



Using a Theory of Change

As you define your scope of work, the program development process naturally begins to take shape. Program development here refers to building a set of activities or resources in order to achieve a desired outcome or goal. Ensuring that your program is developed in a way that is directly related to your desired outcome is best done through a *theory of change* or a *logic model*.

A theory of change here refers to a description of: 1) the way in which the desired change comes about; and 2) what actions need to happen for the program to reach its intended outcomes (sometimes referred to as a theory of *action*) (Funnell & Rodgers, 2011). Because theories of change explicitly call for thinking through the evidence, research, or hypotheses (assumptions) that will lead to a desired change, it is wise to employ them when developing programs that require a significant investment of resources.

To illustrate, let's use an example scope of work from a sustainable energy team:

Households (target audience) adopt sustainable energy best practices (goal/outcome) in order to save energy and money (problem).

A theory of change related to this scope of work would cite the specific evidence, research, or hypotheses the team used connect its program outputs to the outcomes. For example, research from an Extension specialist or engaged faculty member may reveal that there is correlation or causation between solar assessments and solar installations. Thus a theory of change may be articulated in this table. (It could also be presented as a visual diagram.)

Outcome	Output	Evidence/research/hypothesis
Households adopt sustainable energy best practices		
Increased knowledge of costs and benefits of sustainable energy measures	Conduct solar assessments Sustainable energy workshops Website	Link to study showing that solar assessments increase solar installations
Easier access to sustainable energy rebates and contractors	Facilitate utility rebate applications Provide local lists of contractors Website	Link to study showing easy access to resources increases solar adoption

The stronger the evidence, the more confidence the program team can have in its theory of change. This is referred to as a theory's "degree of belief" (Bennett & Miller, 2020).

Degree of Belief	Description
Very Strong	Evidence generated by the authoring team, presence in research literature or in practice elsewhere (with reference)
Strong	Locally generated evidence by the authoring team only. Often, this level of evidence is very good, but ideas may require adaptation elsewhere as the context shifts in a scaling effort
Weak	Present in the literature, but either untried locally by the authoring team or without demonstrable quantitative evidence of improvement in the local setting
Very Weak	Belief and anecdote, often a good starting place, based in clinical knowledge or experience but with a word of caution that is yet to be proven at all in practice (either locally or in the literature).

In the absence of a strong degree of belief in support of developing your specific program, referencing general behavior change literature is advisable. Rockwell and Bennett's work on Targeting Outcomes of Programs, Rogers' Diffusion of Innovations, Lindeman's work on adult learning, Hiatt's ADKAR model, and Prochaska's Stages of Change may all have relevance to your programming. Key points from each of these general theories of behavior change are summarized in the table below.

Theory	Synopsis
ADKAR model (Hiatt, 2006)	Change requires awareness, desire, knowledge, ability, and reinforcement
Adult learning theory (Lindeman E. , 1926)	<p>Adult learning should be based on the following assumptions:</p> <ol style="list-style-type: none"> 1. Adults are motivated to learn as they experience needs and interests that learning will satisfy. 2. Adults' orientation to learning is life-centered. 3. Experience is the richest source for adult learning. 4. Adults have a deep need to be self-directing. 5. Individual differences among people increase with age.
Diffusion of Innovations (Rogers, 2003)	<p>A proposed change needs to have five characteristics for adoption:</p> <ol style="list-style-type: none"> 1. Relative Advantage: Is it perceived as better? 2. Compatibility: Is it consistent with the needs of participants? 3. Complexity: Is it relatively easy to understand and use? 4. Trialability: Can they experiment with the change before commitment? 5. Observability: Are the benefits easily visible?
Stages of Change (Prochaska, 1979)	<p>A change is subject to five stages:</p> <ol style="list-style-type: none"> 1. Pre-contemplation - people have no intention to change their behavior in the foreseeable future. 2. Contemplation - people are aware that a problem exists and are seriously thinking about addressing it, but have not yet made a commitment to take action. 3. Preparation - individuals in this stage are intending to take action in the near future. 4. Action - individuals modify their behavior, experiences, or environment in order to overcome their problems. 5. Maintenance - people work to prevent relapse and consolidate the gains they made during the action phase.
Targeting Outcomes of Programs (Rockwell & Bennett, 2004)	Achieving medium-term outcomes like changing behavior, practices, or decisions requires short-term changes to knowledge, awareness, skills, and attitudes (KASA)