# Logic Models to Support State and District Educator Effectiveness Initiatives

## A Webinar Sponsored by the Northeast Educator Effectiveness Alliance

# Introduction to Logic Models to Support State and District Educator Effectiveness Initiatives

## What is this workshop?

This workshop is designed as a tool for representatives of state departments of education, school districts, and schools to learn about how to utilize logic models for effective program design, implementation, monitoring and evaluation.

## What is the purpose of this work?

Beginning in 2012 the ten Regional Educational Laboratories have undertaken building and supporting research alliances on topics of importance to states or local school districts. Some examples of these topics include *educator effectiveness* and *supporting all students to become ready for college and careers*. Each of these alliances established a research agenda that includes questions that will guide their work over the next three to five years. The Regional Educational Laboratory Northeast and Islands (REL-NEI) has been involved in work with a set of eight research alliances that are intended to be sustained collaborations among researchers, administrators, policymakers, and practitioners. These alliances focus on a particular priority for the purpose of increasing state and local capacity to use data and research to inform decision-making in that priority area. We developed this workshop to build state, district, and school leaders' capacity to design, implement, and evaluate programs and policies that address some of the most pressing educational issues.

## Why the workshop?

This Workbook was developed to assist groups, like the alliances as a whole as well as members of the alliances within their own educational contexts, to learn about and build logic models to support effective program designs and evaluations. Based on feedback from alliance members, REL-NEI learned that many of our district- and state-based members would like to build their capacity to develop logic models that may be utilized to design, implement, and evaluate their own programs as well as to work more effectively with evaluators whom they engage to conduct evaluations on their behalf. This workshop is designed to provide a primer on logic modeling, a useful tool for program design, implementation, and evaluation. REL-NEI has designed a second workshop that demonstrates how to utilize logic models as a vehicle for building effective evaluation designs.

# Logic Models to Support State and District Educator Effectiveness Initiatives (1.5 hours)

## Annotated Agenda

| | | |
|---|---|---|
| 5 Minutes | **Welcome and Purpose** | Facilitator introductions, followed by overview of agenda and purposes of workshop.<br>Purposes:<br>✓ To introduce logic models as an effective tool for program or policy design, implementation, and evaluation<br>✓ To practice the elements of a logic model<br>✓ To provide guidance in appropriate steps for building a logic model for a program or initiative |
| 5 Minutes | **Introducing the Cases** | Facilitator reviews cases that will be used as examples throughout the workshop.<br>**Activity**: Facilitator then introduces initial activity to brainstorm the goals of the programs in the cases and the types of questions that might be appropriate to ask about the cases. Participants enter comments in virtual chat. |
| 15 Minutes | **What is a Logic Model?** | Facilitator introduces logic models as a useful tool for program design, implementation and evaluation. Facilitator then introduces three types of logic models with three different purposes. Facilitator discusses overall idea of inputs-outputs-outcomes that drives logic model development and the logic of logic models.<br>**Activity**: Participants respond to multiple-choice questions about inputs, outputs, and outcomes for the Educator Evaluation case. |
| 50 Minutes | **Elements of a Logic Model** | Facilitator will walk through all elements of a logic model in this section of the workshop. Several of the elements have an activity associated with the element.<br>**(1) Problem Statement**<br>**Activity** Participants brainstorm their own problem statements. (5 min)<br>(2) **Outcomes** Includes discussion of short- to long-term outcomes and impacts, as well as review of |

| | | |
|---|---|---|
| | | what outputs are and how they differ from outcomes. Guidance for generating outcomes is provided.<br>**Activity** The outcomes section ends with an activity in which the participants fill in a table that helps to generate outcomes for their own example. (15 min)<br>(3) **Strategies and activities** is the next element of the model. There will be no activity associated with this element, but there is an activity in the workbook for future use. (5 min)<br>(4) **Resources** There will be no activity associated with this element. We will pause here briefly for questions. (5 min)<br>(5) **Assumptions** (10 min)<br>**Activity**: Participants enter examples in chat. |
| 10 Minutes | **The Logic in Logic Models** | This section opens with a discussion of the 'if-then' statements that are embedded within logic models. The facilitator will walk participants through the logic of the 'if-then' statements in the Educator Evaluation case.<br>**Activity**: Participants will practice with the Science PD case and ordering a series of "if-then" statements. |
| 5 Minutes | **Next Steps & Closing, Evaluation, and Thank You** | Facilitator closes workshop with discussion of some next steps for developing a logic model and a reminder of how logic models can support effective program design and evaluation (and reference to second workshop if participants are interested). There will be a reminder to complete evaluation, and invitation to be in touch with further questions.<br>**Activity**: Participants indicate a next step for their work in the chat. |

## Table of Contents

## Purpose of the Workshop

The purpose of the Workshop is to introduce logic models as a tool for effective program or policy design, implementation, and evaluation. The workshop will:

- Introduce logic models as an effective tool for program or policy design, implementation, and evaluation;
- Invite participants to practice the elements of a logic model;
- Provide guidance in appropriate steps for building a logic model for a program or initiative.

