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# Guidelines for Program Logic Model Development

Research Works, Inc.  
40 Garden Street, Suite 201  
Poughkeepsie, NY 12601  
Voice: 845-471-4014      Fax: 845-473-4575

## LOGIC MODELS

# Program Theory + Implementation Theory = Program Theory of Change

*Program Theory is the set of assumptions about the manner in which the program relates to the social benefits it is supposed to produce.*

*Implementation Theory relates to the strategy and tactics the program has adopted to achieve its goals and objectives.*

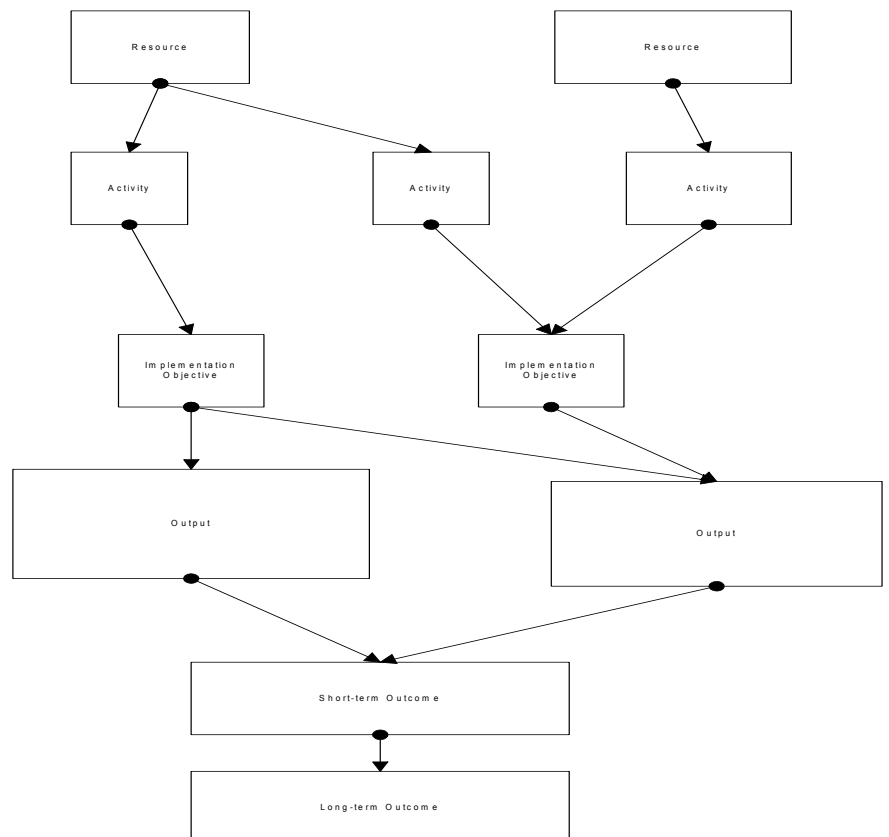
*A Logic Model is the profile of a program. It documents in a clear, simple and systematic fashion the essence of a program, what it does (activities), what it produces (outputs) and what effects these outputs have (impacts).*

## LOGIC MODELS

**LOGIC MODELS THEREFORE HELP TO IDENTIFY AND LINK THE RESEARCH BASE OF INITIATIVES—WHICH IS THEIR PROGRAM THEORY - WITH THE OPERATIONAL BASIS OF THEIR IMPLEMENTATION STRATEGIES - WHICH IS THE IMPLEMENTATION THEORY.**

