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The Technical Assistance (TA) Effectiveness Logic Model: A Tool for Systematically Planning, Delivering, and Evaluating TA

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Abstract

Technical assistance (TA) is a tailored approach to capacity building that has grown in use across diverse settings over the past two decades, particularly in the domains of health improvement, child welfare, youth development, and education. In practice, TA services often include a combination of activities (e.g., coaching, professional development, site visits, and resource sharing) and vary in dosage, modality, and numerous other dimensions. While tailoring to recipient needs holds significant value, the individualized nature of TA creates challenges for assessing the effectiveness of TA. The difficulty of determining what contributes to TA outcomes is amplified when TA delivery is largely reactive (rather than proactive) and unaccompanied by a systematic approach to planning, delivery, and evaluation. Logic models are a well-established tool and a straightforward way to make TA more systematic. In this article, we introduce the TA Effectiveness Logic Model as a skeletal framework to guide systematic TA planning, delivery, and evaluation. The TA Effectiveness Logic Model graphically presents the rationale and expectations for how TA works in a setting. We describe two types of TA effectiveness logic models: basic and contextual. In addition, we offer a case example from work based on a national training and TA center to illustrate both types of logic models. Lastly, we discuss practical implications of TA effectiveness logic models for TA collaborators (funders, training and TA center administrators, TA providers, TA recipients, and researchers). Routinizing the use of TA effectiveness logic models has benefits for both the science and practice of TA.

Keywords

technical assistance (TA), logic model, support system, capacity building, training and technical assistance center (TTAC), interactive systems framework for dissemination and implementation (ISF)

Introduction

Utilization of field-tested, evidence-based interventions (EBIs) is key to advancing health equity and well-being. However, the uptake (or lack thereof) of EBIs remains a formidable and persistent challenge (Gayles et al., 2024). Many factors influence staff engagement with EBIs in any given organizational context, including motivational and capacity-related factors (e.g., staff attitudes, availability of resources, and organizational culture; Damschroder et al., 2022; Domlyn et al., 2021; Fernandez et al., 2022; Scaccia et al., 2015; Scott et al., 2024). Training and technical assistance (TTA) can help build staff motivation and increase capacity; however, these capacity building approaches have their own set of challenges. In their introduction to the special issue on *Strengthening the Science and Practice of Implementation Support: Evaluating the Effectiveness of Training and Technical Assistance Centers*, Wandersman and Scheier (2024) note the complexity of providing TTA, including multiple factors that affect practitioner ability to execute and sustain the benefits of TTA within their workplaces and mixed practitioner receptivity to TTA supports. The host of challenges presented by TTA delivery can derail TTA efforts when there is insufficient conceptual clarity and attention to the TTA approach and contextual factors (Leeman et al., 2015). Thus, it is crucial that the field develops ways to describe and evaluate TTA delivery (Leeman et al., 2015, 2017). In this article, we introduce the TA Effectiveness Logic Model as a tool that can be used to better plan, deliver, and

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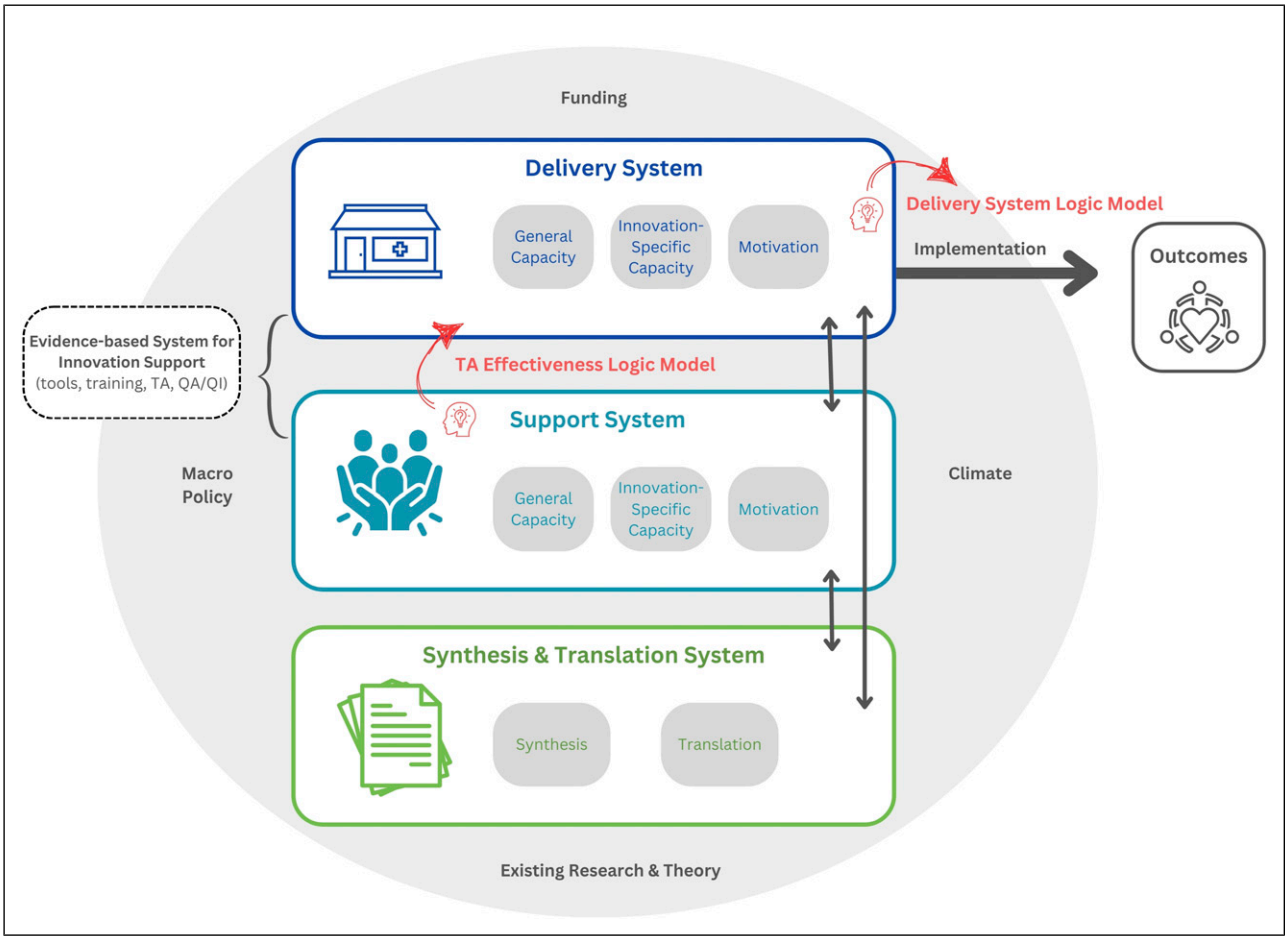
evaluate TA. A glossary of key terms, and definitions referenced in this article is available in Table 1.