## Pre-Work Assignment

Pre-work Assignment Directions: Consider a program or policy that you lead or are actively involved in designing, implementing, or evaluating. Come to the session with the following materials or information:

- For whom is the program or policy designed?
- What are the main goals of the program or policy?
- What is the timeline and duration of the program or policy?
- What are the major activities associated with the program or policy?

## Considering Program o Policy to Evaluate

*You may wish to use this organizer to make notes on the pre-workshop questions on the preceding page.*

Program or Policy Initiative: _____

| For Whom | Main Goals or Objectives | Major Activities | Timeline/Duration |
|---|---|---|---|
| | | | |

## Workshop Agenda

| | |
|---|---|
| 5 Minutes | **Welcome and Purpose** |
| 5 Minutes | **Introducing the Cases** |
| 15 Minutes | **What is a Logic Model?** |
| 50 Minutes | **Elements of a Logic Model** |
| 10 Minutes | **The Logic in Logic Models** |
| 5 Minutes | **Closing and Next Steps** |

# Introducing the Cases

What follows here are two cases, based on real programs or initiatives, that we will use as examples throughout the workshop. These cases provide a common language for discussing all aspects of the logic model. You may also draw on your pre-work, in which you generated your own example, to use throughout the workshop.

## Case Study: Redesigning District's Educator Evaluation Process

A school district wants to review and update the teacher evaluation process they have used for more than 10 years. The new system must reflect the new state guidelines for evaluation, which include a requirement for multiple measures, including a student learning measure. However, much is left to the district to decide about how decisions will be made, what measures to use, who will conduct the evaluations, and how the evaluation process will be managed and supported. The district has determined, in keeping with state guidelines, that the new evaluation will assess teachers' professional practice and their impact on student learning. The district leadership would like the system to be supported by teachers, and they would like it to effectively differentiate among teachers, support teachers' ongoing professional growth, lead to improvements in teacher practice, and ultimately positively influence student learning.

## Case Study: Professional Development Initiative for Science Teachers

A state department of education is implementing a new professional development (PD) program for secondary science teachers, which focuses on promoting inquiry-based approaches. The state will develop partnerships with informal science partners, such as museums and with industry, and will develop a series of content courses for teachers. The PD will utilize research-based materials and practices so that teachers can build a deep foundation of knowledge that will allow them to grow professionally. In addition, districts will create professional learning communities and ongoing science instructional development opportunities to support inquiry approaches. There will also be PD offerings that will focus on leadership development to support coaches, lead teachers and principals, and curriculum directors in the field of science learning. The goal of this PD program is to enhance teacher's knowledge in science, increase student participation in science courses, and increase student learning and achievement.

### Activity: Virtual Discussion of Cases

1. Individually (2 Minutes)

   **Directions:** Working on your own, consider either the Educator Evaluation or the Science Professional Development case above. What are the goals of the program? What might we want to know about it?

2. Large Group "Discussion" (3 Minutes)

   **Directions:** On Adobe, enter your ideas about the goals of the program and what you might want to know about it.

   The purpose of this exercise is to provide some common examples to use throughout the workshop as well as to illustrate how a logic model can support program design, implementation, and evaluation.

   Facilitator will make connections between the comments/questions raised and why we use logic models. This is covered in the next section.

Supporting materials for this section include:

- Slide 8

## Case Examples Brainstorm

Work independently for two minutes to list the potential goals and questions that we might have about the program. Consider questions of implementation, effectiveness, and impact.

| What are the goals of the program/policy? | What do we want to know about the program/policy? |
|---|---|
| | |

# What Is a Logic Model?

In this section of the Workshop we provide a primer on logic models, including different types of logic models and their potential purposes. Logic models provide a simplified picture of the relationships between the program or policy inputs (resources, strategies, activities) and the desired outcomes of the program. Logic models present a theory of action or change that drives the program or policy, and makes explicit any assumptions about both the resources at the disposal of the program as well as the rationale behind the effort.

A logic model is valuable in supporting:

- Program Planning
- Program Implementation
- Program Evaluation

Why use a logic model?

- Brings detail to broad goals;
- Helps identify gaps in program logic and clarify assumptions;
- Builds understanding and promotes consensus;
- Makes explicit underlying beliefs;
- Helps clarify what is appropriate to evaluate and when;
- Summarizes complex programs for effective communication.

A logic model is very useful in designing program and policy evaluation, as a logic model helps to clarify both what the program, initiative, or policy is and what it isn't. This kind of clarification is very helpful in building an evaluation design that can capture the program's or policy's influence and impact. A logic model is not a fully developed plan for designing or managing a program or policy, nor is it an evaluation plan. While logic models are useful tools for building program plans or evaluation designs, additional work is necessary to create both programmatic and evaluation plans.

## Types of Logic Models

Not all logic models are the same, nor are they designed for the same purpose. Just as logic models may aid in program design, implementation, and evaluation, the type of model developed varies somewhat based on its purpose. There are three main types of logic models:

- Theory Approach Model
- Activities Approach Model
- Outcomes Approach Model

### Theory Approach Models

Logic models that describe the overall theory of change provide a "big picture" of the program and may be useful for program design and overall communication of the program theory. These

models provide a clear description of why the developers believe the program or policy will be effective in achieving the goals. For example, in the Science PD case, a theory approach logi model might help clarify the assumptions implicit in building partnerships and providing professional support to improve teachers' content knowledge as a tool for improving student achievement, and describe the relationship between professional development for teachers and leaders and the expected outcomes for students.