**A LOGIC MODEL IS NOT AN IMPLEMENTATION PLAN.**

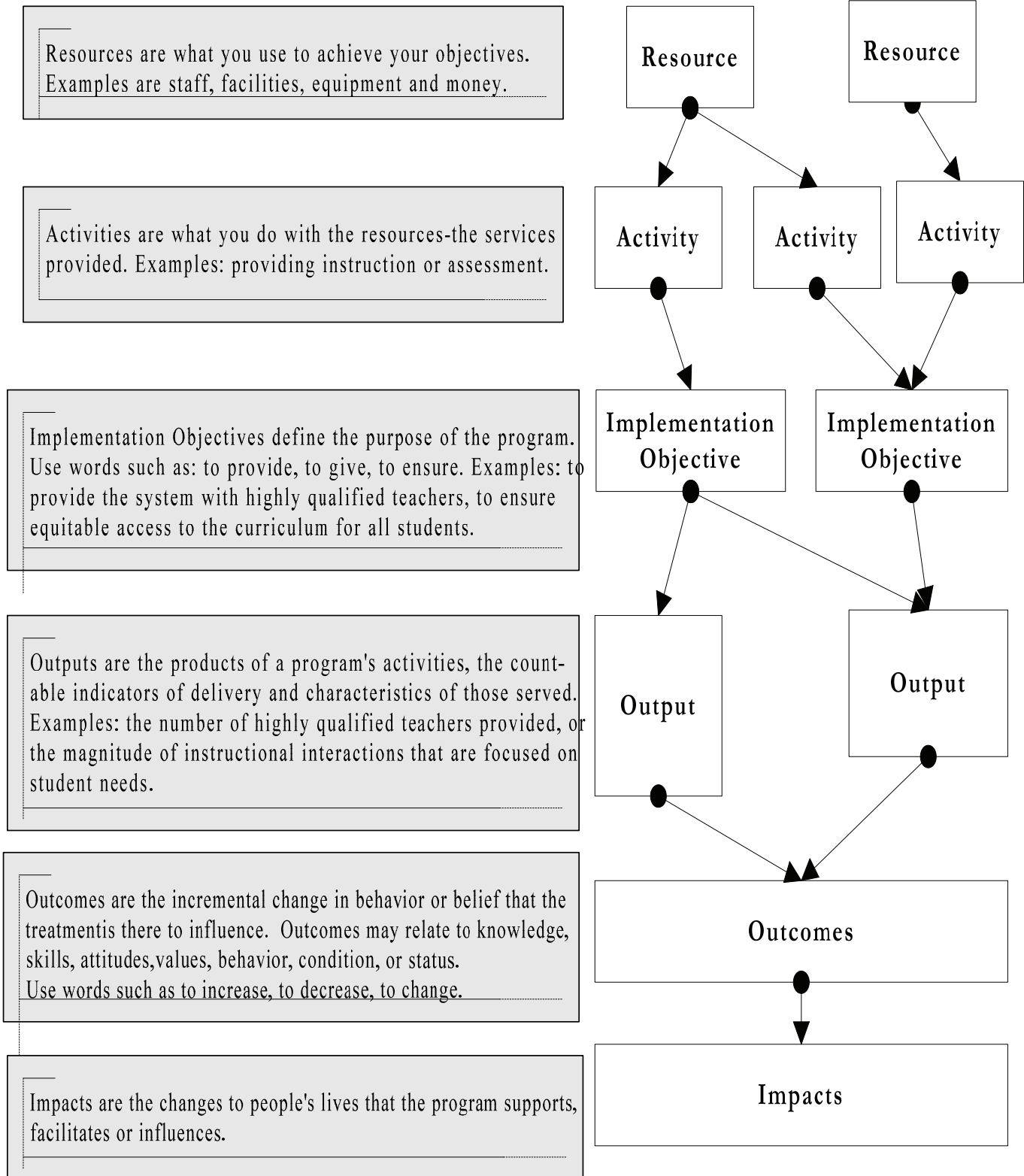
Logic Model Graphic



*Program* here is bounded by the relevant jurisdiction of the decision – makers expected to act on any information that this analysis produces. The most critical aspect of defining program boundaries is to ensure that they encompass all the important activities, events, and resources linked to one or more outcomes recognized as central to the endeavor.

# LOGIC MODELS

## Logic Model Graphic



“If you don’t know where you’re going, how you gonna know when you get there?”

Yogi Berra

Logic  
Models Help  
to Focus on  
Results

### Use Theory of Change and Logic Modeling and You Have:

Clear accountability measures: The relative nature of the Logic Model, and its link back to the program theory and implementation theory, provides a relational accountability function that is inbuilt.

Clear function articulation: The Logic Model provides a chart of the program, regardless of the level of the system the program represents.

Clear implementation monitoring for managers: Logic Model ‘boxes’ articulate functions, which the implementation theory justifies. Logic Model ‘arrows’ identify connections which the program theory assumes.

Clear parameters for comprehensive change management across the system: The Logic Model gives managers, program developers and evaluators a set of agreed upon outcomes that all efforts should support.

