improvement process and the school-community improvement process.

Developing a comprehensive evaluation strategy

In this section, we describe a process for evaluation planning that fits nicely within the model as shown in Figure 1.2. In the model, the entire right side deals with various types of accountabilities that are the focus of your evaluation efforts. Because the model you develop may be complicated, we urge you to work through the recommended steps carefully to make sure you collect the right data you need to inform decision-making.

Hopefully, one of things you will discover as you plan for evaluation is that much of the material we present throughout this implementation guide is designed to link to evaluation. As you work through each step you should be able to recognize where the prior planning and implementation work on your part will be helpful in the evaluation process.

A comprehensive evaluation strategy requires attention to five basic areas or steps:

- Construct good program models;
- Identify key accountabilities (develop evaluation questions);
- Identify data sources;
- Establish a data collection strategy; and
- Develop data management, analysis and reporting procedures.

These components actually build on each other in a logical flow. Good program models and key accountabilities will lead you to the data you need to collect and analyze. Once you have identified data needs, you can consider how often you need to do data collection and how you need to organize and store it. Finally, various key accountabilities will help you structure your analysis and reporting plan. Each of these areas is developed more fully below.

Step 1: Construct good program models

We have already discussed the fact that logic models are critical to the development of your programs and services. Carefully done, a logic model describes a pathway between an important condition faced by students (and/or their families) and the outcomes you hope to achieve by your program or service efforts. In addition, logic models are indispensable to evaluation because they identify what data needs to be collected, analyzed and linked to the continuous improvement process.

Examine the program/services overview chapter for more information on logic models.

Step 2: Identify key accountabilities

Simply defined, accountabilities are the things for which you are willing to be responsible. If you refer to our school improvement framework (Figure 10.1), you will note that we differentiate between two types of accountabilities: effort and outcome. *Effort accountabilities* refer to information that generally describes how programs and services have been implemented. These measures are sometimes referred to as output or process measures (Rossi & Freeman, 1993).

Outcome accountabilities, on the other hand, refer to how the people you serve have benefited from your programs and services. These accountabilities address potential positive changes or gains in knowledge, attitudes, intentions and behavior that students and families experience as a result of your effort.