**Consider**:

- What might be the logic in a theory approach model for your own program or policy? (The "big picture" theory of change about your initiative?)

### Activities Approach Models

The Activities Approach model is most focused on laying out the specific strategies and activities associated with a program. These models closely examine the relationship among the activities, considering questions of sequence and timing of implementation, as well as how these activities link to outcomes. This type of logic model is most useful in program implementation, monitoring, and management. In the Science PD example, this type of logic model would consider the different elements of the program and how they would be optimally ordered and managed. For example, what role would partnerships with museums and business have? How would professional learning communities relate to professional development for school leaders? In this type of model, relationships among variables are made explicit with arrows, concentric circles, and other graphic representations of relationships.

**Consider**:

- Why consider the sequence and relationship among activities in a logic model? How might that help you?

### Outcomes Approach Models

Outcomes Approach models are most useful for program evaluation. They consider the strategies and activities as they relate to the desired results of a program or policy. In these models, the focus is on outcomes, and they often divide the outcomes into short-term and long-term outcomes, and impacts. A theory of change drives these models just as it does the others. However, in an outcomes approach logic model, the emphasis is on examining the outcomes and making the case that the program or policy is responsible for the desired outcomes. In the Science PD case, the focus might be on making the link from teacher learning outcomes, to teacher practice outcomes, to student outcomes.

**Consider**:

- Why divide outcomes into short- and long-term? What is the difference between outcomes and impacts?

Supporting materials for this section include:
Slides: 10-14

## Inputs-Outputs-Outcomes

In its simplest form, a logic model is a graphic representation of the relationship among a program's or policy's inputs (what's invested in the program); the outputs (what's done with these investments); and what the outcomes are (what results).

Take a very simple example: you have a headache and you want it to go away.

- What is the input?
  - Quiet time
  - Water
  - A hot compress
  - Two aspirin
- What is the output?
  - Sit quietly for 5 minutes
  - Put hot compress on
  - Drink a full glass of water
  - Take aspirin
- What's the outcome?
  - You are more relaxed
  - You are hydrated
  - Your headache goes away
  - You are able to return to your work

To illustrate, consider the inputs, outputs, and outcomes of the Scienc PD case.

| Inputs | Outputs | Outcomes |
|---|---|---|
| NSF grant<br><br>University partnerships<br><br>State and national science framework<br><br>LEA partners<br><br>Informal science partners<br><br>Business/industry partnerships | Provide regional science week-long course in summer<br><br>Provide regional STEM district leadership institutes 3x/year<br><br>Online community of practice for district-level science coaches created<br><br>Partnerships with museums/business/industry established<br><br>Develop curriculum resource handbook for science teachers | Teachers report improved science content-knowledge<br><br>Teachers use effective science learning experiences<br><br>District policies and structures support K-12 inquiry-based science education<br><br>Robust science partnerships established<br><br>Increased student participation in science<br><br>Improved student performance in state-wide science assessments |

### Activity: Inputs-Outputs-Outcomes

Now take the Educator Evaluation case. Consider the inputs, outputs, and outcomes.

**Directions**: On Adobe, you will be provided with three multiple choice questions, one for inputs, one for outputs, and one for outcomes, all related to the Educator Evaluation case. Select all the options that apply for each question. (The chart below may be useful if working through the activities without the webinar).

Case: _____

| Inputs | Outputs | Outcomes |
|---|---|---|
| | | |

Supporting materials for this section include:

- Slides: 15-19

# Elements of a Logic Model

The purpose of this section is to provide an overview of—and opportunities to practice—all elements of a logic model. The elements of a logic model are listed below. In the pages that follow, we will delineate these elements and use examples from the two cases.

- Problem Statement
- Resources (inputs)
- Strategies and Activities (outputs)
- Short-term Outcomes
- Long-term Outcomes
- Impact
- Assumptions

## Problem Statement

The problem statement is the problem or challenge you face that the program or policy is designed to address.

- Consider:
  - What is the problem/issue?
  - Why is this a problem? (What causes the problem?)
  - For whom (individual, household, group, community, society in general) does this problem exist?
  - Who has a stake in the problem? (Who cares whether it is resolved or not?)
  - What do we know about the problem/issue/people that are involved? What research, experience do we have? What do existing research and experience say?

### Activity: Problem Statement

Consider the problem statement most appropriate to the challenge you face in your work, related to a program you have in place or one you would like to initiate. Brainstorm key ideas associated with the relevant problem.

**Directions**: On Adobe, enter some notes (modeled after the example in terms of brevity) related to the problem you intend to address through your program or initiative.

Example: Educator Evaluation

- System for evaluating educators is outdated and not compliant with new state guidelines
- 99% of teachers receive a satisfactory rating
- Teachers report they do not receive concrete and actionable feedback from evaluators
- System of evaluation is not connected to system of professional support and development
- Teachers do not systematically use student data to inform instructional choices

Your Brainstorm: _____

Supporting materials for this section include:

- Slides: 22-24

## Outcomes

While outcomes are not the next item one sees when one looks from left to right across a traditional logic model, they are a logical next step to discuss when examining the elements of a logic model. Outcomes ask, "What difference does it make?" In other words, what i the difference that the resources, and strategies and activities, taken together, have on the various participants in these efforts? For example, in the Science PD case, what difference do professional learning communities have on teachers' content knowledge or practice? On their students' engagement in science class? On student performance on the state assessment?

