

Understanding program monitoring: The relationships among outcomes, indicators, measures, and targets

Nolan Malone, Mid-continent Research for Education and Learning

Lauren Mark, Mid-continent Research for Education and Learning

Krishna Narayan, Island Innovation, LLC

This guide offers educators, program managers, administrators, and researchers a resource for building capacity for monitoring program outcomes. It provides concise definitions of program monitoring components and a framework for assessing program progress. Examples demonstrate the relationships among program components: outcomes, indicators, measures (including benchmarks and baselines), and targets. Policymakers and practitioners can use the framework to better monitor and evaluate programs and thus to make better data-informed decisions.

A crucial step in understanding a program's effectiveness is to establish an ongoing plan for measuring and evaluating its progress. A program monitoring framework can provide a means to gauge whether a program has been successful.

Program monitoring can be understood by its components—outcomes, indicators, measures (including benchmarks and baselines), and targets. This guide defines these components and explains how they relate to one another in program evaluation. It also provides a framework for assessing program progress. By following this program monitoring framework, educators can better monitor and evaluate programs and thus make better data-informed decisions.

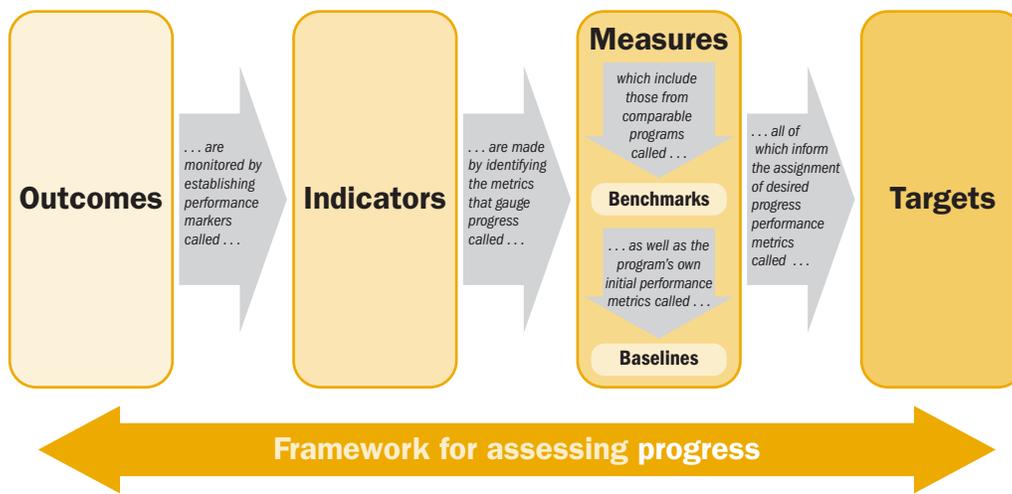
This guide is one of a four-part series on program planning and monitoring released by Regional Educational Laboratory Pacific.¹ Other guides in this series provide information on logic models and their use in program evaluation. Logic models are useful tools to help educators identify what is being done and why. A natural follow-up might be to gauge whether program efforts have been successful. Examining outcomes, key components of logic models, is one way to do that.

Foundations of data and research

Articulating logic model outcomes is necessary to develop fully functional program monitoring plans with indicators and measures (figure 1) that:

- Provide a foundation for data collection and evaluation.
- Help education organizations develop detailed and transparent program plans with clear goals.
- Establish a common language for objective, factual discussion and assessment of progress toward the goals.

Figure 1. The relationships among outcomes, indicators, measures, and targets



Source: Authors.

Definitions

Understanding program components is vital to learning how to use them in a framework for assessing a program's progress.

Outcome: An expected result in an individual's behavior, knowledge, or skills or the change in practices or policies attained as a result of participation in an activity or program.² Outcomes are what is expected to happen after participation in a program. For example, an expected outcome of the implementation of a professional development program for high school math teachers might be that more new students at a community college will place into college-level math courses (avoiding remediation). Outcomes are often classified as short-, mid-, or long-term. These time frames can vary by the scope of the program.

Indicator: An observable and measurable behavior or finding used to understand information about complex systems (Oakes, Mendoza, & Silver 2004). An indicator is information that shows whether progress is being made—for example, aggregate student scores on a college math placement test.

Measure: An instrument, device, or method that provides information, often quantifiable data, on an outcome.³ A measure is a metric for checking progress on an indicator. For example, a measure of student performance on college placement tests could be a specific community college math placement test.

