

PROGRAM



QUALITY

IMPROVING PERFORMANCE: A FIVE-STEP PROCESS

A QUICK REFERENCE GUIDE

STEP 1: DOCUMENT PERFORMANCE RESULTS

Why document student performance? The first step in improving educational programs and student success is to find out how students performed and continue to perform in school and college, and how performance varies for different groups of students. In this way, student performance data can help educators and stakeholders (a) understand what drives students' success, (b) assess the quality of education provided by the public system, and (c) identify improvement priorities and strategies. But documenting performance is not enough: it is equally important to collect information from different sources to not only arrive at a complete and accurate picture of student performance, but to also identify gaps in performance and areas for improvement. This section helps you with the following steps:

- ❑ What to document and how to document state performance results,
- ❑ Simple and effective tools to display and describe student performance,
- ❑ How to evaluate the quality of your performance data, and
- ❑ How to use your performance documentation to establish program improvement priorities.

What to Document

Let us assume that you have acquired the performance data you need for the core and sub-indicators. To derive the greatest benefit from the data you have collected you need to go further than simply reporting your performance. A good starting point is to group your data in the following different ways:

- *Make comparisons within groups.* Comparing subgroups will allow you to further examine differences within the group and to hypothesize reasons for, and solutions to, those differences.
- *Make use of benchmarks.* Benchmarks provide a point of reference to assess performance relative to similar groups.
- *Trends over time.* Strive to pinpoint trends by documenting how groups and subgroups are performing over time.

How to Document: Methods and Tools

There are many ways in which to present performance data. The following suggested methods and tools range from fairly simple tables to more sophisticated statistics and graphs:

- *Tables:* Although tables are a nice way to capture a lot of information, they may not always be the most effective way to portray the meaning of your data.
- *Graphical displays:* Figures accompanied by summary statistics often provide a more expressive representation of patterns in your performance data and convey a clearer picture of performance outcomes and gaps. Further, graphics and summary statistics are good supplements

to tables. Graphical displays typically include histograms, pie charts, line graphs, and bar charts. Summary statistics include the average, median, range, percentile ranking, and standard deviation.

How Do I Know I Can Trust my Data?

Since all data are limited in some respects, it is important that you consider the quality of your data when performing your analyses to ensure that what you say is happening is a true reflection of student performance and not simply a problem of limited data quality. According to the criteria established by the Office of Vocational and Adult Education to determine data quality, states should do two things when looking at data quality: 1) identify major limitations, and 2) assess the implication for interpreting results.

Please remember that data quality limitations should not keep you from using the data. Simply recognize that there may be flaws in the documented data and be cognizant of how you characterize and present the data. The data quality improvement process should occur alongside program improvement efforts, and each of these processes should influence the other. Also, working with the data will assist you in discovering areas on which to focus data quality improvement efforts. And, the better the data quality is, the stronger the argument to use data for decision-making.

Criteria for Establishing Improvement Priorities

Now that you have documented and analyzed your performance data, a logical next step is to use the following criteria to draw up a list of where gaps exist for each core indicator and to identify improvement priorities.

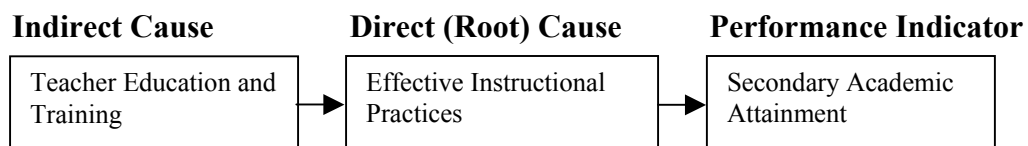
Criteria	Tips
Size of Gaps	Identify where performance differences are the largest for each core indicator.
Trends in Performance Gaps	Over time, are gaps getting larger or smaller? Are changes over time explained by unusual events or do gaps reflect an ongoing performance result?
Concentration of Gaps	Identify whether a particular program, population, or school/college disproportionately impacts state performance for each core indicator, either positively or negatively. Are there gaps that cut across measures? Can you identify performance pertaining to certain core indicators that is unique to particular areas or populations?
State Improvement Priorities	Determine whether performance areas that you have been targeting for improvement in the past continue to be problematic or have shown improvement. Also take into consideration what key stakeholders in the state have identified as priorities.