Outcomes usually come in stages and fall along a continuum from short- to long-term outcomes. The language to describe these outcomes varies, but for the purposes of this workbook, we use short-term outcomes, long-term outcomes, and impact. Other terms you may encounter include:

- Short-term: initial, immediate, proximal
- Long-term: medium-term, intermediate, midpoint
- Impact: long-term, final, ultimate, distal outcome

- Short-term outcomes: Short-term outcomes are the most immediate and measurable results for participants that can be attributed to the strategies and activities. For example, a program that provides an online professional learning community for science teachers might have a short-term goal of engaging teachers in the online community.

- Long-term outcomes: Long-term outcomes are the more distant, though anticipated results of participation in the collection of strategies and activities. When it comes to

short- and long-term outcomes, it is good to think about the overall time frame for the program. Often, short-term is considered to be 1-3 years, and long-term is considered to be 4-6 years. That is only a suggested timeframe and may not always apply. The important point here is to consider the program and identify the timeframe, specific to the initiative, for shorter- and longer-term outcomes. In the Science PD case, a long-term goal might be changes in teachers' use of inquiry-based approaches in their science courses.

- Impact: When we use the term "impact", we mean the desired outcomes that occur as a result of long-term implementation of the strategies and activities. These more long-range goals are dependent on some conditions that go beyond the program's scope of strategies. These may be called the "blue skies" or the big picture types of objectives for the program and ones that are more distant from the actual strategies and activities, and less within the control of the program or policy to realize. Often these are considered to be 7-10 years out from initial implementation. Using the same Science PD case, we might consider increased student achievement on the state science assessment as a long-term goal. Even further out, we might aim for an increase in the number of science majors at state universities.

### A Word About Outputs

Some logic models include both outputs and outcomes in the model. Outputs differ from outcomes in that they capture data about what we do rather than what we expect to achieve as a result of what we do. Outputs can best be described as activity data and are useful for tracking program implementation. Outputs often provide detail about the breadth and reach of the strategies and activities. Outputs capture size and scope; they describe or count strategies and activities, such as the number of parent sessions delivered, program participation rates, the number of materials developed or distributed, and so forth. Using the Educator Evaluation program as an example, another way to think about the difference between outputs and outcomes is to consider the questions:

Is the new evaluation system training being delivered as intended? (output question)
vs.
Are evaluators basing their teacher evaluations on teachers' practice and on their students' data? *or*
Are teachers using student data to inform instruction?
(outcome questions)

Outputs are most useful for the activities approach logic models, or those that are focused on supporting program implementation and monitoring.

One final word: it is important not to confuse outputs for outcomes. A program that is good at delivering activities and services may achieve its outputs without achieving its outcomes. Yet, it is the outcomes that make the difference in response to the problem identified.

### Activity: Focus on Outcomes

Being clear about program outcomes is essential for both focused program implementation and for effective evaluation. The table below is designed to promote a step-by-step approach to outcome development. The columns are:

- Who is the target? Who is the group you are targeting with your strategy? Is it students? Parents? A school? In this example, based on the Science PD case, the target is Science teachers in state's low-performing secondary schools.
- What is the change desired? Here the important idea is to use an action verb to demonstrate a kind of change or an impact. For example: increase, improve, engage…
- In what? What is the activity, strategy, or program in which the target population is going to enact this desired change? What is the resulting action in which the target population will engage to achieve the goal?
- By when? Here is where you begin to clarify the timeline for outcomes. Is a particular outcome a short-term or long-term outcome?

**Directions**: For each of the column headers (the target, change desired, etc.), enter an example from your own context, related to a program or policy initiative you have in place or would like to develop. On Adobe, type in the target you have identified.

| The Target | Change desired? (action verb) | In what? (results) | By when? |
|---|---|---|---|
| Science teachers in state's low-performing secondary schools | Increase | Use of inquiry-based approaches | By December 2014 |
| | | | |

### Outcomes Checklist

Consider the following criteria when examining your outcomes:

- Are the outcomes **important**? Are the end outcomes important? Do they represent significant change or improvements that are valued by participants and key stakeholders? Outcomes may be achievable but not really worth the effort. Apply the "Who cares?" test. For example, what if an outcome of the Science PD initiative is that participating teachers become aware of a regional lending library of science videos. While this may be an outcome, it may not be an important one to the overall goals of the program.
- Are the outcomes **reasonable?** Are the outcomes (from short-term to long-term to impact) connected to one another and linked in a reasonable order? Is it likely that one will lead to the next? Another way to think about this is to consider the "if-then" statements (or logic statements) embedded in a chain of outcomes. For example, will participation in a professional learning community for science educators lead to the use of new approaches in the teachers' classrooms? Will the use of new approaches lead to increased student achievement on science assessments? Issues of sequence and timing of activities and intended outcomes is important to consider.
- Are the outcomes **realistic?** Are the outcomes that you suggest realistic given the nature of the problem, your resources, and your abilities? Will the program lead to or help contribute to these outcomes? (Be careful to ensure that the outcomes are realistic given the level of effort.) In other words, if you create an online platform for a teacher professional learning community, is it realistic to expect this alone to lead to an increase in student achievement on the state science assessment? Ask hard questions about the outcomes as they relate to the actual program or policy.
- Are you attending to **unintentional or potentially negative outcomes**? Finally, it's important to anticipate and consider the unintended or potentially negative outcomes that might result from the set of strategies and activities. What are potential negative effects of the program or policy? What else might happen that is different from what we intend? Or, how else might the sequence of events unfold? For example, could teacher participation in a summer weeklong science workshop lead teachers to shy away from content they realize is more complicated than they thought?