Benchmark: A standard against which a program's results and progress can be compared. A benchmark is a similar measure for a similar group against which progress can be gauged. For example, student performance on a placement test in community college in another state may be used as a benchmark for the same placement test at a local community college.

Baseline: The pre-intervention level of a measure, used as a starting point for measuring future progress. A baseline is the performance level for a measure before the program begins. The prior-year performance of students at a community college on that year's math placement test is one example.

Target: A desired value or level of a measure at a specified time in the future. The target is the measurable result being sought. For example, a possible target could be that incoming community college students will score an average of 80 percent on the math placement test.

Progress: Forward movement toward an education objective or target. Progress is the measure used to compare current performance with earlier performance and target performance. An example could be incoming community college students scoring an average of 5 percentage points higher on the math placement test in 2013 than in 2012.

Examples

The following examples, demonstrating the relationships between the components of the logic model outcomes, are used to assess ongoing Regional Educational Laboratory Pacific programs.

Engaging families and communities in education

A Pacific island established a program to assess and improve families' engagement in the schools their children attend. One desired outcome was to partner with families to jointly support students' academic success. Area superintendents developed indicators and then measures to assess progress toward this outcome. One indicator was family member attendance at parent-teacher conferences. The superintendents used attendance records from the prior year's conferences to establish a baseline for the measure (75 percent attendance) and the average attendance at the conferences at a nearby high-performing school district (80 percent) as the benchmark. Considering the baseline and benchmark in relation to the desired outcome, the superintendents established a target of 80 percent attendance, a 5 percentage point increase from the baseline.

Ensuring college and career readiness

A charter school established a program to improve the college readiness of its high school students, including adding more pre-college courses and free afterschool tutoring. One desired outcome was higher scores on college entrance exams. The school established indicators and measures, including performance on standardized tests in grades 9-12 and Preliminary SAT (PSAT) scores in grade 11. The school administrators reviewed prior-year scores on both tests to establish a baseline. (There are also other sources for baselines, such as pre-test scores.) The school referred to national averages for standardized test scores in math and reading, as well as national averages for PSAT scores, to establish a benchmark and target for each grade level on the standardized tests and for the grade 11 PSAT.

After the program's first year, the school administrators wanted to discuss progress toward the targets with teachers and afterschool program administrators. By comparing the current year's test scores against

the baseline, benchmark, and target scores, school administrators were able to show the teachers and afterschool administrators the progress they had made toward the program's desired outcomes.

Next steps

Managers, administrators, and researchers can use this guide to lay a foundation for their discussions of logic models, to provide easily understood definitions of components of program outcomes, to explain how these components relate to one another, and to help educators identify achievement of program goals.

Notes

1. For more information on the series of guides and other resources, see the Institute of Education Sciences website (<http://ies.ed.gov/ncee/edlabs/regions/pacific/>) or the REL Pacific website (<http://relpacific.mcrel.org/>).
2. Expanded from the definition of outcome found in What Works Clearinghouse (n.d.).
3. Expanded definition of outcome measure found in definition for outcome in What Works Clearinghouse (n.d.).

References

Oakes, J., Mendoza, J., & Silver, D. (2004). *California opportunity indicators: Informing and monitoring California's progress toward equitable college access*. Berkeley, CA: UCAccord. Retrieved June 16, 2013, from <http://ucaccord.gseis.ucla.edu/publications>

What Works Clearinghouse. (n.d.). *Glossary of Terms*. Retrieved June 16, 2013, from <http://ies.ed.gov/ncee/wwc/glossary.aspx>

REL 2014–011

The National Center for Education Evaluation and Regional Assistance (NCEE) conducts unbiased large-scale evaluations of education programs and practices supported by federal funds; provides research-based technical assistance to educators and policymakers; and supports the synthesis and the widespread dissemination of the results of research and evaluation throughout the United States.

February 2014

This report was prepared for the Institute of Education Sciences (IES) under Contract ED-IES-C-12-0010 by Regional Educational Laboratory Pacific administered by Mid-continent Research for Education and Learning. The content of the publication does not necessarily reflect the views or policies of IES or the U.S. Department of Education nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

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Malone, N., Mark, L., & Narayan, K. (2014). *Understanding program monitoring: The relationships among outcomes, indicators, measures, and targets*. (REL 2014–011). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Pacific. Retrieved from <http://ies.ed.gov/ncee/edlabs>.

This report is available on the Regional Educational Laboratory website at <http://ies.ed.gov/ncee/edlabs>.