The TA Effectiveness Logic Model is embedded in the Interactive Systems Framework for Dissemination and Implementation (ISF; Wandersman et al., 2008; see Figure 1). The ISF was created to help integrate research and practice to improve outcomes. The framework conceptualizes the bridge between research and practice as involving three critical systems: (i) the *delivery system*, comprised of settings (e.g., hospital or school) that deliver services and interventions (EBIs) directly to consumers; (ii) the *support system* (e.g., training and technical assistance centers, technology transfer centers, funding organizations, consulting entities, quality improvement institutes), which helps build the readiness of the delivery system for implementation; and (iii) the *synthesis and translation system* (e.g., research and policy centers, knowledge translation centers), which organizes, summarizes, and translates research findings into practitioner-friendly formats

Table 1. Key Terms and Definitions

Term	Definition
Activities	A component of a logic model that specifies the actions needed to deliver the intervention. Also referred to as *process*
Assumptions	A component of a logic model that describes beliefs and expectations relevant to the setting
Basic logic model	Sometimes referred to as a traditional logic model, this type of logic model is a graphic representation of program resources/inputs, activities, outputs, and outcomes
Context-sensitive logic model	A type of logic model that visually depicts the program, setting characteristics, and relationships between the program and setting. This type of logic model often includes assumptions (antecedent factors), and mediating and moderating factors
Delivery system	Refers to settings (e.g., hospital, public health clinic, and/or school) that deliver services and interventions (EBIs) directly to consumers (Wandersman et al., 2008)
Evidence-based intervention (EBI)	A practice, program, or activity that has been shown to be effective at improving outcomes through peer-review and documented empirical evidence of effectiveness
Inputs	A component of a logic model that describes the resources (e.g., human, financial, and technological) required to support the intervention
Interactive systems framework for dissemination and implementation (ISF)	A framework that conceptualizes the bridge between research and practice as involving three critical systems: i) The *delivery system*, comprised of settings that deliver services and interventions (EBIs) directly to consumers; ii) the *support system,* which helps build the readiness of the delivery system for implementation; and iii) the *synthesis and translation system*, which organizes, summarizes, and translates research findings into practitioner-friendly formats (Wandersman et al., 2008)
Logic model	A simplified visual representation of how a program works, that depicts the program's logical sequence—starting with inputs and progressing to activities, outputs, and outcomes (Kloos et al., 2020; W. K. Kellogg Foundation, 2004; Patton & Campbell-Patton, 2021)
Mediator	A variable that lies on the causal pathway between an intervention and targeted outcome
Moderator	A variable that influences (amplifies or attenuates) the relationship between the intervention and outcome
Outcomes	A component of a logic model that refers to the effect(s) or result(s) of the intervention
Outputs	A component of a logic model that describes the direct observable mechanics of the intervention
Program theory	A plausible or sensible conceptualization of how a program is expected to work (Bickman, 1987)
Technical assistance (TA)	A tailored approach to organizational and community capacity building, which often involves a combination of activities (e.g., coaching, professional development, site visits, and provision of informational resources; Scott et al., 2022)
TA effectiveness logic model	A graphic representation that visualizes how evidence-based, theory-informed TA is expected to work in a setting
Theory of change (TOC)	A graphic representation of a program theory that expands logic models by describing the causal mechanisms through which an intervention's inputs and activities result in a particular set of outcomes (Leviton et al., 2010)
Support system	Refers to settings (e.g., training and technical assistance centers) that provide services to the delivery system to build the readiness of the delivery system for implementation (Wandersman et al., 2008)

Figure 1. Relationship of Logic Models to the Interactive Systems Framework for Dissemination and Implementation (ISF)



Note. This figure situates TA within the Interactive Systems Framework for Dissemination and Implementation (Wandersman et al., 2008). As one of the four core elements of the Evidence-based System for Innovation Support (EBSIS), TA builds the capacity of the delivery system to implement EBIs. The TA Effectiveness Logic Model is a tool to help align the TA activities of the support system with the goals and activities of the delivery system. The tool enables TA stakeholders (e.g., TTA center administrators, TA providers, TA recipients, funders, and researchers) to be more systematic in the design, delivery, and evaluation of TA services. In Figure 1, we depict a delivery system logic model, in addition to the TA Effectiveness Logic Model, to illustrate the differential use of logic models. While the support system and delivery system each has its own logic model, both logic models will have shared outcomes to some extent. This is because the support system and delivery system are interdependent and share goals.

(Wandersman et al., 2008). The ISF provides funders, researchers, and practitioners with a shared model of how research knowledge can contribute to social improvement.

While all three ISF systems are functionally essential to achieve outcomes, implementation research primarily focuses on the delivery system (i.e., the setting that delivers services and interventions directly to consumers). In a seminal paper featuring the support system, Wandersman and colleagues (2012) present the *Evidence-based System for Innovation Support* (EBSIS) to offer a model for strengthening the science and practice of support. Their work rests on the premise that it is not only important to be evidence-based about interventions (e.g., EBIs); it is also important to be evidence-based about the approaches used to support implementation of EBIs. In other words, systematic, rigorous research and use of support system elements (tools, training, technical assistance, and quality assurance/quality improvement) matter to implementation quality and public health outcomes (Leeman et al., 2015, 2017). Research on the support system, particularly TA, is modest relative to existing scientific knowledge of the delivery system (Leeman et al., 2017; Wandersman & Scheier, 2024). This article aims to advance the science and practice of the ISF support system, and more specifically, of technical assistance (TA). The article offers a logic model tool for TA providers and TA centers to be more systematic in the design, delivery, and evaluation of TA services. In Figure 1, we depict a delivery system logic model, in addition to the TA Effectiveness Logic Model, to illustrate the differential use of logic models. While the support system and delivery system each has its own logic model, both logic models will have shared outcomes to some extent. This is because the support system and delivery system are interdependent and share goals.

Technical assistance (TA) is a tailored approach to organizational and community capacity building that has grown in use across diverse settings over the past two decades, particularly to support the uptake and implementation of EBIs (Scott et al., 2022). This approach involves the provision of tailored guidance by a TA specialist to meet the specific needs of a site(s) through collaborative communication between the TA provider and site(s)/TA recipient(s) (CDC, 2024). TA services often include a combination of activities (e.g., coaching, facilitation, professional development, site visits, and informational resources) and vary in dosage, cadence of contact (e.g., routine, as-needed, fixed number of sessions), modality (in-person, phone, virtual) as well as numerous other dimensions (Baumgartner et al., 2018; Dunst et al., 2019a; Scott et al., 2022). The central feature of TA is that services are tailored, with variations in TA informed by unique recipient individual/organization/community needs. An overarching objective of TA is capacity building. Broadly, capacity building refers to the development of knowledge, skills, commitment, structures, systems, and leadership to enable effective health promotion or other public good outcomes (Simmons et al., 2011; Smith et al., 2006).

The highly individualized nature of TA makes evaluating the effectiveness of TA difficult. This is exacerbated by the common lack of an explicit model or organizing framework to guide TA delivery (Scott et al., 2022). TA review studies consistently conclude the need for TA planning and delivery to be more systematic in order to improve the evaluation and effectiveness of TA (Dunst et al., 2019b; Katz & Wandersman, 2016; Scott et al., 2022; West et al., 2012). Through the process of articulating how TA works, logic models can be a straightforward and robust tool to help make TA more systematic, particularly in the TA planning stage when linkages between TA activities and outcomes are in development.

Logic Models: Applications and Benefits

A program theory is a plausible or sensible conceptualization of how a program is expected to work (Bickman, 1987). A *logic model* is a simplified visual representation of a program theory (Kloos et al., 2020; Patton & Campbell-Patton, 2021; W.K. Kellogg Foundation, 2004). It describes a program's theory through linkages between program services and outcomes (Frechtling, 2015). Logic models of various forms (e.g., tabular, diagram, and narrative) have been widely used since the 1960's (Bickman, 1987; Chen, 1990; Frechtling, 2015; Funnell & Rogers, 2011). Key elements of a logic model include program resources/inputs, activities, outputs, and outcomes (Wholey, 1983, 1987). Logic models can range from basic to more complex, varying in the extent to which intervention elements, setting characteristics, and relationships are portrayed (Mills et al., 2019). See Table 1 for logic model terms and definitions.

