Technical Assistance to Promote Service and System Change

Karen A. Blase

November 2009

Technical Assistance Center on Social Emotional Intervention for Young Children

www.challengingbehavior.org

IDEAs that Work

Roadmap to Effective Intervention Practices

4

This publication was produced by the Technical Assistance Center on Social Emotional Intervention for Young Children funded by the Office of Special Education Programs, U. S. Department of Education (H326B070002). The views expressed in this document do not necessarily represent the positions or policies of the Department of Education. No official endorsement by the U.S. Department of Education of any product, commodity, service or enterprise mentioned in this publication is intended or should be inferred.

Suggested Citation:
Blase, K. (2009). Technical Assistance to Promote Service and System Change. *Roadmap to Effective Intervention Practices #4*. Tampa, Florida: University of South Florida, Technical Assistance Center on Social Emotional Intervention for Young Children.

www.challengingbehavior.org

Roadmap to Effective Intervention Practices

Technical Assistance to Promote Service and System Change

Karen A. Blase, November 2009

This document is part of the *Roadmap to Effective Intervention Practices* series of syntheses, intended to provide summaries of existing evidence related to assessment and intervention for social-emotional challenges of young children. The purpose of the syntheses is to offer consumers (professionals, other practitioners, administrators, families, etc.) practical information in a useful, concise format and to provide references to more complete descriptions of validated assessment and intervention practices. The syntheses are produced and disseminated by the Office of Special Education Programs (OSEP) Technical Assistance Center on Social Emotional Intervention for Young Children (TACSEI).

INTRODUCTION

Making a difference for young children with challenging behaviors is vital to promoting their social, emotional, and academic success. Effective early intervention and prevention are critical to generating improved outcomes throughout the child's life. Increasingly, programs and services for young children are interested in promoting both success and inclusion in diverse environments (e.g., home, pre-school, child care, and community) for young children with, or at risk for, delays or disabilities. These two goals of creating positive outcomes and inclusion are aligned with the goals that families have for their children (Odom, 2000) and with the legal mandates and regulations promulgated at the Federal and State level (Americans with Disabilities Act of 1990; Individuals with Disabilities Education Act Amendments of 1997). But what is the best way to move from interest to action? How can attitudes, knowledge, practice, and policy be changed to support these goals? How will collaborative endeavors and systems need to change to create sustainable, effective programs and practices? And what is the role of technical assistance?

Technical assistance (TA) has long been a standard, overarching strategy for assisting, states, agencies, family members, and practitioners with building capacity for service and system change initiatives. But, what do we mean when we use the term, *technical assistance*? What outcomes are we attempting to achieve and who is our audience? What do we know about the technical assistance strategies that are likely to achieve particular outcomes? How can technical assistance strategies promote both practice and systems change?

The purpose of this TACSEI Roadmap document is to assist a range of stakeholders (e.g., early childhood service providers, parents, technical assistance providers) in understanding the types of TA that are most beneficial for achieving particular practice and systems outcomes. The paper will explore and highlight TA strategies to initiate, implement, and sustain effective practice and systems change. With this information, stakeholders at multiple levels (e.g., practice, organization, collaborative groups, state, Federal) will be better equipped to select, promote, and provide TA that is aligned with improving practice, organizations, and systems to serve young children with or at risk of disabilities with challenging needs. The content of this Roadmap is based on a broad literature related to practice, service, and systems change, data and information related to TA across a number of domains (e.g., special education, general education, community prevention, aid for developing countries), and data and best practices related to implementation and scaling up of evidence-based practices.

HOW IS TECHNICAL ASSISTANCE DEFINED?

What do we mean when we use the term *Technical Assistance*? There is no generic dictionary definition of technical assistance

(TA) nor are there commonly adopted definitions of TA in education or special education. In fact, when State Departments of Education were surveyed and asked if they had a formal statewide definition of technical assistance, only one-third of the states reported having such a definition (Council of Chief State School Officers CCSSO, 2005). However, when looking across the attempts to define technical assistance across a range of entities (e.g., the World Bank and International Monetary Fund, US Department of Education, Northwest Regional Education Laboratory), some common dimensions can be identified.

The most straightforward and overarching function of TA noted by Choudhury (2001) was the transfer of new knowledge along with new technology to others who do not know about it. Specific to education, the Northwest Regional Educational Laboratory conceptualized technical assistance as "the timely provision of specialized advice and customized support to resolve specific problems and increase clients' capacity" (Barton, 2004).