Another common set of criteria for outcomes are the S.M.A.R.T. goals. These are:

- Specific
- Measurable
- Action-oriented
- Realistic
- Timed

Supporting materials for this section include: Slides: 25-32

## Strategie an Activities

Strategies and activities are the program components, or the game plan for the program or policy. This is an inventory of all the strategies and activities designed to achieve the outcomes. However, it is more than a simple listing of activities. There are two questions to ask yourself when you inventory the activities, services, products, and events that make up the program or policy:

- What is the appropriate sequence or order of these activities?

Consider the Educator Evaluation Case: It may be important that the changes to the observational component of the evaluation system come prior to the rollout of the student measures. Or perhaps these activities should be concurrent. Consider the appropriate order of activities and how they relate to one another.

- Are there certain activities that, taken together, add up to a kind of overall strategy? Do certain activities "bundle" or "cluster" together?

Consider the Educator Evaluation case: Perhaps there are a series of training needs related to instituting the new model--such as developing evaluators' capacity to provide feedback, or training teachers on the new observation protocol--that bundle together as an overarching strategy. Perhaps this is the "evaluation training" strategy. This may be different from other strategies associated with the initiative, such as a strategy related to building infrastructure to support the new system. Creating these clusters of activities helps t streamline the logic model and also supports evaluation; the evaluation will then assess a set of strategies, rather than individual activities.

### Activity: Strategies and Activities in Sequence

Consider a series of activities that are a part of your own work. List some relevant activities, their sequence or order in which they are supposed to occur, and consider the overarching strategy within which these activities fall. In other words, does your chosen program or initiative have a core set of strategies that guide the activities, events, programs, etc. that you provide? (Note: the webinar will not include this activity but this is something you are encouraged to do on your own.)

| Activities | Sequence | Strategy |
|---|---|---|
| Develop teacher and evaluator training materials | 1st | Evaluation training |
| Deliver teacher training | 2nd | Evaluation training |
| Deliver evaluator training | 2nd | Evaluation training |
| Establish online platform for evaluation data | 1st | Infrastructure |

| Activities | Sequence | Strategy |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Supporting materials for this section include:

- Slides: 33-34

## Resources (inputs)

Resources include both the material and the intangible contributions that are, or could reasonably be, expected to be available to address the problem.

- Material resources include:
  - Money
  - Materials and equipment
- Intangible resources include:
  - People
  - Time
  - Partnerships
  - Other?

### Activity: Intangible Resources

Consider: What are the intangible resources at your disposal?
Brainstorm at least 5 non-monetary resources that are available to you in a program you operate or manage.

Brainstorm: Intangible Resources (example from Educator Evaluation case)

- Staff time
- Teacher support
- Existing Professional Climate Task Force
- State DOE support

Brainstorm: Intangible Resources

Supporting materials for this section include:

- Slides: 35-36

## Assumptions

Assumptions are the beliefs we hold about participants, staff, and the program, as well as our assumptions about how the change or improvement we hope to see may be realized. Bein explicit about these assumptions is one of the first and most important things you can do as you consider program design, implementation, and evaluation.

Let's use a simple example. Remember the headache? You had a headache, you tried a few things to get rid of it (water, aspirin, etc.) and you felt better. The outcome was that the headache went away. However, between the problem (the headache) and the outcome (no headache) were several assumptions. For example, you assumed no allergy to aspirin, that there was no loud noise persisting in the background, and so forth. Clarifying and making explicit the assumptions behind the program, both in terms of the specific elements related to implementation and the assumptions embedded in the theory driving the initiative, is critical to the development of a thoughtful logic model.

Consider the Educator Evaluation case: the new evaluation system assumes that reforming the evaluation system to include multiple measures, including measures of student learning, will generate more accurate assessments of teachers' effectiveness. It also assumes that providing teachers with more specific feedback will improve teacher instruction, which will yield improvements in student achievement. It may also assume that the existing staff structure is sufficient to support the new system. Often the assumptions embedded in a program or policy are critical to the success or failure of the overall initiative. Assumptions may be internal (assumptions about participants, resources, and how the program will function) or external (beliefs about how change occurs, values embedded in the program, or findings from prior research).