The process of constructing logic models offers many benefits. For one thing, it enhances program design by making program components (assumptions, inputs, activities, outcomes, and contextual factors) explicit, which can reveal critical underlying assumptions, implausible linkages, and program misalignments (Millar et al., 2001; Moore et al., 2015; Renger & Titcomb, 2002; W.K. Kellogg Foundation, 2004). Furthermore, logic models can do the following: (1) strengthen program evaluation by calling into question the appropriateness of output and outcome measures (Frechtling, 2015; McLaughlin & Jordan, 1999; Patton & Campbell-Patton, 2021); (2) build a shared understanding of how a program works and garner stakeholder buy-in when developed jointly (Greenfield et al., 2016; Kaplan & Garrett, 2005; McLaughlin & Jordan, 1999); and (3) enhance communication among stakeholders (funders, researchers, evaluators, organizational leadership and staff, and community members; Ebenso et al., 2019; Kaplan & Garrett, 2005; McLaughlin & Jordan, 1999; W.K. Kellogg Foundation, 2004).

Logic models are increasingly sought by funders for accountability and result management purposes (Frechtling, 2015; McLaughlin & Jordan, 2015). Historically, logic models primarily served the delivery system as a means to illustrate linkages between program services and outcomes. More recently, the use of logic models has expanded beyond programs to other domains because of the utility of logic models for stimulating communication and collaboration. For example, logic models are used to advance complexity science in healthcare research (Mills et al., 2019), to guide systematic reviews (Baxter et al., 2014), and are recommended for implementation framework research (Moullin et al., 2020). Similar to the benefits of logic models for the delivery system, logic models can have significant utility for strengthening the research and practice of the support system (the entities that help build the readiness of the delivery system for implementation). Logic models have been applied to the development of trainings—a core ISF support system element and EBSIS capacity-building approach (e.g., Damasceno et al., 2012). We propose the use of logic models as a tool for TA, particularly for training and technical assistance centers (TTACs) and TA providers.

In this article, we introduce two types of TA effectiveness logic models: (i) *basic* logic model and (ii) *context-sensitive* logic model. Additionally, we offer a case example to illustrate a real-world application of the logic model in a TTAC that provides support to local education agencies (LEAs) tasked with implementing EBIs to improve school safety and student mental health. Finally, we discuss practical implications for using a TA logic model.

Technical Assistance (TA) Effectiveness Logic Model

A TA effectiveness logic model visually depicts the rationale and expectations for how TA works in a setting. The term "effectiveness" emphasizes the importance of TA design, delivery, and evaluation that is evidence-based and informed by theory. The features of the logic model can vary based on the needs of the intended stakeholders. For example, a basic

logic model may be more appropriate for the early stages of TA planning, when organizational capacities (resources and skills) for logic model development are minimal or when a simple visual is needed to easily communicate how TA works to external groups (McLaughlin & Jordan, 1999). On the other hand, a more sophisticated version of a logic model, such as a context-sensitive logic model, is useful during TA delivery, once interactions between TA activities and setting characteristics have been observed (Mills et al., 2019). Conceptually speaking, a context-sensitive logic model is also relatively more valuable for TA process evaluation and improvement because linkages among TA mechanisms and the setting can be made explicit. In this way, context-sensitive logic models may be most valuable for TA staff (TA providers and TA organizational leadership) who are accountable for the delivery and outcomes of TA. Table 2 contains a comparison of the two types of TA logic models.

TA Effectiveness Logic Model: Basic Type. A basic TA effectiveness logic model portrays the assumptions, inputs, process, outputs, and outcomes of TA. *Assumptions* describe beliefs and expectations relevant to TA delivery in the target setting. *Inputs* refer to setting resources (e.g., human, financial, technological, and organizational) critical to TA delivery. *Activities* specify the activities of TA (e.g., coaching, site visit, resource sharing) and/or the TA approach (e.g., Define-Assess-Plan-Implement-Monitor [DAPIM, Barbee et al., 2017], Preparation-Plan-Implement-Evaluate-Sustain [PPIES, Dunst et al., 2019b), Getting-To-Outcomes® TA [GTO-TA, Lamont et al., 2024]). The Activities section of the logic model may also contain theories relevant to the TA approach/activities. For example, readiness-to-change theories (e.g. theory of organizational readiness for change [Weiner, 2020; Mitchell et al., 2002; Domlyn et al., 2021]; transtheoretical model of behavioral change [Prochaska & DiClemente, 1993; Prochaska & Velicer, 1997]), change management theories (Kotter, 1996; diffusion of innovations [Rogers, 2004; Valente & Rogers, 1995], learning theories (e.g. adult learning theory [Knowles, 2011], experiential learning theory [Kolb, 2014]), and behavioral change theories (e.g., social cognitive theory [Bandura, 1999], self-efficacy [Bandura, 1977], theory of planned behavior [Ajzen, 1985], goal-setting theory [Locke & Latham, 1990]) – although the literature on TA rarely has provided explicit theories related to TA. *The Outputs* section of a logic model describes the direct observable mechanics of TA delivery. *Outcomes* refer to the effect(s) or result(s) of TA services. Outcomes can be specified further, for example, by timeframe (short-term, mid-term, or long-term). We include the term "capacity" when referring to TA proximal outcomes (i.e. "proximal capacity outcomes") to differentiate support system outcomes and delivery system outcomes. Figure 2 provides a basic TA effectiveness logic model template with assumptions, inputs, process activities, outputs, and outcomes. In a basic TA logic model, the relationship among the logic model categories tends to be broadly specified and unidirectional.