Clear reports to the public: Making the expected relationship of activities, purposes, measurable products, and hoped for outcomes clear focuses public reporting and provides clarity to the link from those to resource allocation and use.

Focusing on results means seamless production of accountability information. Logic models help you to implement, monitor, and report.

# Program Theory, Implementation Theory & Theory of Change

In many evaluations, the first task of the evaluator is to review program materials, the grant narrative, and other documents to familiarize themselves with the program design, expected outcomes of program activities, and overall results the program seeks to achieve. This process is also known as establishing the **program theory**.

A program theory is a statement of the assumed relationship between the change programs want to have happen and both why they think the program they are providing will be successful in effecting those changes (their descriptive assumptions) and what they are going to do to achieve that change (their prescriptive assumptions). The descriptive assumptions (change model) are based in both research and the prior experience of praxis. These combine with the prescriptive assumptions (the program action model detailing things such as: goals and outcomes, determinants, the intervention or treatment, program implementers, and target population) to articulate the program theory. The program theory defines the assumptions of intervention strength as an operative model of research based and practically serviceable programming. Thus, **the program theory is a summary of the cause → effect assumptions of the program intervention and their justification.** (Research Works, 2009, *Functional Evaluation Guidelines*)

## Creating a Program Logic Model Based on The Program Theory

Using the program theory as a starting point, our next step is to focus on the concrete areas of the program for management use in developing their Implementation Plan (their **program theory of action**) and evaluation use in developing their Implementation and Impact Evaluation Plans.

The program theory is **mapped** onto a Program Logic Model to ensure that:

- The program is clearly defined,
- The program theory can be operationalized (through the managers' Implementation Plan), and
- The indicators and measures the evaluation will employ are identified and agreed upon.

The creation of the program logic model should be a collaborative process with stakeholders. This task serves an important purpose. While many grantees may have already developed a program logic model during the writing of the grant program proposal, the Logic Model Development or Review process should clarify existing logic models. (Leviton, 2006) In circumstances where a logic model was not used during the design phase, evaluators can apply the technique to already designed, and even already operational programs in order to support efficient and effective use by program management as they apply their Implementation Plan. In all cases, the program logic model should help to ensure fair and reasonable measurement of the program's implementation and impact.

In either case, the purpose of creating the program logic model in a collaborative process with key stakeholders prior to program implementation is to take the program narrative, goals and objectives and to transform them to a performance based (results based) framework. The logic model should not change anything about what the program is designed to accomplish. It is a tool to map the program as designed into a performance based framework so that the meaning of the term 'performance based' is clearly obvious to program management, key program stakeholders and to the evaluator.

# The Logic Model Process Deconstructed

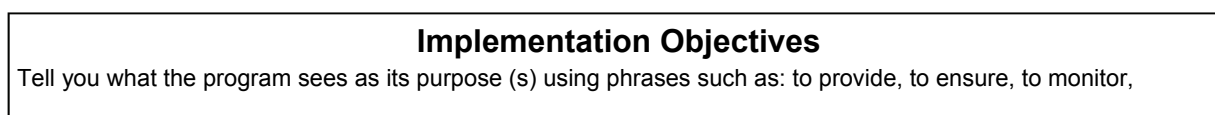
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## Logic Model Parts

Following is a discussion about a simple logic model framework. It should be all that an evaluator needs even if you have no experience working with a logic model.

### Start with the Implementation Objectives (I/O)

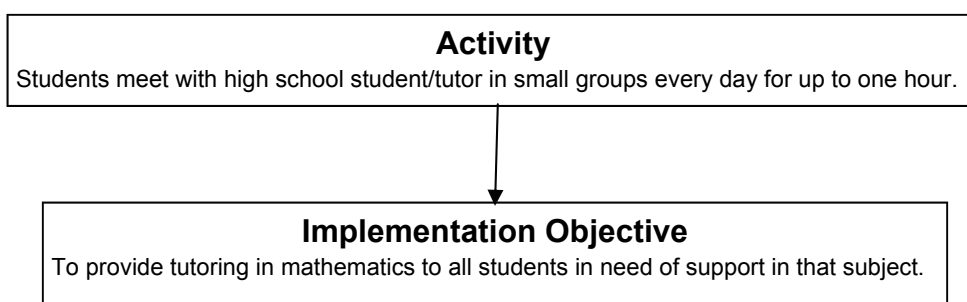
Implementation Objectives are statements of what the program activities are designed to do. For example, a program with activities focused on participants receiving academic support in mathematics might have this Implementation Objective: to provide tutoring in mathematics to all students who need support. And yes, this was probably a goal or an objective in the original grant application. This is where we find program delivery staff and program managers are most comfortable. In performance based (results based) program design (logic modeling), the intent to implement is not a result.