### Activity: Uncovering Internal and External Assumptions

**Directions**: Consider your program or initiative. Brainstorm the range of assumptions embedded in the program design and in the overall theory of action driving the initiative. In Adobe, include one example of an assumption behind your program or initiative.

| Internal Assumptions | External Assumptions |
|---|---|
| | |

Supporting materials for this section include:

- Slides: 38-40

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## The Logic in a Logic Model

The purpose of this section is to understand the logic embedded in logic models and recognize the need to identify the possible relationships and connections among various elements of the logic model.

### The Theory Embedded in the Model: If-Then Statements

Understanding these *if-then* relationships is essential to uncovering the theory of action or theory of change driving a program or policy. If you have access to and apply resources, you will be able to develop programs that will be designed to reach the target participants, and when you reach these populations with the programs or services that you have developed, then you will be able to meet the unmet needs and change circumstances that will lead to solving the problem that initiated this work.

To make this more real, let's consider the Educator Evaluation case:

- If the district applies Race to the Top funds to release teachers from their classroom time for one period every week, then teachers and administrators can serve together on the planning committee for the new evaluation system;
- If teachers and administrators serve together on the planning committee for the new evaluation system, then the new system will be responsive to teachers' concerns and reflect their ideas for how an evaluation system should operate;
- If the new system is responsive to teachers' concerns and reflects their ideas for how an evaluation system should operate, then teachers will actively participate in the evaluations of their teaching;
- If teachers actively participate in evaluations of their teaching, then the new system will accurately capture teachers' strengths and weaknesses;
- If the new system accurately captures teachers' strengths and weaknesses, then supports to improve teachers' practice will be appropriate to their needs.
- If support to improve teachers' practice is appropriate to their needs, then teachers will improve their practice.
- If teachers improve their practice, then student learning will increase.
- If student learning improves, then student achievement on standardized assessments will increase.

Note that the *then* clause in one statement becomes the *if* clause the proceeding statement. This is important; when we change the language from the *then* to the *if* statement, changes in the intention of the statement may occur. In some logic models, these *if-then* statements are written right into the model to make the theory of change explicit.

### Activity: If-Then Statements

**Directions**: Consider the Science PD case. On Adobe, respond to the prompts to order the *if-then* statements. If you want to try this on your own, move the statements around to make a series of logical *if-then* statements below. Consider the sequencing of events. The statements below include strategies and activities, traditional outputs, and outcomes.

IF _____ THEN/IF _____

THEN/IF _____ THEN/IF _____

THEN/IF _____ THEN _____

(1) Teachers apply the knowledge in their science classrooms.

(2) Teachers attend the workshop.

(3) Student achievement on the state science assessment improves

(4) The state develops a science professional development workshop for teachers.

(5) Students are more engaged in learning the content.

(6) Teachers increase content-knowledge and pedagogical knowledge

Supporting materials for this section include:

- Slides: 42-44

# Next Steps and Closing Words

In building a logic model, it is important to consider the following questions:

- Do I understand the different elements of the logic model and how they differ?
- Who should I consult in the development of the logic model? What colleagues and stakeholders should be participants in the development of the logic model?
- Who will be responsible for seeing this through?
- How do I know I have captured the theory of action guiding the program?
- How will we use the logic model once it's developed?

### Activity: Next Steps

**Directions**: On Adobe, take a moment to type in what your next step might be with regard to logic models. Consider where you are in the development of a new program, or an evaluation of a program already in place and how logic models can support this work.

Supporting materials for this section include:

- Slides: 46-53

## Final Thoughts on Logic Models

Here are a few quick reminders about what a logic model is, and what it isn't. A logic model is:

- A graphic representation of the theory of change driving a program or policy;
- A framework for planning, implementation, and evaluation.

A logic model is not:

- A strategic plan;
- An evaluation design.

While a logic model is not a strategic plan or an evaluation design, it can be useful in developing either of these more detailed resources.

A logic model is likely to be much more effective, useful, and honest if the process of generating the logic model has engaged a broad range of stakeholders in the design process. Including key voices such as staff, parents, students, funders, and others, in discussions about program design and evaluation will promote the buy-in and ongoing support of these participants as well as increase the authenticity of the model.

Logic models should be living documents that are referred to throughout the life of the program and the evaluation, and amended as needed. They are also helpful to guide a program as it evolves, and ensure that the work of the program remains focused on the key goals and outcomes.

Logic models are useful for program evaluation, especially when evaluation is considered in concert with creating the logic model at the early stages of program development. It is much better to consider evaluation at the outset of a program or policy's development rather than as an afterthought or halfway through program implementation.

Good luck with this work and please contact us with questions!

Karen Shakman, Workshop Facilitator: kshakman@edc.org

Supporting materials for this section include:

- Slides: 54

Please complete the evaluation:
https://www.surveymonkey.com/s/USIA10242013

# References and Resources

There are many terrific resources available online for logic modeling and program and policy evaluation. Many of these were used in the development of this workshop. Several of the resources below provide links to additional resources, also available online.

## Logic Model Resources

University of Wisconsin Extension School: http://www.uwex.edu/ces/lmcourse/#
The University of Wisconsin Extension School has several useful resources related to logic models and evaluation.