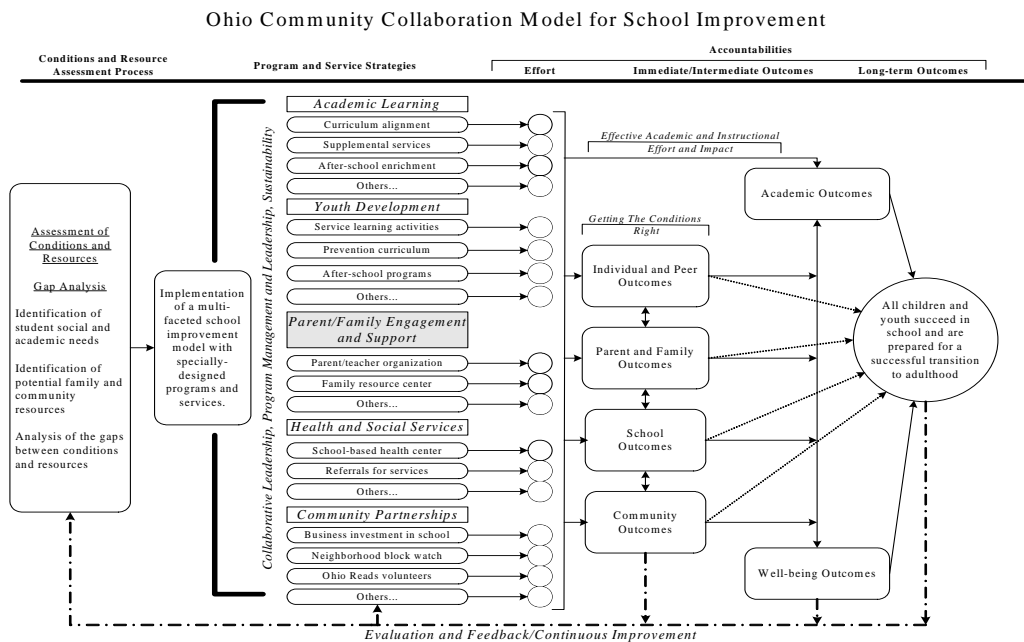


Figure 10.1: Ohio Community Collaboration Model for School Improvement

A balanced evaluation strategy needs to address both effort and outcomes. An analysis of effort provides a rich description of how a program or service actually was delivered to youth and and/or families. It provides details about how much service was provided, where it was provided, and, in some cases, how well it was received by people served. Effort, then, sets the context for understanding outcomes. By understanding context, you can tie outcomes to critical program or service ingredients that help you talk meaningfully about change mechanisms. Furthermore, you can determine the extent to which you can make sound conclusions and applications based on limited data (generalizability) and also judge whether the data justify replicating your work elsewhere.

Measuring effort

As noted above, measures of effort help you track and assess program or service implementation and operation. There are two dimensions of effort important to address: coverage and process. Program or service coverage describes the population served and the types and range of services provided. Process describes how students and families move through the system and experience the services provided.

One convenient way to think about effort measures is that they help you answer the following question(s):

- For coverage
 - Are we providing the right types and amounts of programs and services?
 - Are we providing the appropriate range of programs and services based on identified student and family needs?
 - What are the demographic characteristics of students and families served?
 - What proportion of student and families served complete their program and service experience and what are key characteristics of those who drop out?
 - Have we engaged necessary community partners based on identified student and family needs?
- For process
 - How do students and families enter our programs and services?
 - What actually happens to students and families in programs and services? Is what happens the intended experience?
 - Were multiple program and service experiences for students and families well coordinated?
 - Are program and service tasks being carried out on time and within budget?
 - Are there barriers to optimal performance by program and service staff that affects program operation and delivery?
 - How do students and families feel about the program or service? Do they feel their experience was positive? Was the location, time and setting for the program acceptable?

Answers to these questions – and others you may identify based on your own unique program models – help you understand the critical match between your program and service intention and your actual program action. In other words, they address the extent to which you have been faithful to what you have promised to do. The term used to characterize this match between intention and action is called program implementation fidelity. If you do not pay attention to implementation fidelity, you run the risk of letting your program efforts drift.

Effort measures are generally descriptive and may be expressed as volumes or amounts such as who was served (characteristics of students and families), how much (how much service did you provide to students and families), how many (how many students or families were provided services) and how often (how regularly were students and families provided services). See Table 10.2 for a sample of the types of data useful for assessing program and service effort.

Table 10.2: A sample of types of data useful for assessing effort

- Student and family demographic characteristics
 - Location
 - Race
 - Socio-economic status
- Student and family service use
 - Attendance
 - Types of services used
 - Amount of services used
- Referral sources
- Student and family satisfaction with services
 - Access
 - Availability
 - Professionalism
 - Appropriateness
 - Safety
- Staff characteristics
 - Credentials
 - Demographics
 - Experience
- Service activity
 - Type
 - Amount
 - Setting
- Service financial data (for cost/benefit analysis)

From: Royce & Thyer, 1999

Finally, we would like to underscore the importance of understanding your program and service effort. Scheirer (1994) identifies four major roles for process and effort evaluation:

- Effort measures provide feedback on the quality of ongoing service delivery - information that can stimulate greater effort to make the program consistent with what was intended in the planning process (implementation fidelity);
- Effort data can provide feedback about who is receiving program services and to what extent, allowing program managers to assess whether the program is reaching its intended target (the right people are getting services);
- Effort evaluation increases knowledge of what program components contribute to outcomes, enabling program managers to design more effective future programs (true test of the intended program); and
- Effort evaluation aids in understanding how programs can be successfully implemented in other settings (generalizability).

Measuring outcomes

Once you adopt the OCCMSI, you have invested heavily in the evaluation of outcomes. As you know by now, this model emphasizes both intermediate and long-term outcomes as well as research-supported policies and practices for achieving them. Here, you are learning about your responsibilities and opportunities to evaluate in relation to these outcomes, enabling continuous learning and improvement.