### Then Identify the Activities to Achieve this Implementation Objective (I/O)

Most of the proposed program activities can be found in the program narrative in the grant application. Programs are asked for their assessment of needs to be addressed by the program and then for a description of the things they will do to address these needs. Those things are most often the program activities, although they can be quite general in the grant application.

For example, the narrative might identify mathematics test scores as low (hence the I/O above) and that they will address this through the provision of 'academic support'. When you meet with the program team, which should include key program stakeholders, they will most probably have a plan to provide this support. Your job is to get them to articulate that plan, including intensity and duration of the intervention, i.e., ask them what activities, delivered by whom, how often and for how long each time. This information goes into the model as Activities.

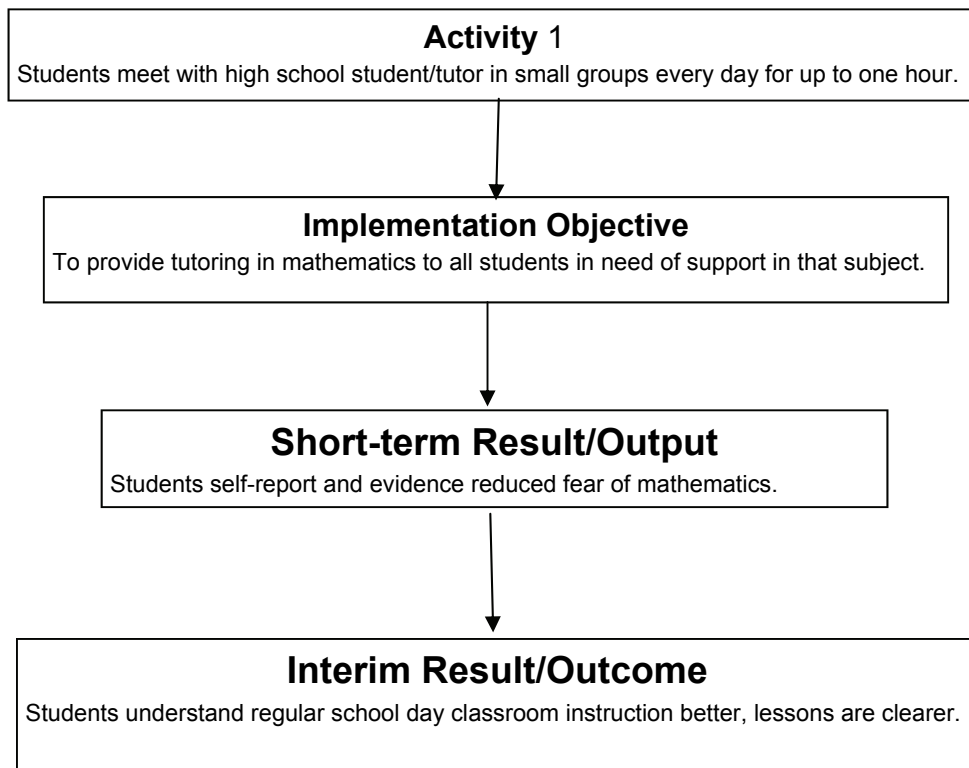


### Then Get to Results

Okay, you are going to provide tutoring support in mathematics using high school students trained in academic support/tutoring, in small groups, every day for up to one hour. Next question is: So what? What does the program staff think is going to happen because of this activity? This is usually the point where the staff looks at you as though you are crazy, but persevere. Make them say it! They have to articulate the cause → effect assumptions they make about their program. They will probably get to things like: so students will do better in math; so students understand what is going on in class; so students get over their fear of math; to support them because their parents can't/won't/don't; etc. All valid, all good, and all the basis of **results statements**.

Here is where you get to the progressive aspect of outcomes/results. This is something evaluators can take for granted and program staff may know but may not have articulated to anyone, including themselves. Results are time-keyed, with some happening first, others waiting to happen until that first level of result is achieved, and so on. So, which comes first, that students do better in math or that they understand better what is going on in class? That students do better in math or that they get over their fear of math?