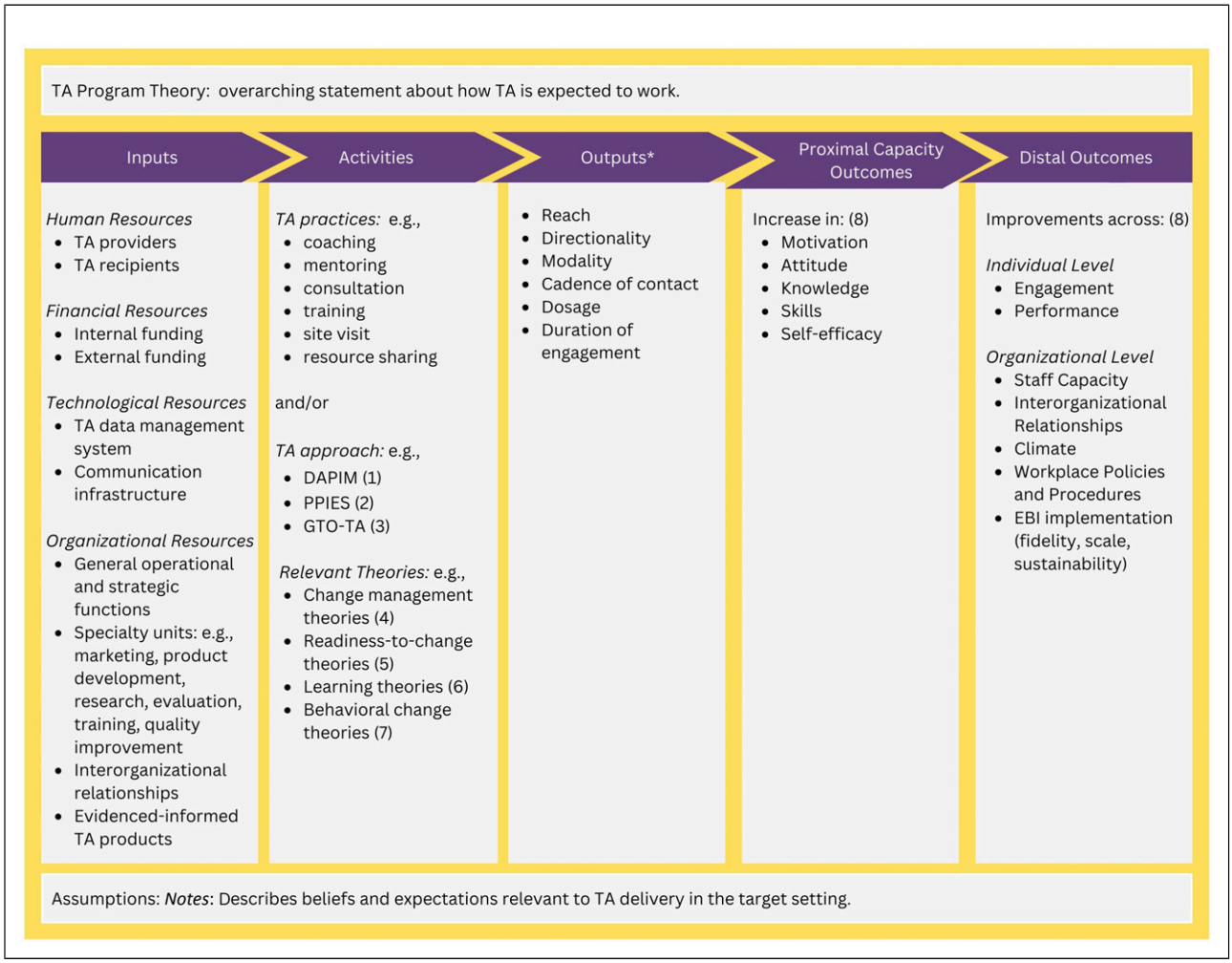
TA Effectiveness Logic Model: Context-Sensitive Type. A context-sensitive TA effectiveness logic model reflects TA, setting characteristics, and relationships between TA and the setting.[1] This type of logic model depicts the TA approach (method or form of TA provision) and includes moderators (setting influences on the TA approach), outcomes (proximal and distal effects of TA delivery), and a feedback cycle between TA outcomes and delivery approach (see Figure 3). Rather than a precise list of TA resources (inputs) and activities (process) as included in the basic logic model, an overarching evidence-based and theory-informed TA approach is designed to allow variation in TA implementation across settings. Influences of the TA recipient, TA provider, and the broader socio-political environment are specified as contextual moderators of TA. Additionally, proximal and distal outcomes are portrayed and feedback loops are used to illustrate iterative relationships. Context-sensitive logic models are particularly valuable when implementing complex interventions (programs with multiple

Table 2. Basic versus Context-Sensitive Logic Models: Characteristics, Benefits, and Limitations

Logic model typology	Description	Benefits	Limitations
Basic	A basic TA logic model is focused on TA. It depicts the inputs, process, outputs, and outcomes of TA. *Format*: Generally linear	Relatively easy to develop and to comprehend Useful for consensus building	Fails to capture the complexity(s) of TA delivery and the influence of salient contextual factors (moderators)
Context-sensitive	A context-sensitive logic model depicts the TA approach, setting characteristics, and relationships between TA and the setting *Format*: Includes linear, bi/multi-directional elements, and feedback loops	Explicitly depicts relationships (interactions) between TA and the setting Provides a more socio-ecologically valid depiction of TA in action	May be more difficult to digest due to the level of detail and non-linear format

Note. In this table, we offer a categorical presentation of logic models. In practice, logic models can range in complexity, representation of contextual details, and format. The most optimal logic model depends on a host of factors including, but not limited to: target audience, stage of TA lifecycle (early, mid, or seasoned), TA and setting complexity, and extent to which relationships between TA and the setting is understood.

Figure 2. Generic Basic TA Effectiveness Logic Model



Notes. Taken from (1) Barbee et al., 2017, (2) Dunst et al., 2019b, (3) Lamont et al., 2024, (4) Kotter, 1996; Valente & Rogers 1995; Rogers, 2004, (5) Weiner, 2020; Mitchell et al. 2002; Domnlyn et al., 2021; Prochaska & DiClemente, 1993; Prochaska & Velicer, 1997, (6) Knowles, 2011; Kolb, 2014, (7) Bandura, 1999; Bandura, 1977; Ajzen, 1985; Locke & Latham, 1990, (8) Scott et al., 2022

**Reach* measures the number of units (e.g., individuals and organizations) receiving TA. *Directionality* describes the source initiating TA contact (i.e., provider, recipient, or bi-directional). *Modality* refers to the medium for TA delivery (e.g., virtual, in-person). *Cadence of contact* refers to the schedule of TA services (e.g., routine, as-needed, fixed number). *Dosage* refers to total amount (hours) of TA provided. *Duration of engagement* reflects the total length of time of the TA services. (Scott et al., 2022)

components and involving multiple ecological levels; Mills et al., 2019).

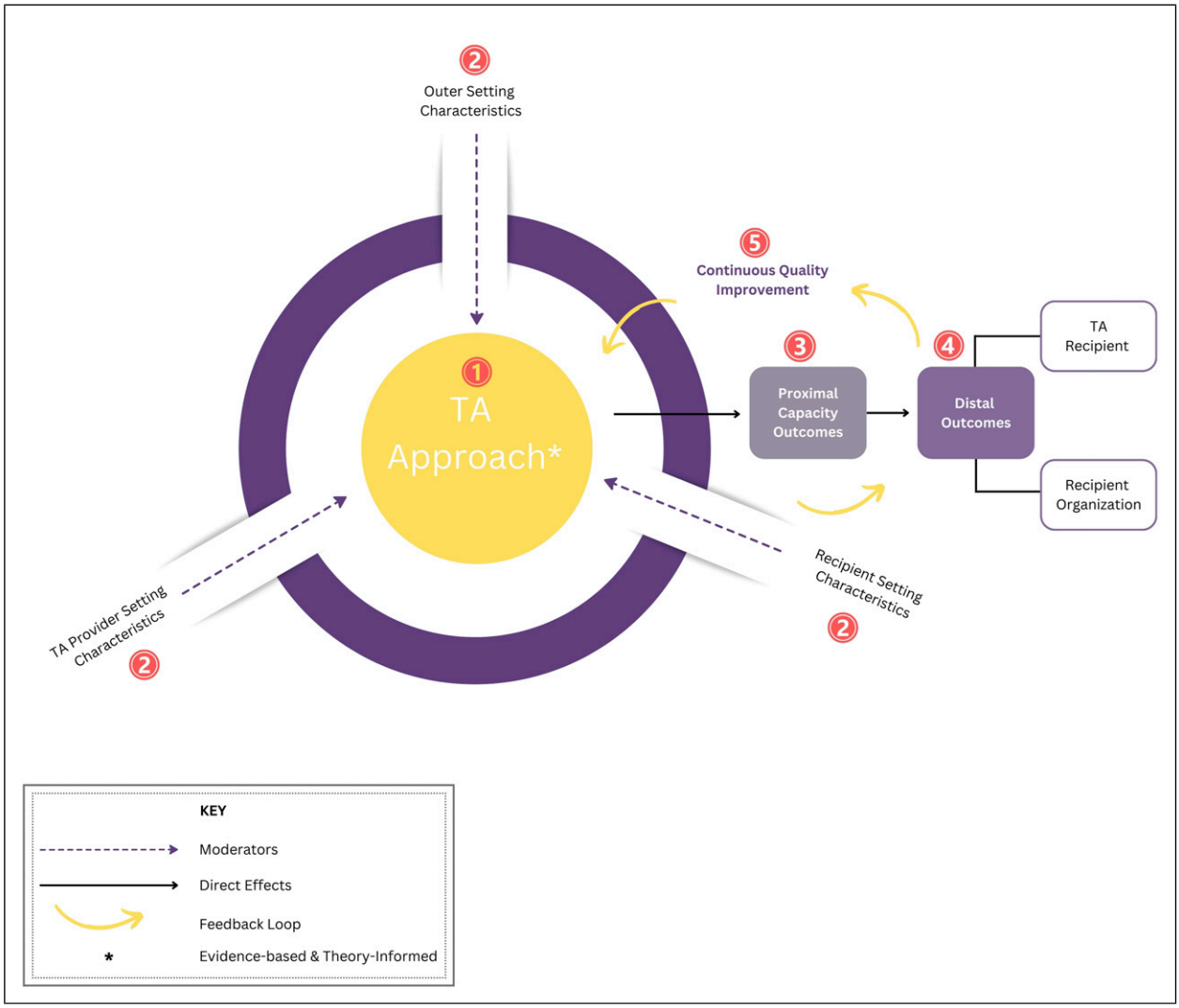
Each element of the logic model in Figure 3 is linked with questions that help to clarify the TA program theory. These questions can be used to guide both planning and evaluation of TA. Figure 4 contains some example questions. We draw on the Getting to Outcomes® framework to offer a systematic approach to TA planning, implementation, and evaluation (Fetterman et al., 2015; Wandersman et al., 2000, 2016).