You will see in the model (Figure 10.1) there are various boxes devoted to student and family outcomes, and there are arrows connecting these outcomes in important ways. These arrows are important because they imply a set of key connections between the various outcome types. In this section, we will discuss various types of outcomes and the important links between them.

It is important to start this discussion by focusing on the far right on the model. In the circle under long-term outcomes we define the over-arching outcomes to which all other outcomes point. These outcomes – that all children and youth succeed in school and are prepared for a successful transition to adulthood – are two of a set of outcomes established by the Ohio Family and Children First Initiative and are targeted as final goals for schools in Ohio. These outcomes are referred to as Ohio’s Commitments to Child Well-Being and have been at the core of child policy direction in various state agencies for a number of years.

Further, this set of outcomes form crucial long-term accountabilities for Ohio’s educational system. Many of the state-mandated education measures attach to these broad child well-being goals. The fact they are driving other state and local policy and program direction is welcome to our model. It means we are beginning to harness the attention and energy of other key partners and stakeholders who have a vested interest in our success in these areas.

**Table 10.3: Ohio Commitments to Child Well-Being
(with selected school indicators)**

<p>Children and youth succeed in school</p> <ul style="list-style-type: none"> • Annual % of students passing the fourth grade reading proficiency test • Annual % of students who have a 95 percent attendance rate or better • Annual % of students who graduate from high school • Annual % of students who report parental involvement with their education <p>Youth successfully transition into adulthood</p> <ul style="list-style-type: none"> • Annual % of high school graduates who continue their education • Annual % of employed young adults • Annual % of youth who did not graduate from high school earning the GED through age 20

The importance of these long-term outcomes in the model is clear. They are the outcomes to which all others point, including parents, school board members and both state and governmental officials.

Please notice the different kinds of arrows; each kind has a special purpose. The solid arrows indicate a direct contribution to long-term outcomes by other outcome types. For example, in this model two areas make that direct contribution – academic outcomes and well-being outcomes. The dotted lines indicate an important but indirect contribution to long-term outcomes. In the model, you can see that individual and peer outcomes, parent and family outcomes, school outcomes and community outcomes make direct contributions to academic outcomes and well-being outcomes and, also, make indirect contributions to the long-term outcomes.

The boxes that correspond to the various program strategies represent the immediate and intermediate outcomes associated with the services you develop in those areas. Outcome measures are sometimes differentiated by level; for example, your program efforts may be designed to have initial or immediate effects and intermediate effects. The difference between these levels is:

- Initial impacts or outcomes are the first benefits or changes experienced by program participants and are the ones most closely related to and influenced by the program’s outputs (often, initial outcomes are changes in participant’s knowledge, attitudes or skills); and
- Intermediate impacts or outcomes link a program’s initial outcomes to the longer-term outcomes it desires for participants and are often sustained changes in behavior that result from participant’s new knowledge, attitudes or skills (United Way of America, 1996).

As we discussed above, long-term impacts or outcomes are the ultimate outcomes a program desires to achieve for its participants. They are generally measured at the school, district or the community level where they are tracked over time to assess trends.

It is important to understand not all outcomes are intrinsically immediate, intermediate or long-term. An intermediate outcome for one program may be long-term for another. In fact, you may design programs that do not have all three levels of outcomes.

If you have developed logic models for the services you intend to provide, the immediate and intermediate boxes for each should be filled out. These accountabilities are program specific and will flow logically from conditions addressed and program intent. The link between conditions addressed by your program and outcomes is important to stress once again. In Table 10.4, we present a sample of potential program outcomes that come directly from the list conditions presented in Table 2.1 of the ‘Getting Started’ chapter.