W.K. Kellogg Foundation Logic Model Development Guide. Retrieved 3/16/2013 from http://www.wkkf.org/knowledge-center/resources/2006/02/wk-kellogg-foundation-logic-model-development-guide.aspx

Harvard Family Research Project and Coffman, J. (1999). Learning from Logic Models: An Example of a Family-School Partnership Program. Retrieved 3/16/2013 from http://www.hfrp.org/publications-resources/browse-our-publications/learning-from-logic-models-an-example-of-a-family-school-partnership-program

Innovation Network, Inc. (date unknown). Logic Model Workbook. Retrieved 3/18/2013 from *http://www.innonet.org/client_docs/File/logic_model_workbook.pdf*

## Evaluation Resources

The Administration for Children and Families, Office of Planning, Research, and Evaluation (2010). The Program Manager's Guide to Evaluation, Second Edition. Retrieved 3/16/2013 from http://www.acf.hhs.gov/programs/opre/resource/the-program-managers-guide-to-evaluation-second-edition

Bond, S., Boyd, S., and Rapp, K. (1997). Taking Stock: A Practical Guide to Evaluating your own Programs. Horizon Research, Inc. Retrieved 3/16/2013 from http://www.gao.gov/products/GAO-12-208G http://www.horizon-research.com/reports/1997/taking_stock.php

Centers for Disease Control (August, 2012). Implementing Evaluation: Learning and Growing Through Evaluation. Retrieved 3/16/2013 from http://www.cdc.gov/asthma/program_eval/guide.htm

Chinman, M., Imm, P., and Wandersman, A. (2004). Getting To Outcomes 2004: Promoting Accountability Through Methods and Tools for Planning, Implementation, and Evaluation. Rand Corporation: Santa Monica, CA. Retrieved 3/16/2013 from

http://www.rand.org/pubs/technical_reports/TR101.html

Patton, M. Q. (1997). Utilization-Focused Evaluation: The New Century Text. SAGE Publications: Thousand Oaks, CA.

United States Government Accountability Office (January 2012). Designing Evaluations. Retrieved 3/16/2013 from http://www.gao.gov/products/GAO-12-208G

W.K. Kellogg Foundation Evaluation Handbook. Retrieved 3/16/2013 from http://www.gao.gov/products/GAO-12-208G: http://www.wkkf.org/knowledge-center/resources/2010/w-k-kellogg-foundation-evaluation-handbook.aspx

The CDC has a range of evaluation resources, some produced at the CDC and some from other sources: http://www.cdc.gov/eval/resources/index.htm

These checklists, created by The Evaluation Center at the Western Michigan University may be useful in planning and monitoring evaluation: http://www.wmich.edu/evalctr/checklists/

The author would also like to acknowledge the following people for their expertise and resources in developing these materials:

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# Appendix A: Simple Logic Model Template

| **Problem Statement:** |
|---|
| |

| **Resources** | **Strategies and Activities** | **Outputs** | **Short-term Outcome** | **Long-term Outcomes** | **Impacts** |
|---|---|---|---|---|---|
| *What resources are or could reasonably be available?* | *What will the activities, events, etc. be?* | *What are the initial products of these activities?* | *What changes are expected in short-term?* | *What changes do you want to after the initial outcomes?* | *What are the hoped for changes over the long haul?* |
| | | | | | |

| **Assumptions:** |
|---|
| |

# Appendix B: Case Example District Educator Evaluation Logic Model

**Problem Statement:** The district's existing evaluation system is outdated and not compliant with new state guidelines. The current system does not accurately differentiate among teachers nor provide teachers with actionable feedback. The system does not link feedback to appropriate professional support, nor are there any connections between teachers' practice and student outcomes.

| **Resources** | **Strategies and Activities** | **Outputs** | **Short-term Outcome** | **Long-term Outcomes** | **Impacts** |
|---|---|---|---|---|---|
| *What resources are or could reasonably be available?* | *What will the activities, events, etc. be?* | *What are the initial products of these activities?* | *What changes are expected in short-term?* | *What changes wanted after initial outcomes?* | *What are hoped for changes over long haul?* |
| -Staff meeting time<br><br>-Race to the Top funds<br><br>-State evaluation resources<br><br>-Teacher support<br><br>-Strong administrator-teacher relations<br><br>-Current teacher evaluation system<br><br>-Existing professional climate task force | -Develop and implement evaluation trainings for evaluators<br><br>-Develop and implement evaluation trainings for teachers<br><br>-Develop evaluation handbook<br><br>-Research and select online platform for managing evaluation data<br><br>-Develop cross-role committee to develop system and monitor implementation. | -Recruit 12 teachers, administrators, school board member, etc. to serve on evaluation committee<br><br>-Draft new evaluation model by March; reviewed by climate task force and school board by June.<br><br>-Develop/deliver 2 summer & 2 fall workshops for evaluators.<br><br>-Develop and deliver 1 summer & 1 fall workshop for teachers, focusing on utilizing student data. | -New evaluation model utilized in 3 pilot schools in 2014-15, low-stakes.<br><br>-Online platform piloted in 3 schools<br><br>-Feedback from teachers/evaluators indicate overall positive experience with new model. | -Modifications to new evaluation based on experience of 3 pilot schools.<br><br>-New evaluation model rolled out to all schools in district in 2015-16.<br><br>-Teachers and administrators report positive climate in district climate survey<br><br>-Participating teachers report increased use of student data in evaluation discussions with principal/evaluator. | -All components of new evaluation system, incl. student data, in use in all schools.<br><br>-Teachers and administrators identify evaluation model as element of successful school climate.<br><br>-Student achievement on standardized assessments. |

**Assumptions:** Administrator and staff support of the new evaluation system is high and will be sufficient to implement the system as intended. Implementation of a new evaluation system that evaluates teacher practice and student outcomes will lead to more accurate assessments of teachers performance, and will yield positive results for professional practice and climate, and ultimately for student achievement. .