Real-World Application: Case Example

Setting Description: National Center on Safe Supportive Learning Environments. The National Center on Safe Supportive Learning Environments (NCSSLE) is a TTAC that promotes positive school climate in pre-kindergarten to higher education settings (National Center on Safe Supportive Learning Environments, 2024a). Funded by the U.S. Department of Education's Office of Safe and Supportive Schools, NCSSLE staff specialize in the provision of TA to local educational agencies (LEAs), school districts, and state educational agencies (SEAs). Additionally, NCSSLE provides educational resources and webinars to school staff, families, and community via the Center's website. NCSSLE's support services span three tiers:

- *Universal*: primarily for the field at large, these support services include national webinars, newsletters, and providing information on the Center's website.
- *Tailored*: services in this tier are group-based and tailored to the needs of grantees with school climate

Figure 3. Generic Context-Sensitive TA Effectiveness Logic Model



improvement projects funded by the U.S. Department of Education; tailored services include communities of practice, cross-grantee topical forums, and a web platform for grantees to network and exchange information and resources.

- *Intensive*: this tier involves individualized, one-to-one supports provided to grantees via monthly virtual check-ins and as-needed communication via phone and email (proactive and reactive TA).

Through the lens of the ISF, NCSSLE represents a support system to school settings (LEAs, school districts, and SEAs). The school settings function as the delivery system, which implement EBIs and offer services to students and their families. In this case example, we focus on NCSSLE's intensive services, which provide TA to recipients of a Department of Education grant program called Project Prevent. NCSSLE provides one-to-one TA to each grant recipient organization to support the unique Project Prevent goals of each recipient organization (see Figure 5).

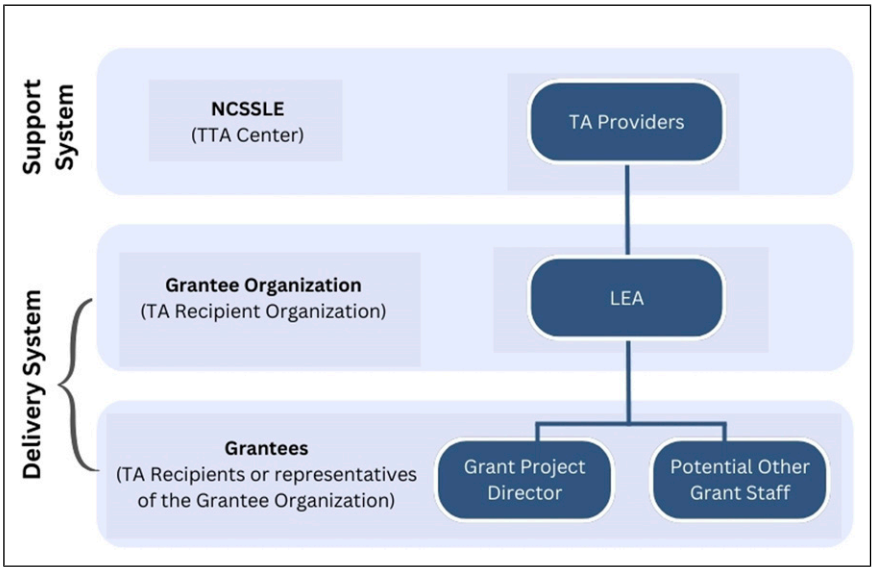
Project Prevent is a five-year grant program awarded to LEAs with the intent to: (1) increase LEA capacity to identify, assess, and serve students exposed to pervasive violence; (2) support implementation of conflict resolution programs; and (3) implement other school-based violence prevention strategies to reduce the likelihood that high-risk students will later commit violent acts. To achieve the goals of Project Prevent, grant recipient organizations must use the funds to offer students:

1. Access to school-based counseling services, or referrals to community-based counseling services for assistance in coping with trauma or anxiety,
2. School-based social and emotional supports to help address the effects of violence,
3. Conflict resolution and other school-based strategies to prevent future violence,

Figure 4. Sample Questions for Logic Model Development According to TA Stage

	Logic Model Element	TA Stage: Early Planning	TA Stage: Active or Post Delivery
1	TA Approach	What needs does TA seek to address? (TA needs) What are the TA goals? Are all key stakeholders informed about and supportive of the goals? (TA goals) What resources and capacities are available for TA? What activities make-up the TA Approach? (TA plan) What are existing assumptions about the TA intervention? What theories undergird the TA Approach? What research/best practices inform the TA Approach? What TA mechanics (outputs) will be tracked and how?	Was the program delivered as intended? (implementation fidelity) How well did recipients uptake TA services (utilization, satisfaction)
2	TA Provider Setting	What are driving values? What is the organizational culture? What is the organizational climate? How engaged is leadership? What are the capabilities of the TA providers?	How has (is) the TA Provider setting influenced the TA delivery and outcomes?
2	Recipient Setting	What are driving values? What is the organizational climate and culture? What is the readiness (capacity and motivation) of staff to receiving TA? What existing initiatives/commitments might compete with or facilitate recipient goals? How are TA services being funded and for how long? Which recipient setting characteristics are most important to monitor?	How has (is) the recipient setting influenced TA utilization and outcomes?
2	Outer Setting	What local/regional/national/global socio-political-economic forces are important to understand and attend to at this time?	How have anticipated and unanticipated local/regional/national/global socio-political-economic forces shaped the TA Approach and outcomes?
3	Proximal Capacity Outcomes	What are desired outcomes and associated metrics? Who will track the proximal capacity outcomes? And how?	What TA outcomes have been achieved? Did the TA approach work? And for whom, to what extent, and in which settings? Are there any plausible rival hypotheses that could explain the outcome(s)/result(s)? What is the short-term return on investment?
4	Distal Outcomes	What are plausible distal outcomes and associated metrics? What is the feasibility of measuring each distal outcome? Who will track the distal outcomes? And how?	How sustainable are the effects? What is the long-term return on investment?
5	Continuous Quality Improvement	How will TA delivery be monitored? What resources are important for monitoring TA activities? What are potential barriers and facilitators to conducting continuous quality improvement?	What aspects of the TA approach (TA activities) worked well (is working well) and should be continued? What aspects of the TA approach (TA activities) did not work well (is not working well) and should be discontinued? Is (was) each element proposed in the logic model implemented at the level and with the quality expected? Are (were) resources available at projected levels?