Table 10.4: A sample of potential program outcomes (i.e., conditions you desire)
Academic outcomes
<ul style="list-style-type: none"> Students perform at grade level Students attend school regularly and on time Students have a 93 percent attendance rate or better Students entering ninth grade graduate from high school Students with disabilities spend more time in general classes High school graduates continue their education Young adults are employed Students are prepared to enter a career Students are not expelled or involuntarily removed from school due to disciplinary reasons Students are not suspended from normal instructional school activities due to discipline reasons Students do not have in-school suspensions, Saturday school assignments, and other disciplinary actions
Individual and peer behaviors and attitudes
<ul style="list-style-type: none"> Youth experience a sense of belonging to pro-social institutions or groups (i.e., faith-based organizations, youth organizations, etc.) Youth have social competence, self-esteem and self-confidence Youth have effective social and life skills Youth associate with pro-social peer groups Youth have strong relationships with caring adult role models Youth have values for honesty, integrity, caring and responsibility Youth have a sense of purpose; feel personal control and are empowered Youth are easy going, flexible and have a sense of humor Youth feel safe and secure Youth have positive mental and physical health Youth do not have potential or identified learning disabilities Youth have their basic needs met (i.e., food, shelter, etc.) Youth have opportunities for skill-building and learning via participation in pro-social activities (i.e., vocational experiences, extracurricular activities, hobbies, etc.) Youth display pro-social behaviors (i.e., are substance free, abstain from gang involvement and sexual activity, etc.)
School conditions
<ul style="list-style-type: none"> Schools offer opportunities for students to be involved in pro-social activities Schools and their staff reinforce student involvement in pro-social activities Schools have positive climates Schools have high expectations for students Teachers and school staff are well trained and supported Facilities are safe and conducive to learning Teachers, students and school staff are committed to the school Relationships are strong among teachers and students Schools are bully-free

**Table 10.4: A sample of potential program outcomes
(i.e., conditions you desire)**

Family
<p>Families have their basic needs met (i.e., food, shelter, clothing) Parents and/or caregivers are well educated and have English proficiency Parents and/or caregivers have stable employment Family child care needs are met Families and parents and/or caregivers have functional management styles and communication patterns Parents and/or caregivers are engaged in their children's schooling Families are not experiencing grief and/or loss Family members engage in pro-social behaviors presently and in the past Parents and other family members have positive mental health histories Families offer opportunities for children to be involved in pro-social activities Families reinforce children's involvement in pro-social activities</p>
Community conditions
<p>Residency and housing in the community is relatively stable (low mobility rates) Communities have laws and norms that reinforce pro-social behaviors Communities are substance- and gang-free Communities have accessible, quality services and supports available for families Residents and other stakeholders feel a sense of attachment to the community Communities are stable and supportive of families Communities have informal social support networks embedded within their infrastructures Communities provide opportunities for youth involvement in pro-social activities Communities reinforce youth involvement in pro-social activities Communities see youth as valuable assets Communities have high expectations for youth</p>

One way to organize your evaluation of these outcomes is to develop the set of questions you seek to answer through your evaluation strategy. These questions could include, for example:

For students:

- Are we positively impacting academic skills and learning?
- Are we positively impacting academic achievement?
- Are we positively impacting student's sense of connection to school?
- Are we positively impacting social development?
- Are we positively impacting healthy development?

For parents and families:

- Are we increasing parental interest and participation in the academic lives of students?
- Are we supporting good education, health and social outcomes for entire families?

For community partners:

- Are community partners emphasizing academic achievement outcomes?
- Are we positively impacting community partner attitudes towards and commitments to schools?

Finally, we would like to underscore the importance of understanding the outcomes of your program and service effort:

- Outcomes are at the heart of your program’s effort and intention;
- Outcome data can be used in programs to inform students and families about their progress (clinical use);
- Outcome feedback will inform the process of program direction and improvement; and
- Tying outcomes to program financial data will lead to important cost-benefit assessments.

Step 3: Developing data sources

The data you need to gather to address your various key effort and outcome questions will come from a variety of sources. It is helpful to identify those sources early in the data strategy design process and to establish procedures and protocols that will provide data to you in a format you can use. It is especially important that you map key questions and data sources to ensure you do not have gaps. Table 10.5 presents such a map.