STEP 2: IDENTIFY ROOT CAUSES

Your analysis in Step 1 uncovered which students are attaining the desired outcomes and which students are not, but it did not tell you why. Step 2 is designed to address the why questions—why do these performance problems and student differences exist? What are the major root causes that determine performance and explain student differences in performance? Which of these causes are within your control and outside your control? Which of these causes should we address first in our improvement efforts? This section will assist you in identifying and evaluating the root causes of performance to help guide your search for solutions.

Why Search for Root Causes?

Program improvement is, in part, a search for answers to a very basic question: what causes poor performance? Root causes are those conditions or factors that directly cause or permit a performance gap to occur. Rarely are performance problems caused by a single factor; rather, they are caused by a combination of root causes and indirect causes, some of which are beyond the immediate control of schools and colleges. For example, effective instructional practices are a direct cause of student academic achievement because they have a direct impact on academic achievement. In contrast, teacher training is an “indirect” cause because it has an effect on student achievement only to the extent that the training results in improved instructional practices in the classroom, which, in turn, affect academic achievement.



How to Identify Root Causes

The search for root causes is a search for the most direct and highest impact causes of performance gaps on core indicators that are within the control of schools and colleges. Your search should draw on current research and evaluation, and use multiple methods and data sources to test specific hypotheses. There are many different approaches to identifying root causes, but most approaches involve three basic phases: (1) identify potential causes, (2) analyze and evaluate potential causes, and (3) select a few critical root causes to address.

STEP 3: SELECT BEST SOLUTIONS

Once you have identified the most critical root causes to address in your improvement effort, the next step is to identify and select the solutions that seem most promising for testing and evaluation. This section will assist you in reviewing and selecting potential solutions for testing in Step 4.

Why Take the Time to Search for and Evaluate Alternative Solutions?

How do you identify the best solutions? First, identify or develop a full range of potential solutions. Selecting a full range of choices stretches your thinking and helps develop more creative solutions. Next, select the most promising of these potential solutions. Any systematic analysis of alternative solutions has two parts:

1. *Reviewing the underlying logic of the solution*—is it based on a sound theory of root causes (Step 2) and how does the solution address these causes, and
2. *Reviewing the empirical evidence*—has the solution worked under similar or comparable circumstances to yours, and is the evidence strong and compelling?

How to Develop Solutions: Improvement Strategies and Models

In developing solutions, begin by identifying the potential improvement strategies that can impact the root and indirect causes in your cause-effect model from Step 2. Next, identify specific school or college model practices that are based on these strategies. This can be illustrated by the example below for the Secondary Academic Attainment indicator.

Root Cause	Improvement Strategy	Model (Model Practices)
Time on Task	School Class Scheduling	Block Scheduling Model 1 Block Scheduling Model 2

Identifying Potential Strategies and Models: Three Methods

For best results, use multiple methods to identify potential improvement strategies and models. Below are three methods that you should utilize:

1. Review what others propose
2. Benchmark peers and leading performers
3. Develop your own solutions

Narrowing the Choices: Assessing and Comparing Alternative Strategies and Models

Since not all solutions you have identified will work for you, narrow the choices by assessing and analyzing their rationale or underlying logic and the evidence that supports them. Use the following criteria in your assessment.

- *Sound Theory and Logic:* The best solutions are ones based on clearly understood and sound theory that explains how the improvement strategy and model works and why.
- *Strong Evidence:* The best solutions also are supported by strong evidence indicating they have worked under conditions similar to yours, especially in schools and colleges that have similar “causes outside your control” identified in Step 2.

Improvement strategies and models with sound theory and compelling evidence rarely come ready made for your situation. You generally have to choose between imperfect alternatives that have some limitations in theory and evidence. Therefore, it is necessary to fully compare and contrast the trade-offs among alternative improvement strategies and models before choosing which solution or combination of solutions to test and evaluate yourself.

STEP 4: PILOT TEST AND EVALUATE SOLUTIONS

Now that you have identified a set of promising solutions—improvement strategies and models—on which to base initial improvement efforts, the next step is to create an evaluation approach that will allow you to assess how well the improvement strategies and models are working. This section will assist you in selecting practical evaluation designs and analysis tools that you can use to gauge the success of your improvement efforts.