Figure 5. Organizational Structure among NCSSLE, Grantee Organization, and Grantees



4. A safer school environment via activities to address the school's most significant issues (e.g., harassment, bullying, violence, gang involvement, and substance use).

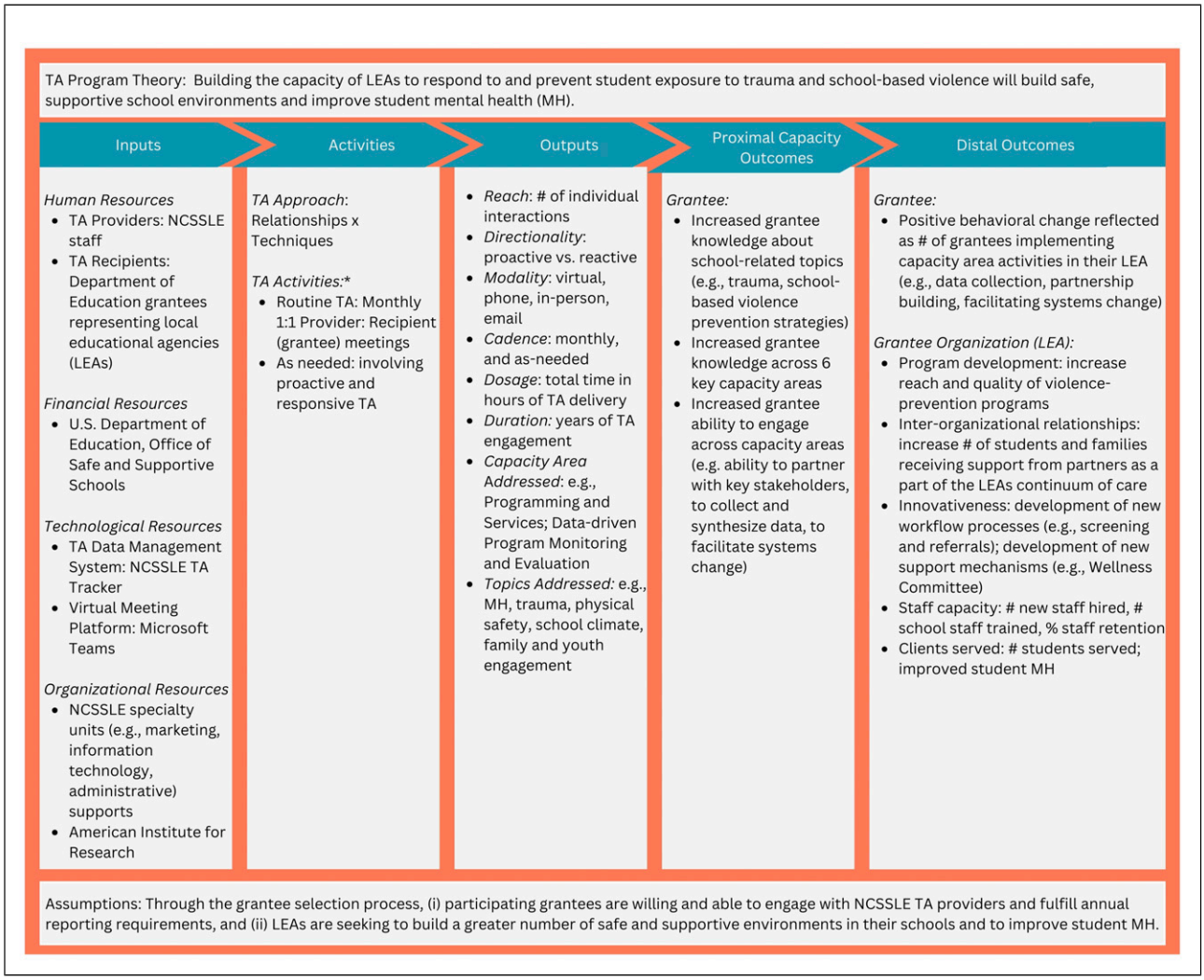
The expectation is that each grant recipient organization will select, implement, evaluate, and sustain EBIs per the project goals. Through the course of the project, grant recipients work to develop their workforce; effectively communicate, coordinate, and collaborate with stakeholders; provide programming and services; effectively collect, monitor, and analyze data that supports decision making; and consider sustainability of efforts and related systems change, while complying with grant management and administration requirements (National Center on Safe Supportive Learning Environments, 2024b).

Figure 6 presents a basic TA effectiveness logic model for Project Prevent. The TA center utilizes a *Relationships x Technique* TA approach; this is NCSSLE's own specialized approach to TA delivery, which combines an emphasis on establishing strong rapport between Project Prevent grantees and the TA provider with the use of relevant theories (e.g., adult learning theory, Knowles et al., 2011) and evidence-based practices (e.g., Getting To Outcomes®, implementation science frameworks; Rand Corporation, n.d; Fetterman et al., 2015; Wandersman et al., 2000; 2016). The period of TA engagement for each grantee organization is five years. Grantees begin their TA journey through an interactive introductory webinar that describes how NCSSLE functions as a center. During the webinar, grantees learn about the various TA supports that they will receive and are connected with a grantee cohort. After the introductory webinar, TA providers conduct needs-sensing via review of grantee applications. The needs-sensing process helps TA providers learn about each grantee organization's strengths, needs, and characteristics of their context. TA providers are then paired with grantees based on contextual factors and TA experience (e.g., have experience working in the same state as the grantee or have experience working with rural school districts). TA providers initiate their first one-to-one call with their assigned grantee.

Based on the initial engagement phase between the NCSSLE TA provider and the grantees, the TA provider develops a TA plan, which includes important contextual information (e.g., location and size of school district, population demographics, and key collaborators), summary of grantee needs, and grantee preferences for TA support (e.g., communication preferences and schedule for outreach). This document then becomes a guide that can be jointly re-visited by the TA provider and recipient. All TA services provided are documented by the TA provider in NCSSLE's TA Tracker, an electronic database that captures topics of discussion, directionality of contact (proactive vs. reactive), duration of contact, qualitative notes, emergent and ongoing needs, and other TA metrics. Outcomes of TA are measured at the individual (grantee) and organizational (LEA) level.

Figure 7 presents the context-sensitive TA effectiveness logic model for Project Prevent. Key settings that influence the Center's TA approach are NCSSLE, the LEAs, and the socio-political-economic milieu surrounding each LEA. For example, the internal operations of NCSSLE and competency of the TA providers influence the quality of TA services, and the motivation levels of Project Prevent grantees to work with NCSSLE TA providers influences what and how TA supports are provided. Additionally, the

Figure 6. Basic TA Effectiveness Logic Model for Project Prevent



Note. *involves check-in, sharing resources or knowledge, problem solving, and tending to administrative needs

politics of an LEA's state and/or preferences of the U.S. Department of Education can determine the TA topics provided (e.g., social emotional learning and trauma-informed care). Through on-going engagement with grantees over a five-year period, NCSSLE TA providers aim to build Project Prevent grantee capacity—knowledge, skills, and abilities—(proximal capacity outcome) and, in turn, enhance grantee work-based performance, build LEA system capacity, and better address student violence-related needs (distal outcomes). NCSSLE TA providers monitor and improve their TA services through informal and formal formative evaluation. As an example of informal evaluation, TA providers might inquire about emergent school-based topics through monthly check-ins and then provide new resources to meet evolving grantee needs. As an example of formal evaluation, NCSSLE TA providers administer a TA relational survey (i.e., the TA Engagement Scale; Scott et al., 2024) to understand grantees' experiences of TA services (e.g., professionalism, responsiveness, perceived value, communication effectiveness) and to identify improvement areas.