Table 10.5: Example key questions and potential data sources	
Question	Data source
Are we serving the right students?	Program records, student demographics
Are we providing the right types and amounts of programs and services?	Program records
Are we involving parents and families?	Program records, parent survey and/or focus group
Are we supported by important community partners?	Program records, community survey and/or focus group
Do students think we are doing services in a quality way?	Student survey and/or focus group
Do classroom teachers and school staff think we are doing services in a quality way?	Teacher and school staff survey and/or focus group
Do parents and family members think we are doing services in a quality way?	Parent survey and/or focus group
Do community partners think we are doing services in a quality way?	Community partner survey and/or focus group
Are we positively impacting academic skills and proficiency?	Program records, school records, EMIS, observation
Are we positively impacting social development?	Program records, classroom teacher survey, EMIS, parent survey, observation
Are we increasing parental interest and participation in the academic lives of students?	Parent survey, student survey, home visits, observation
Are we positively impacting community partner attitudes towards and commitments to schools?	Community survey, community visits, observation

Examine the conditions and resources assessment chapter for more on potential data sources.

In many instances, one data collection effort can answer a series of key questions. For example, a well-designed parent survey could realistically include questions about their engagement in the program, perceived program quality and the academic and social progress of their child as a result of the program.

Not all data sources are created equal, however. There are trade-offs you need to consider as you structure your strategy. To highlight, Table 10.6 presents some strengths and issues/weaknesses of various data sources.

Table 10.6. Things to consider about data sources		
Data source	Strengths	Issues/Weaknesses
School records	Gets you critical information about student performance and behavior during the school day	Can be difficult to get; may be inconsistent by teacher or school
Education Management Information System (EMIS)	Gets you critical information about student performance and behavior on a standardized format	May be difficult to access; may not be timely or at least may not fit your time frames; data may not be in a usable format
Surveys (student, parent, teacher, school staff, community partner)	Provide broad coverage about topics of interest; can usually be done economically	Require attention to distribution and follow-up for non-respondents; require data management and analysis skills
Focus groups (student, parent, teacher, school staff, community partner)	Gives you more personalized information about program	Coverage is not as broad as survey; require qualitative data analysis skills
Visits and observation (home, school, community partner)	Information is collected and processed in a natural context; collects information and encourages communication and dialogue	Narrow coverage that may be biased; requires qualitative data analysis skills

Step 4: Deciding when to collect evaluation data

Once you have established what data you intend to collect and how you are going to collect it, you then need to decide when or how often you will collect evaluation data. There are two basic ways to think about this “when” question:

- *One-time only data collection* – some data, like student or family demographics, need to be collected only once since it is not data that typically changes over time (referred to as cross-sectional data); and
- *Multiple time data collection* – some data like student academic and social progress should be collected at various time points through the course of the program since it is data you expect to change as a result of your efforts (referred to as longitudinal or time-series data).

The importance of thinking about regular, multiple data collection through the program time frame should not be under-estimated. These longitudinal looks at critical effort and outcome measures form the basis of data-based decision-making (these data also are called formative data because they help to guide program content and direction over time). Further, in the areas of social and academic progress, longitudinal data help you follow student development and learning trajectories that provide key information to program staff as they construct individualized plans for each student.

This time-ordered, multiple-measure data strategy for individual students has been popularized in education under the name of value-added education (Doran, 2003). Value-added education has a simple premise. You assess where a student – or a family, for that matter – is starting and you design programs and services intended to make sure that student makes progress from that starting point.

Figure 10.2 shows how a value-added trajectory looks. The y-axis represents scores on a measure of the area addressed in the value-added effort. It can be an educational area such as reading or mathematics, or it could be an area of youth development like developing social skills. The x-axis is a measure of the interval of time measures will be taken. It can be at any interval depending on the objective of the value-added effort. For an intensive effort, it may be daily or for a less intensive effort it may be based on a grading period or quarterly.