Why Evaluate?

Even though findings from the literature or your own common sense may suggest you have found a winning formula, it is important to pilot test improvement strategies and models to see if they produce desired outcomes. Additionally, testing and evaluating improvement strategies provides an evidence-based method for justifying your educational improvement efforts and goes beyond theorizing about what works—an evaluation will supply you proof of whether the strategy works.

How to Test Solutions: Designing an Evaluation Strategy

Conducting an evaluation can seem a daunting task, particularly given that you will simultaneously be working to introduce and run a program improvement effort. To lessen the burden, identify in advance a research methodology that you can use to collect the necessary information. The following are some steps to follow in designing and conducting an evaluation:

- ❑ **Choose a study design.** Listed below are three study designs you might consider when structuring your evaluation.
 1. Option A: Random Assignment with Control Groups
 2. Option B: Comparisons with Similar Populations
 3. Option C: Comparing Individuals Against Themselves
- ❑ **Select pilot sites.** While it is tempting to implement your program improvement strategy statewide, it is advisable to select a subset of sites in which to pilot-test ideas.
- ❑ **Select outcome measures.** To help track performance changes, develop both *short-* and *long-term measures* to provide some indication of the success of your improvement efforts.
- ❑ **Identify data sources.** After selecting short and longer-term outcome measures, it is important to identify data sources and collection instruments that will allow assessment of whether the improvement strategy is affecting student or program outcomes. The following are some examples of data sources: student transcript records, interviews or focus group discussions, state standardized test scores, classroom visits or observations, and state or locally administered surveys.

- ❑ **Train pilot site staff.** Since the outcomes of the improvement effort will hinge on the work of participating administrators and school staff, communicate the purposes and activities related to the improvement effort to ensure that pilot sites are faithful to the planned intervention.

Analyzing Initial Results

Whenever possible, employ basic descriptive or summary statistics—such as the ones described in Step 1—to assess outcomes. Keep in mind the importance of looking at the data from different angles to find out whether gains are realized equally across all groups. If outcomes differ, consider whether variations are due to the manner in which your solutions have been implemented or due to characteristics of the subgroup itself. As you near the end of your pilot project timeline, determine whether you are ready to move to full implementation of your program improvement model.

STEP 5: IMPLEMENT SOLUTIONS

If you have come this far, you have likely identified a set of solutions—improvement strategies and models—that increase student performance in pilot sites. As you prepare to expand the pool of participants, it is a good idea to come up with a monitoring process that will allow you to obtain ongoing feedback on the improvement strategy. This section will help you to develop implementation plans to monitor outcomes across the full range of implementation sites.

Moving from Pilot Testing to Statewide Implementation

Full implementation will require flexibility and a willingness to revise strategies as new sites join the effort. You should expect to modify solutions and evaluation approaches to accommodate unique site characteristics or unexpected situations that arise in mid-stream. Just as with the pilot, monitor site performance on a number of dimensions to ensure you're achieving the intended results. Plan to evaluate both the desired outcomes as well as the process you are using to roll out the implementation across agencies.

Monitoring Ongoing Implementation

Expanding your improvement efforts requires the development of a comprehensive strategy that will enable you to monitor how well the implementation is progressing. Plan to enlist the support of pilot site staff to help explain the importance of monitoring to new participants and to serve as field-based mentors, for example by having educators from new sites visit pilot sites to speak directly with experienced staff. Steps to consider taking for monitoring on-going implementation may include:

- ❑ Preparing a “Process Evaluation Plan” to help assess the manner in which you are implementing new improvement strategies,
- ❑ Establishing short-term outcome measures (e.g., changes in attendance or student grades) that can be used to assess on-going efforts,
- ❑ Identifying process indicators that capture how well improvement activities are being implemented,
- ❑ Calling or visiting school and district staff to observe whether they are correctly applying proposed solutions,
- ❑ Requiring local faculty and staff to attend technical assistance workshops to discuss their observations and challenges, and
- ❑ Conducting focus groups with students and faculty to assess changes in beliefs or practices.

Sustaining Improvement Efforts

Continuous improvement is a never-ending process that requires that you constantly review and critique the outcomes of improvement efforts. To sustain your effort, schedule time—much as you did in Step 4—to revisit your strategy.