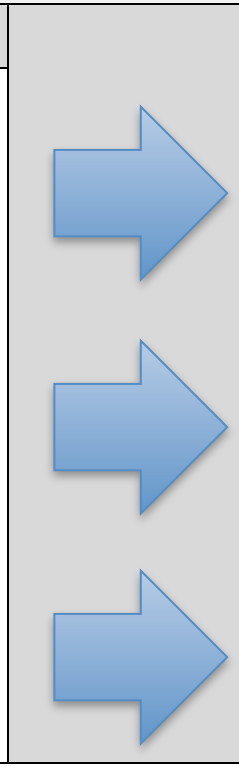
# Appendix C: Logic Model Example from REL-NEI Research on Educator Evaluation

## Educator Evaluation Systems Theory of Action

**DOE Context:** Implement four pillars of effective teaching: (1) Teacher Evaluation (2) Teacher Preparation (3) Teacher Induction (4) Professional Development

**DOE Long Term Goals:** To (1) support teachers' continuous improvement (2) improve student learning and other outcomes

**DOE Evaluation Goal:** To evaluate the implementation of the state teacher evaluation framework in a subset of schools and districts in 2012-2013

| Strategies | Participants | | Implementation Outcomes | Intermediate Outcomes | Impact/Long-Term Outcomes |
|---|---|---|---|---|---|
| Design and implement new teacher evaluation systems that employ multiple measures including:<br>• Teacher observations<br>• Evaluator and teacher conferences<br>• Student learning objectives<br>• Professional growth plans that place teachers in "tracks" based on experience<br>• Multiple rating categories<br>• Teaching standards based on the Danielson framework | Teachers<br><br>Classroom and school specialists<br><br>Administrators (school & district)<br><br>Department of Education<br><br>Students<br><br>Parents<br><br>Other stakeholders (e.g. school committees, school board) |  | District teacher evaluation plans correspond with state guidelines<br><br>District teacher evaluation systems have been implemented as designed with regard to multiple measures of student learning and teacher performance including:<br>• Teacher observations<br>• Evaluator and teacher conferences<br>• Student learning objectives<br>• Professional growth plans<br><br>District teacher evaluation systems have been implemented with fidelity with regard to use of multiple rating categories | Based on information gained from evaluation of implementation:<br>• Program changes/ modifications to framework for teacher evaluation<br>• DOE provides guidance, training, and support materials for districts<br>• Individual district modifications to teacher evaluation systems<br><br>Systems differentiate among teachers based on level of experience and performance | Alignment of evaluation and professional support systems;<br><br>Improvement in teacher practice;<br><br>Improvement in student learning outcomes including:<br>• Higher achievement on standardized assessments<br>• Decreased dropout rate |

ASSUMPTIONS: (1) DOE assumes that educator evaluation is one of four essential pillars of effective teaching, so to maximize long-term outcomes, all pillars need to be in place and integrated. (2) DOE assumes that if districts implement reformed teacher evaluation systems, that map onto NH Blueprint, then district level systems will lead to long-term outcomes indicated above. (3) DOE hypothesizes that achievement of outcomes will be influenced by professional climate. Schools with favorable climate will be more likely to have successful implementation.

# Appendix D: Links to other Logic Model Examples

Links to other logic model examples and resources available online:

Several logic model examples at University of Wisconsin Extension:
http://www.uwex.edu/ces/pdande/evaluation/evallogicmodelexamples.html

Harvard Family Research Project Family Involvement Project Logic Model:
http://www.hfrp.org/var/hfrp/storage/fckeditor/File/logic_eval_diagram1.pdf

Centers for Disease Control Example State Education Agency Logic Model for Healthy Youth program: http://www.cdc.gov/HealthyYouth/evaluation/pdf/sp_kit/logicmodel.pdf

Specifically related to Teacher Professional Development:

UC-Davis Center for Education and Evaluation Services (http://education.ucdavis.edu/education-evaluation-services) slide presentation on Logic Models for Professional Development:
http://www.cera-web.org/wp-content/uploads/presentations/amy_falk_smith__christine_kelly/Smith%20&%20Kelly%20CERA%202011.pdf

UCLA Graduate School of Education's Center X Logic Model for Teacher Initiated Inquiry Projects:
http://centerx.gseis.ucla.edu/partnerships-grants/tiip/research-evaluation/program-resources/documents-library/TIIP%20Program%20Logic%20Model-2.pdf

Specifically related to Science PD (informed development of Science PD Case):

http://www.wastatelaser.org/_resources/WA-LogicModel_Ver-062910.pdf

http://www.sciencepartnership.org/uploads/1/4/3/7/14376492/appedix_a_logic_model_2013-14_ebsp.pdf