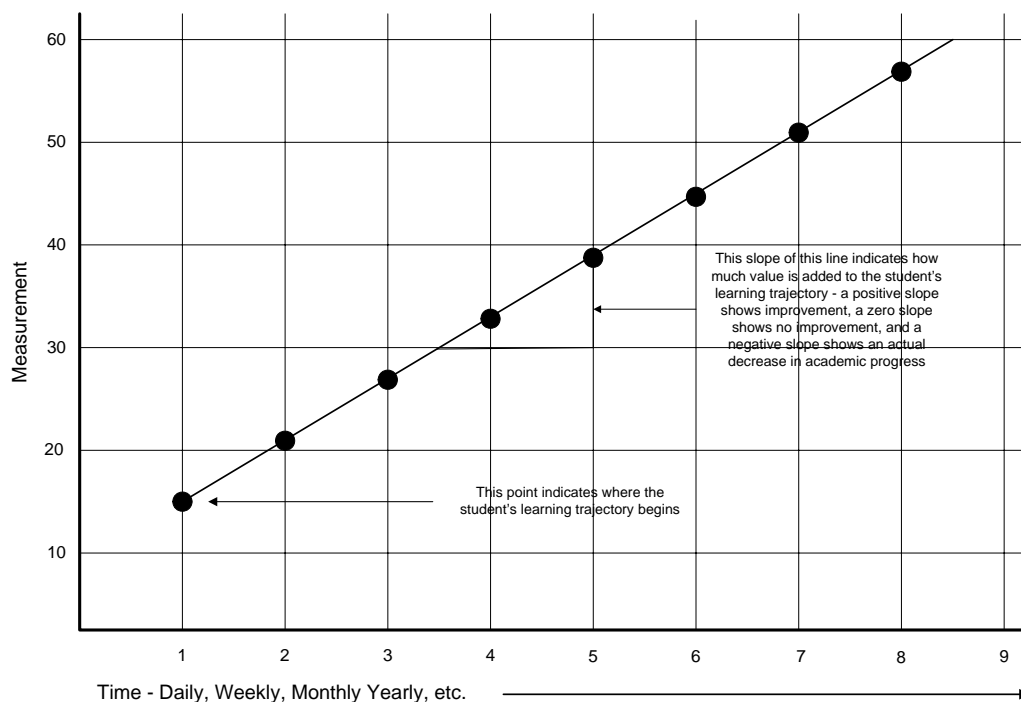


Figure 10.2: Value-added trajectories

The initial data point represents the starting point on the measure of interest. It is a comparison point for the trajectory. In value-added education, we expect the line to increase. The slope of the line indicates how much value we are adding for the student. An up-sloping steep line shows considerable value added. A horizontal line would indicate we are not adding any value for the student. Finally, a downward sloping line suggests the student is actually declining in the measure of interest.

Figure 10.3 shows a set of trajectories for a class of students. The measure in this example is oral reading fluency and it is expressed as the correct number of words read in one minute from a grade-appropriate reading passage. The trajectories are based on three measures taken in the fall, winter and spring.

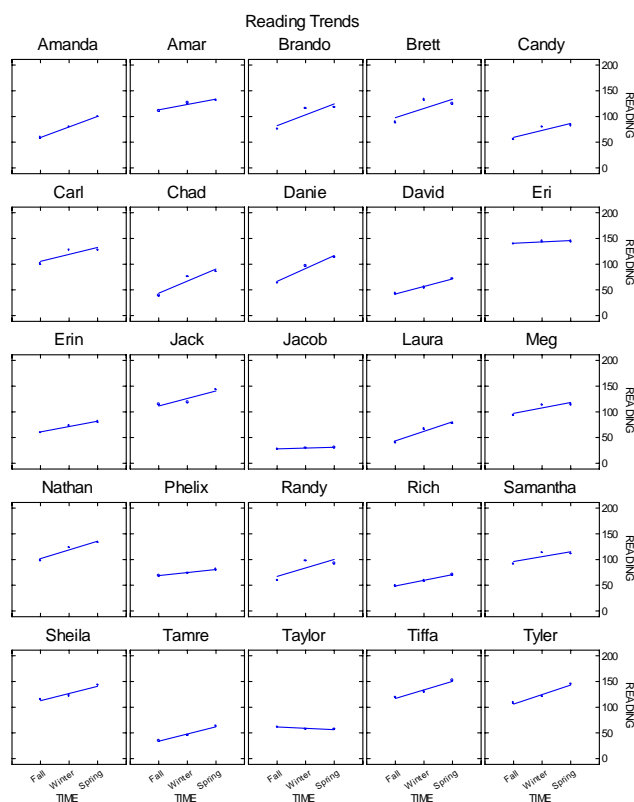


Figure 10.3: Value-added reading trajectories for a classroom

These trajectories present helpful information. First, it looks like many of the students in the class have upward sloping lines indicating they are making gains in oral reading fluency. A few students have relatively flat lines indicating they are improving slowly or are not improving at all. One student has a downward sloping line indicating he is losing ground in reading fluency.