Discussion

Logic models are recognized as a crucial companion to EBIs in the delivery system, and are desired by funding agencies as a critical component of linking theory with practice (Frechtling, 2015). Within the delivery system, logic models reduce the probability of program failure through the process of articulating the program theory. The potential of logic models for the support system is largely untapped. We believe logic models can bolster the impact of support system components, such as TA, by: (1) illustrating important linkages among the support's theory, implementation, and evaluation and (2) unearthing critical underlying assumptions, implausible linkages, expectations, and key questions that may need

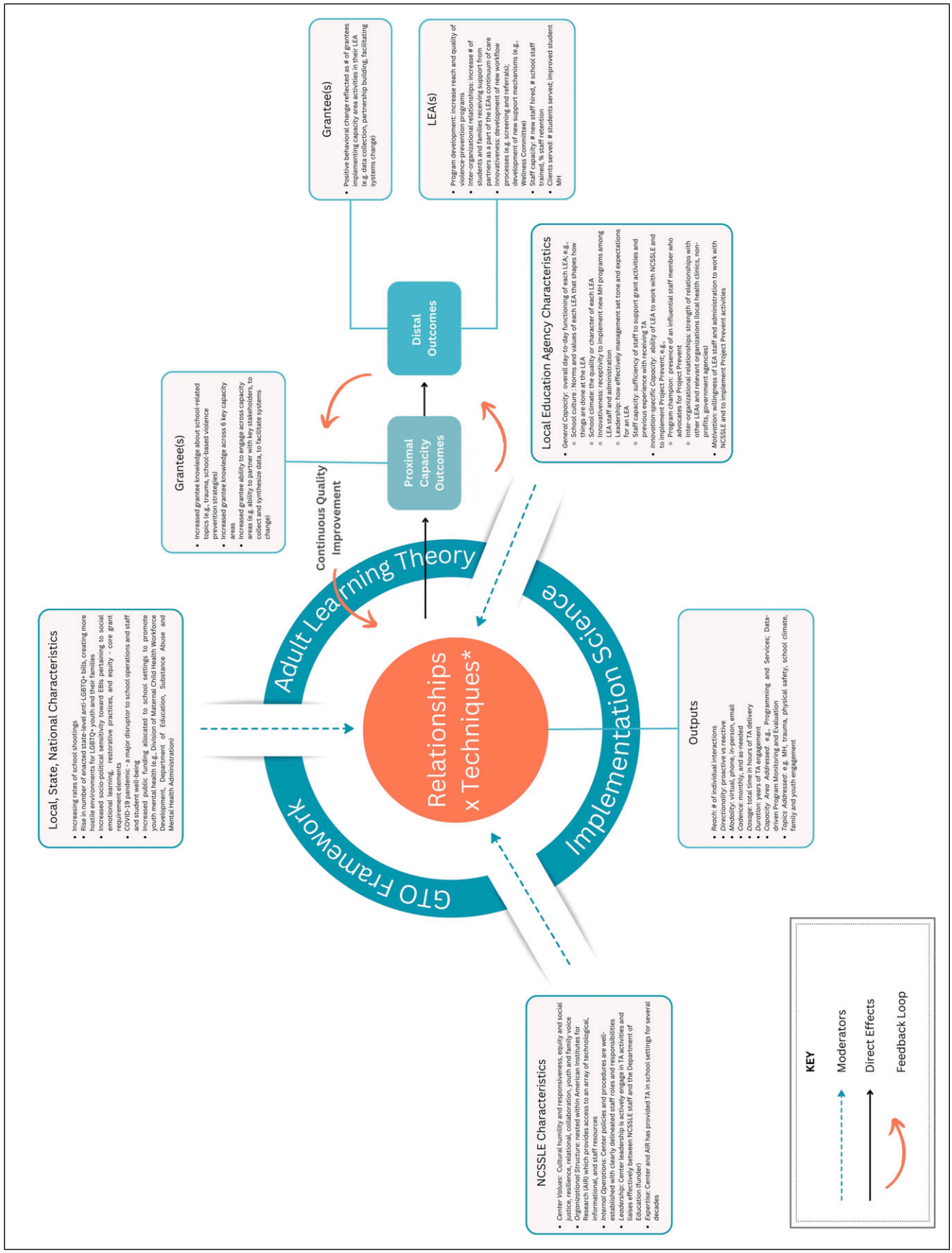


Figure 7. Context-Sensitive TA Effectiveness Logic Model for Project Prevent

to be addressed. Fortifying effectiveness of the support system, in turn, strengthens delivery system capacities for quality EBI implementation and, thereby, enhances public health outcomes (Chilenski et al., 2018; Weybright et al., 2024).

Routinizing the use of logic models across TTACs has benefits for both the science and practice of TA. At the most basic level, the process of constructing logic models requires that TA providers think systematically about how TA is designed and delivered, and it adds intentionality to how a TA provider/center is approaching TA. Integrating the logic model at an early stage of engagement with stakeholders (e.g., TA recipients) fosters shared understanding about TA activities and expected outcomes (Greenfield et al., 2016; Kaplan & Garrett, 2005; Scott et al., 2024). Furthermore, a TA logic model gives TA providers a tangible tool for continuously reflecting on the overall TA approach, rather than merely responding to challenges of the day— a reactive tendency that can be short-sighted. TA logic models can help move the TA field a major step forward from the common practice of reactive, responsive, unsystematic TA toward proactive, planful TA—a persistent need identified by numerous systematic reviews of TA (Dunst et al., 2019b; Katz & Wandersman, 2016; Scott et al., 2022; West et al., 2012). Proactive TA refers to TA provision that is anticipatory and responsive to recipients' needs (Leeman et al., 2015).

TA logic models also serve TA center administrators, funders, and TA recipients. For example, administrators might review a new TA logic model to look for alignment between a proposed TA program theory and their TA center's strategic priorities and resources. Funders might develop TTAC funding announcement opportunities to include TA logic models as a grant submission requirement and subsequently refer to these TA logic models during routine check-ins with grantees. In this way, a TA logic model might be used by a funder for both accountability and supportive process monitoring purposes. TA recipients can refer to a provider's/center's TA logic model for an overall picture of the TA program and associated outcomes. If a TA logic model is collaboratively developed between a TA provider and recipient(s) using a stakeholder-involved approach (e.g., Collaborative, Participatory, Empowerment Evaluation; Fetterman, 2014), then the logic model can serve to ensure a shared understanding about how TA will work and to support the evaluation of TA.

TA logic models can promote equity when paired with equity-centered processes, strategies, and tools. Recommendations for ensuring equitable processes include: co-creation of content, equitable and transparent distribution of roles and responsibilities, developing shared group norms, accounting for religious and national holidays when scheduling meetings, and considering accessibility issues relating to language, time, location, and technology (Salem et al., 2023). Mathematica, a U.S.-based research organization, provides useful equity-oriented strategies to engage TA recipients such as considering longer engagement periods to create more time for making progress on goals, offering virtual and in-person meeting options, and seeking to include mixed levels of staff (Conroy & Mastri, 2021). Additionally, a useful tool for ensuring participation and inclusion among individuals that are socially, economically, or environmentally marginalized is the *Knowledge Management for Global Health Logic Model* and accompanying *Equity Checklist,* which provides equity prompts to assess who and what is being included in collaborative processes (Salem et al., 2023). Collaborative TA relationships that engage marginalized persons challenge historical trends in which program recipients feel patronized by power-holding external entities, a dynamic that can interfere with implementation outcomes. When logic modeling involves marginalized persons (e.g., community members or delivery system representatives), it can shift the balance of power by giving voice and decision-making agency to those who do not have positional authority (Cooper et al., 2020; Kaplan & Garrett, 2005). Furthermore, a collaboratively developed logic model also has potential to increase the effectiveness (e.g., contextually relevant and usefulness) of support system resources, thereby ensuring that under-resourced delivery systems have what they need when they need it; this ideally increases the efficiency of and reduces burden on (and burnout of) the delivery system as well as the support system.