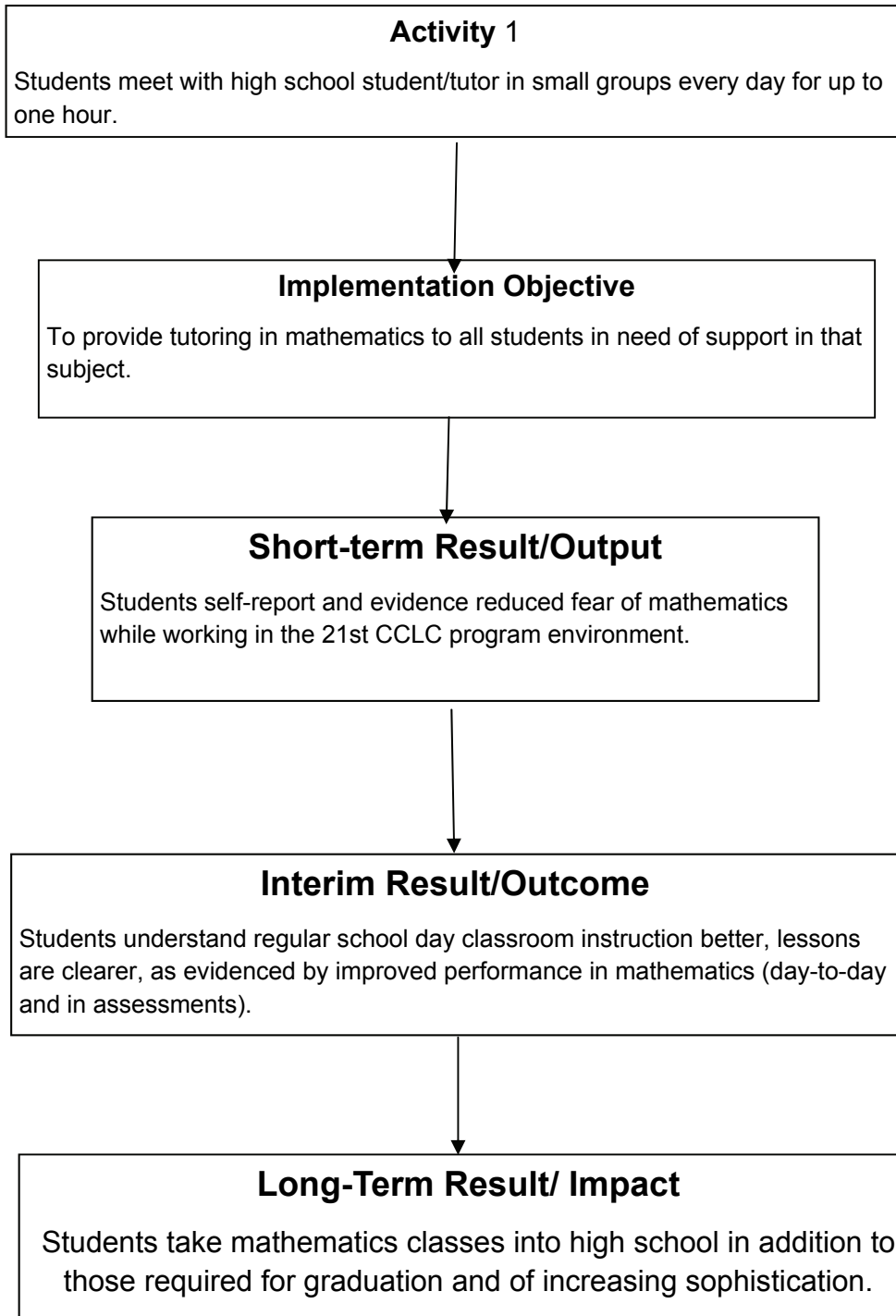
Perhaps the initial progression of Output to Outcome (results) looks like this:



Arrows in the Logic Model indicate an Assumption. We assume that the Implementation Objective is effectively operationalized by the Activity, and we assume that the Activity leads to the Short-term and Interim Results we list. It's part of the evaluator's job to check that those assumptions hold (the Implementation Evaluation), and a large part of the program manager's responsibilities to monitor the evaluation data on this. There is no use continuing an Activity that has no observed effect.