Second, each of these 25 students is starting in a different place in reading fluency. In fact, there is substantial variability around the first data point. This variability presents challenges to the classroom teacher who will need to tailor instruction for each student to ensure that she adds value to each student's reading fluency skill.

Individual growth trajectories also can be meaningfully aggregated. For example, Table 10.7 shows summary baseline and value-added coefficients for classrooms of students in a school (these happen to be all fourth-grade classes making them comparable; the measure is oral reading fluency measured as correct words per minute; the teachers' names are fictitious).

These data are very helpful in looking at classroom effects. First, you can see there is some variability in where each class, on the average, starts in oral reading fluency. The values range from a low of 64.3 correct words per minute for Ms. Ross to 86.9 correct words per minute for Mr. Adams. This is actually quite a substantial difference and certainly possesses challenges for Ms. Ross. Further, the value-added coefficients are similarly variable. Remember, these values show, on the average, how steep the growth trajectory is for each class. Ms. Ross not only starts low, but also has a modest value-added trajectory. Mr. Adams enjoys not only a high starting value but a high value-added coefficient, as well.

Table 10.7: Baseline and value-added coefficients for fourth grade classrooms

Classroom	Starting point (Intercept)	Value-added (Slope)
Adams	86.9	17.8
Jones	67.8	13.4
Mann	76.3	12.4
McGovern	82.7	14.0
Ross	64.3	4.9
Smith	70.1	12.8
All 4 th Grade	75.1	13.7

This idea of aggregating value-added information has important implications for understanding the differential effects of instruction and social intervention. These data can be disaggregated in a variety of ways: by gender, by race, by classroom, by free and reduced lunch status, etc. These data help us seriously and substantively understand “achievement gaps” (Johnson, 2002) that can inform decision-making in many helpful ways.

In summary, time-ordered data holds real promise for an evaluation strategy. It enables you to track changes and gains over time and to make changes in your effort if value-added trajectories are not headed in the right direction. Further, it can be used to track all kinds of outcomes for students and families, not just academic outcomes. The notion of tracking changes over time applies as well to families, schools and communities (Bernhart, 1998; Poister, 2003).

Step 5: Managing and analyzing your evaluation data and reporting results

This is the key component of your comprehensive data strategy that may present the most frustration. Most people feel overwhelmed by the technical challenges of data management, analysis and reporting. The task may be made less daunting, however, by following some simple steps (some of these steps may require the short-term use of outside help, especially if you lack confidence in computer skills):

- *Commit to electronic support for your data strategy* – If at all possible, you should avoid manual processing of data. It is time consuming and inflexible. Computer resources are generally available at low cost. You can use a spreadsheet program such as Excel to manage and analyze your data, or you might consider a more specialized package such as SPSS for your management and analysis needs. Do not be put off by the term statistical package; modern programs like SPSS are user-friendly and may be even easier to use than a spreadsheet for some tasks. Also, training for each package is readily available;
- *Be deliberate and structured in your data management approach* – You will likely have multiple data files you will need to manage and analyze. Be sure to avoid confusion by developing good naming conventions for files and by developing a system for file version control. It might be helpful to also identify a person who will serve in the lead responsibility role for evaluation.
- *Develop a sound analysis plan* – There are well-developed steps in the analysis of data that you can use to guide your efforts. Data analysis should be guided by your key questions - that is, your analysis should lead to answers to those questions.
- *Develop a user-based reporting strategy* – Getting the right information to the right people at the right time is usually done through a set of reports that summarize and present data. Be sure to talk to people who will be interested in your data to get their opinion about effective presentation. Creating effective reports requires a blend of technical skills (statistical or qualitative analytic) and artistic design and presentation.