TA logic models are valuable for strengthening TA science. A lack of clear reporting about how TA is delivered across settings is a major limitation in scientific publications about TA (Scott et al., 2022). When TA interventions are inadequately defined and poorly described, TA researchers and practitioners are limited in the ability to study, replicate, and scale-up effective TA approaches. Integrating logic models into TA activities enhances documentation and reporting of TA activities in scientific publications. As a precursor to developing a theory of change for a TA program/intervention, constructing logic models is important to both understanding what constitutes effective TA and what factors can increase TA effectiveness.

Practical Considerations in the "How-To" of Developing Logic Models

We offer some practical considerations, drawing from our experience with TA logic modeling. These considerations are based on our multiple past and current roles as a TA provider, consultant, recipient, and implementation scientist.

Although a logic model is drawn as a graphic representation on paper, it really depicts a dynamic process. The development of a logic model commonly involves multiple iterations. The process may yield a single logic model or multiple versions that can have different purposes and be specific to different audiences. Basic logic models are relatively easy to understand; however, by design, they oversimplify reality so that relationships and processes are often portrayed as unidirectional (rather than interactive and multidirectional) and activities tend to be clustered. More complex and context-sensitive logic models yield greater ecological

validity but can be difficult to display and even harder to digest. The balance of content is an important consideration. We recommend that decisions about the "right amount of content" be guided by the stage of TA engagement/delivery (TA planning vs. implementation stage) and intended audience (e.g., TA providers, TA funder, or TA recipient). Tufte (2001) and McLaughlin and Jordan (2015) offer tools and ideas for how to improve the graphic display of complex information. One helpful practice to balance contextual complexity with the goal of a user-friendly graphic is to use supplementary narrative (addendum pages) that can more fully describe the processes underlying a logic model (Mills et al., 2019). There is an assortment of free or low-cost graphic design tools suitable for logic model development (e.g., Canva, Adobe Express, DesignWizard, Piktochart, Visme).

As indicated, useful logic models are also dynamic. Once developed, logic models need to be updated periodically to reflect shifts to a TA program/intervention, context, and operating assumptions. Thus, logic models can be metaphorically compared to "pie crusts," in that they are "made to be broken" (Leviton et al., 2010, p. 222). A good practice is to proactively schedule time to periodically review and update logic models to keep them relevant.

Collaboration, particularly between TA providers and recipients, engenders sound logic models. We encourage engagement processes that are inclusive of divergent perspectives, shared exploration of assumptions, and respectful debate. The content of the logic model should be thoughtfully discussed and challenged—and new information incorporated as needed—to establish and maintain confidence in the TA program/intervention theory. The field of evaluation offers three useful approaches to involving stakeholders: Empowerment Evaluation, Participatory Evaluation, Collaborative Evaluation (Cousins & Whitmore, 1998; Fetterman, 2023; Fetterman et al., 2015, 2017; O'Sullivan, 2012). Aligned with research calling for participatory approaches to TA (Ward et al., 2024; Yazejian et al., 2019), we recommend that the logic modeling process include multiple collaborators (e.g., TA providers, TA administrators, TA recipients, and TA funders) when possible. Ebenso et al. (2019) offer practical examples of how to involve collaborators using different modalities of information. Additionally, concept mapping can be used to elicit input from a broad range of participants about how TA should work (Sundra et al., 2005; Trochim et al., 2004; Yampolskaya et al., 2004). This can be particularly helpful for identifying the outcomes of TA.

The notion of collaborating with TA recipients in the logic modeling process may raise concerns about the burden to TA recipients. We believe that the benefits of including a sample of TA recipients outweigh, or even reduce in the long-term, the burden of time or costs both to TA recipients and TA providers. Essentially, a collaborative logic modeling process can front-load effort to reduce time and resource cost inefficiencies in the future. TA recipients are situated in the delivery system and are involved in EBI implementation activities. They intimately understand the goals of the EBI and delivery system context. Including TA recipients in the TA logic modeling process ensures that the TA logic model aligns with delivery system goals and reduces likelihood of encountering unanticipated barriers (e.g., insufficient resources, competing programs and priorities, misaligned outcome expectations). Furthermore, engaging TA recipients in logic modeling can deepen TA recipient understanding of the purpose of TA and, thereby, increase TA utilization.

Future Directions

In this article, we introduce the concept of a TA effectiveness logic model to the practice of TA as a specific way to advance the science and practice of TA. We view the use of TA logic models as an important step toward providing more proactive and systematic TA and as an intermediary step toward understanding causal relationships between TA and its outcomes, including where, when, for whom, and under what conditions a TA approach works. A vital future direction for the field of TA is the development of theories of change (TOCs) for TA programs/interventions. A TOC expands the content of logic models to specify cause-effect relationships among program resources, activities, outputs, and outcomes. Additionally, a TOC can reflect established theories (e.g., behavioral and organizational theories) or represent a hypothesized theory about how and why a program is supposed to work (Leviton et al., 2010).

The task of developing TOCs for TA is one of the promising yet daunting frontiers that Wandersman and Scheier (2024) suggest is needed to further the field of TA. They propose that advancing the effectiveness and impact of TA rests on the ability of TA researchers and practitioners to really understand the change mechanisms of TA, including how TA activities are linked to proximal and intermediate outcomes and which theories are most salient (e.g., adult learning theory, goal setting theory, theory of reasoned action, and change management theory). Wandersman and Scheier (2024) note, "Failure to address the precise ways in which implementation support and capacity building achieve their target outcomes creates a black box conundrum" (p. 145). TOCs have long been used by the delivery system, and TTACs can draw on existing TOC resources to enter this frontier.

Conclusion

The goals of the support system and delivery system are complementary and interdependent. As a key support system component, TA builds organizational capacity and motivation to implement the kind of high-quality programs necessary for meaningful societal and public health outcomes. More effective TA results in greater delivery system capacities and motivation to effectively implement EBIs. Logic models are a straightforward way to make TA planning, delivery, and evaluation more systematic. The TA Effectiveness Logic

Model offers a skeletal framework to visualize the rationale and expectations for how TA works in a setting; it provides TA stakeholders (funders, TA center administrators, TA providers, TA recipients, and researchers) with a tangible tool for continuously reflecting on and evaluating an overall TA approach. This benefits both the science and practice of TA. TA logic models can help move the TA field forward from the common practice of reactive, responsive, unsystematic TA toward proactive, planful TA—a persistent need identified by numerous systematic reviews of TA.

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This article does not contain any studies with human or animal participants.

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Note

1. While context-sensitive logic models can reflect intervening factors (mediators), we differentiate them from a theory of change. A theory of change (TOC) is a graphic representation of a program theory that expands logic models by describing the causal mechanisms through which an intervention's inputs and activities result in a particular set of outcomes (Leviton et al., 2010). In other words, a TOC visualizes specific causal pathways of a program theory. A context-sensitive logic model visualizes linkages among program components more generally while accounting for salient contextual factors.

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