The full basic logic model sequence for this Activity appears on the next page. There are Long-term Outcomes as well, often called Impacts. These are life-changing results, which improve the life chances of the participants in any program. That makes them really quite impossible to measure directly.

**What we do is ensure that we have identified Short-term and Interim Results that give us evidence of a high probability of the final achievement of those Long-term Results/Impacts.**



**Single Activity Logic Model Strand with Indicators**



## Understanding Indicators and Evaluation Measures of Effect

The next step is to have the stakeholder team identify what proof they will accept that the Short-term and Interim Results have been achieved. These proof statements are called 'Indicators'. The State and federal evaluations are more interested in the Interim Results/Outcomes and have no real interest in receiving reports of individual programs' indicators of their Short-term Results/Outputs. The State and federal evaluations have identified their indicators of the Interim Result/Outcome, which is not to say theirs is the only one possible. Theirs is the one you have to 'report out'. As a rule of thumb, for every result statement there are at least two, no more than three, indicators, one of which should be qualitative. Each indicator has an identified 'Measure'. Sometimes evaluators combine the indicators and measures into single statements, which are fine, but we recommend if you are new to this to keep them separate while you and your program staff learn how to use these things.

Examples of Indicators for the Short-term and Interim Results we have listed, with possible measures:

***Students' evidence reduced fear of mathematics.*** Indicator: students say they are starting to like math and enjoy the work; students show signs of less stress and more engagement in math work. Measures: (1) recorded exchange with student regarding attitude towards mathematics; or survey of students based on math aversion items from standardized measurement instrument; or observation of student 'calm' during math sessions.

***Students understand classroom instruction better.*** Indicator: students say they understand what is happening in math class; students' explanation of what they are doing in math class improves in its clarity and specificity; classroom teacher reports that student seems more 'with it' in math class. Measures: recorded exchange; recorded observations; teacher surveys/interviews/feedback forms.

***Students do better in mathematics.*** Indicator: improved test scores; improved feedback on homework or in class assignments; improved report card grades; student self-report; teacher perception report; flattening of otherwise falling performance. Measures: tests; report cards; review rubric for homework and assignment scoring; teacher survey/interview/log.

## Don't Forget to Identify Necessary Resources

Programs use resources in four broad categories: human resources (personnel); material resources (books, computers, paints and scissors, etc.); physical resources (space, including activity appropriate space); and fiscal (money and other donation support, including this grant's budget). Resources support the operationalization of the Implementation Objectives and so in our model they appear above the Activity-Line. This is also because Resources often operate across groups of Activities. For example, a suitably qualified, committed and competent staff are a Resource to all Activities. In larger and more complex programs you may want to put a 'General Resources Line' above a 'Specific Resources (recreation equipment, art supplies, music equipment, culinary ingredients, etc.) Line' for specific Activities.