Using data to guide decisions and action: Closing the loop in the continuous improvement process

We want to be sure to emphasize the important link between evaluation and continuous improvement. We basically see them as inseparable. Continuous improvement requires that you actually use evaluation data to revise or restructure your program efforts if you determine things are not going as planned or if you are not getting the positive student and family outcomes you thought you would.

We show that feedback loop in Figure 10.1. The heavy dotted lines indicate a flow from outcomes back to both programs and the conditions and resources assessment process. The entire process of using data in decision-making is one of adjustment and re-adjustment. You may find yourself re-thinking the priority of the conditions presented by students and families and develop new programs to address those conditions, or you may find you are not getting to some of the outcomes you think are important. In that case, you may suggest changes or modifications to currently operating programs that increase the chance you will improve outcomes. In any case, you are always willing to make changes implied by the feedback you get through the evaluation system and process.

Finally, your goal in this process is to create a school that is, itself, committed to learning. The following are some important characteristics of learning organizations. Use these to assess where you are in the learning organization development process. Learning organizations:

- Have leaders and staff who are committed to learning and improvement;
- Are inquisitive - they want to know about the performance and impacts of their efforts;
- Respond to data and information; they value feedback and commit resources to the development of responsive information 'guidance' systems;
- Actively seek to identify sources of error – mismatches between intention and results – and they have in place mechanisms to correct and prevent errors;
- Have the capacity to change, revise and refocus (in fact, change is expected and greeted enthusiastically); and
- Think strategically; look for opportunities and build capacity to be strategic.

Final thoughts

Remember, you need to think about evaluation as a strategic management skill and not as an externally mandated requirement.

If you follow our recommendations by constructing sound program logic models, developing key questions, carefully identifying data sources, establishing a data collection strategy and developing data management, analysis and reporting procedures, you will find that collecting evaluation data and using it to support decision-making can be exciting.

References

- Argyris, C. (1985). *Action science*. San Francisco, CA: Jossey-Bass.
- Argyris, C. (1999). *On learning organizations*. San Francisco, CA: Jossey-Bass.
- Bernhart, V. L. (1998). *Data analysis for comprehensive school improvement*. Larchmont, NY: Eye on Education.
- Bernhart, V. L. (1999). *The school portfolio: A comprehensive framework for school improvement (2nd Ed)*. Larchmont, NY: Eye on Education, Inc.
- Doran, H. C. (2003). Adding value to accountability. *Educational Leadership*, 55-59.
- Fetterman, D. (2001). *Foundations of empowerment evaluation*. Thousand Oaks, CA: Sage Publishers.
- Holcomb, E. (1999). *Getting excited about data: How to combine people, passion, and proof*. Thousand Oaks, CA: Corwin Press, Inc.
- Johnson, R. S. (2002). *Using data to close the achievement gap: How to measure equity in our schools*. Thousand Oaks, CA: Corwin Press, Inc.
- Ohio Department of Education. (2000). *Reference guide to continuous improvement planning (2nd Ed.)*. Columbus, OH.
- Poister, T. H. (2003). *Measuring performance in public and nonprofit organizations*. San Francisco: Jossey-Bass, Inc.
- Rossi, P. H., & Freeman, H. E. (1993). *Evaluation: A systematic approach*. Thousand Oaks, CA: Sage.
- Royce, D., & Thyer, B. A. (1996). *Program evaluation (2nd Edition)*. Chicago: Nelson-Hall Publishers.
- Scheier, M. A. (1994). Designing and using process evaluation. In J.S. Wholey, H. P. Hatry, & K. E. Newcomer (Eds.). *Handbook of practical program evaluation*. San Francisco: Jossey-Bass, Inc.
- Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. New York: Currency-Doubleday.
- Senge, P. Cambron-McCabe, N., Lucas, T., Smith, B., Dutton, J., & Kleiner, A. (2000) *Schools that learn: A fifth discipline fieldbook for educators, parents, and everyone who cares about education* (pp. 529-536). New York: Doubleday.

United Way of America. (1996). *Measuring program outcomes: A practical approach*. Alexandria, VA: Author.

Worthen, B. R., Sanders, J. R., Fitzpatrick, J. L. (1997). *Program evaluation: Alternative approaches and practice guidelines* (2nd Ed.). New York: Longman.