The 2005 state survey findings from the CCSSO further fleshed out the types of 'problems' and 'capacity' that states viewed as the focus for TA. First, states indicated that TA was provided to access resources on specific topics and challenges related to serving students with disabilities. The second most indicated set of functions was to assist districts with policy planning and program implementation in special education. Third, TA functions were viewed as supporting schools/districts with school improvement plans, compliance reviews, and providing support to low-performing schools and districts.

...capacity development is "the process by which individuals, organizations, institutions and societies develop abilities (individually and collectively) to perform functions, solve problems and set and achieve objectives"

There is increasing attention to providing TA focused on developing capacity and producing demonstrated impacts at multiple levels. Broadly, capacity development emphasizes the ability to define and meet challenges in a sustainable manner (International Monetary Fund, 2002). One useful operational definition of capacity development is "the process by which individuals, organizations, institutions and societies develop abilities (individually and collectively) to perform functions, solve problems and set and achieve objectives" (Godfrey et al., 2002). Godfrey et al. (2002) highlight the multi-level work of capacity building TA by recommending attention to four interrelated dimensions:

- the development of individual skills and the conditions to ensure that skills are used productively
- the development of effective organizations within which individuals can work;
- strengthening of interrelationships among entities
- the development of enabling environments for addressing issues across societal sectors.

And they note that developing individual capacity, while necessary, is not sufficient to create the capacity to identify, solve, and sustain solutions. They also refer to the capacity to replace TA functions as a result of developing capacity within the organizations and institutions themselves – the essence of regeneration and sustainability.

MATCHING TA INTENSITY TO DESIRED OUTCOMES

Fixsen, Blase, Horner and Sugai (2009) make the distinction between Basic TA and Intensive TA. Fixsen et al. (2009) articulate the value of "Basic TA" as an efficient approach for creating readiness for change and facilitating change by providing information and support (e.g., materials, summative documents, overview workshops, tools). They postulate that Basic TA strategies are most effective when the capacity to achieve change by the recipients is within the current abilities and skill sets of those involved and when funding, policies, and the infrastructure are already in place to support the new initiative or new way of work. Primarily, what is needed is timely, accurate, accessible information about the innovation, *the what*. After Basic TA services create, provide, and promote access to up-to-date information and resources about *the what*, then educators, practitioners, and administrators are *able* to use the information because they currently possess the skills and abilities (e.g., current competencies used in a new way) in a context that is largely hospitable (e.g., facilitating policies, funding, acceptance of the innovation). Or if not largely hospitable, the changes required are minor and do not create significant disturbance in the system. While not articulated in their brief, it also might be likely that such TA will be episodic and shorter-term in nature. Initiatives requiring Basic TA are frequently encountered in education settings.

...Basic TA strategies are most effective when the capacity to achieve change by the recipients is within the current abilities and skill sets of those involved and when funding, policies, and the infrastructure are already in place to support the new initiative or new way of work.

In contrast to Basic TA, Fixsen et al. (2009), indicate that Intensive TA (ITA) is required when new knowledge, skills, and abilities are called for and changes will need to occur at multiple levels to support and sustain the new ways of work. Recipients of Intensive TA need to learn the skills and develop competencies

related to the new content (the what) and supported to implement with fidelity (the how). In addition, funding, policies, procedures, and regulations will need to be modified to align with and support the new practices and programs. Such initiatives also may require thinking quite differently about problems, solutions, and may challenge current beliefs and assumptions about the problem at hand and the potential solutions (e.g., inclusion, meaningful parent involvement, early screening for social and emotional concerns). Intensive TA is inclusive of all the elements of Basic TA but requires considerable planning, frequent communication, on-site work, collaboration at multiple levels, coaching, and both process and outcome evaluation efforts at several levels (e.g., setting, organization, state) to build capacity and achieve systemic change. Intensive TA is well aligned with the multi-level work of capacity building detailed by Godfrey et.al (2002). That is, an overarching outcome of Intensive TA is to ensure that the TA functions and strategies are embedded in the capacity of the organizations and institutions themselves to ensure sustainability and continuous regeneration and improvement.

Recipients of Intensive TA need to learn the skills and develop competencies related to the new content (the what) and they also supported to implement with fidelity (the how).