## In Conclusion

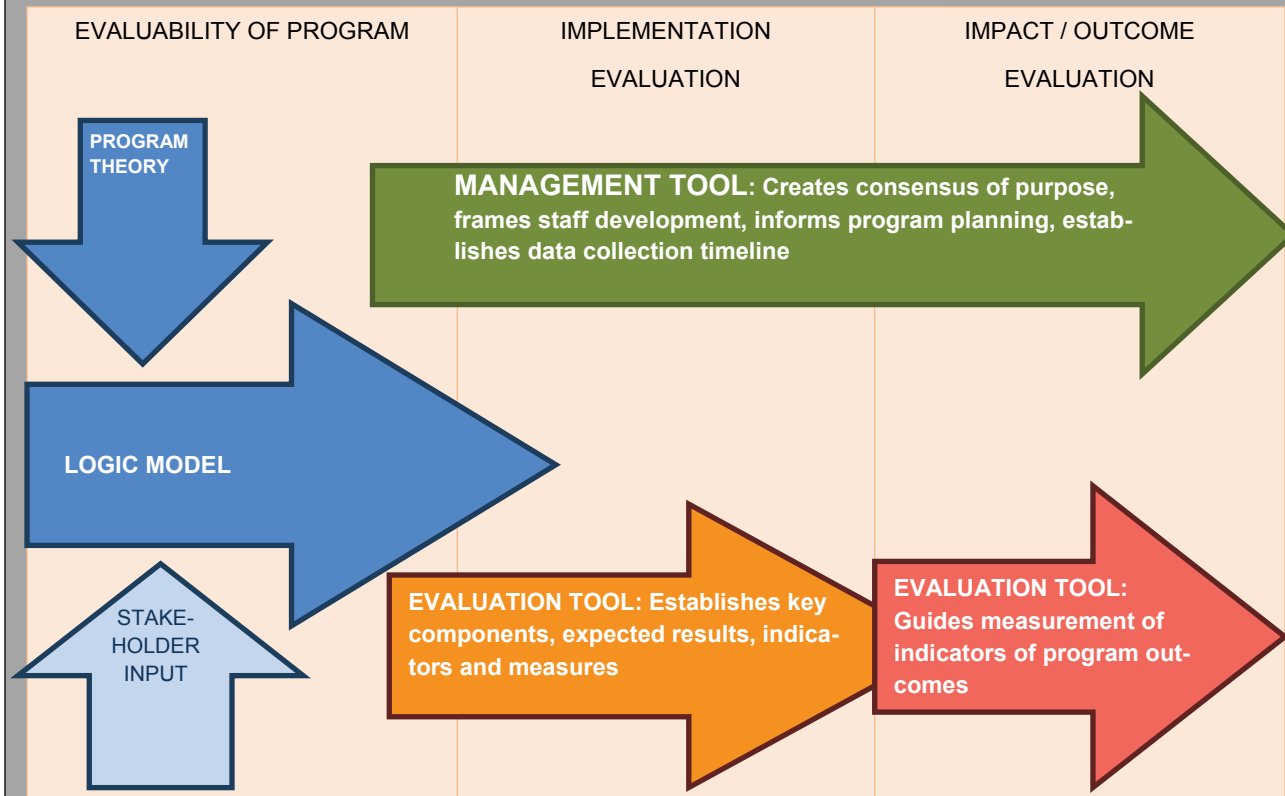
This is not rocket science, as they say. It is a process that should HELP your programs to transition their design, and how they think about what they are doing to the new criteria for success and continued funding. It is not a free pass for the evaluator to redesign their program, exert undo pressure on the program for data around what you think should be studied, or to use the portion of their budget you are being paid to do anything other than evaluate their program for them.

Some important things to keep in mind when transforming 'traditional' program designs into logic models:

- Don't waste time looking for one-to-one equivalence: goals are not necessarily long-term outcomes, for example, some are, and some are not.
- Some clients like watching the transformation, some are confused by it. It may be helpful to start the process ahead of time and show the client a partially completed logic model of their program and then enlist their help in filling in the rest – easier when they have some examples of what things mean already done. It may also be helpful to provide large sheets of paper and post-it notes so things can be moved around the logic categories.
- Remember that logic models are living documents, not set in stone parameters for any program. It is recommended that you revisit the logic model every year so you can include the morphed activities or additional implementation objectives that always crop up during implementation at the point when the program design meets the real world.
- Logic models help with some additional trouble-shooting responsibilities of evaluators listed below.
  - ⇒ Logic models can identify if there are Implementation Objectives, or Results the program has in mind for which no supporting activities have been planned. It is rather surprising how often this happens. When such gaps are identified, it can alert the evaluator and the stakeholders not to attempt to measure a 'goal or objective' which has no hope of being achieved because everyone (including you) has overlooked the activities needed to achieve them.
  - ⇒ Logic models give the program managers and program delivery staff a way of following the evaluation's measurement of their achievement of things that they are concerned with, but not always focused on.

The evaluator's role here is to keep it clear, keep it relevant, and keep it oriented towards the achievement of the excellence all stakeholders want for their program and its participants.

## USE OF LOGIC MODELS IN LOCAL EVALUATION FRAMEWORK\*



### Use of Logic Models in NY Local Program Evaluation Framework\*

\*from *Practical Applications of Logic Models to Program Evaluation*, ©Research Works, Inc., 2010, used by permission.

The New York State Education Department's 21st Century Community Learning Centers Program Evaluation Manual is your guide to the use of Logic Models and other strategies to improve your program, increase your ability to ensure program quality, efficiency and effectiveness, and address the reporting requirements of this program. It can be downloaded from: <http://www.p12.nysed.gov/sss/21stCCLC/> or from <http://www.nys21cclc.org/resources.cfm>.

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