The six core features of Intensive TA are:

- **Clarity** related to agreement about the needs, vision, desired changes; mutually clarified roles and responsibilities among all partners; agreement about how to create new structures, lines of communication, etc.; and clear understanding of the current context (e.g., system strengths, policies, stressors).
- **Frequent communication** with respect to on-site meetings and telephone or video conferencing to initiate and manage change. And frequent cycles of planning, execution, evaluation, and articulation of next steps to move the work forward and solve problems
- **Intensity** of collaborative work to plan, prepare, prompt and create opportunities for reflection, planning the next phase of development, and specification of "next steps" together with on-site coaching, assessments of progress, the infusion of new information into the system(s).
- **Duration** of the work may be 2 to 5 years to achieve systemic change and the TA provider is committed to building capacity during the entire term of engagement.
- **Integrity** refers to the a focus on creating a more coherent and effective system of services and supports through comprehensive work with the whole system and the use of data at multiple levels to inform decision-making
- **Accountability** for assuring that intended outcomes occur; using challenges and feedback as opportunities to bring in new strategies, partners, and knowledge to continue the work; measuring impact at multiple levels with benefits to children and their families at the core. The TA Provider behaves as though they are 100% accountable for results while simultaneously understanding and acting to create effective, collaborative efforts to achieve agreed-upon goals.

In summary, Technical Assistance is defined in a number of ways. But it may be most useful to anchor the definition in relation to the intended outcomes. Technical Assistance to promulgate awareness and encourage changes in attitudes will require different strategies than TA needed to build capacity and create service and system change. TA can and should change over time and across initiatives to match the desired outcomes, from Basic to Intensive TA and back again. This gradient from Basic TA to Intensive TA can be a useful way to analyze what is required. The following visual may be helpful in thinking about this gradient of TA services in relationship to desired outcomes.

Technical Assistance to promulgate awareness and encourage changes in attitudes will require different strategies than TA needed to build capacity and create service and system change.

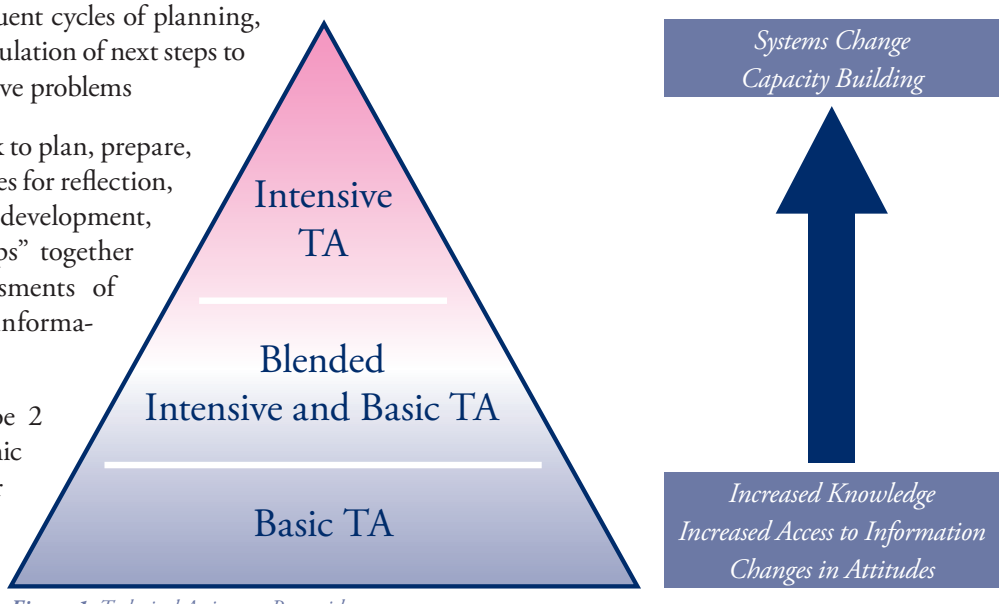

Figure 1. *Technical Assistance Pyramid*

FACTORS RELATED TO ALIGNING TA STRATEGIES WITH DESIRED OUTCOMES

It is important for stakeholders and TA providers alike to analyze key factors related to the change initiative along with the desired outcomes. Assessing such factors can help TA recipients and providers to identify the intensity of the TA strategies that may be required to successfully achieve desired outcomes. In addition, consideration of these factors allows TA recipients to better assess, select, and partner with TA services. And the analysis allows TA providers to assess and build their own capacity relative to the type(s) of TA they need to provide.

Some of the factors to be considered when analyzing an initiative and matching TA intensity to outcomes include the following:

- Degree to which the focus of the initiative is primarily on improving knowledge, increasing access to up-to-date information, and/or impacting attitudes.

  For example, practitioners in a child care setting can knowledgeably discuss the Pyramid Model or administrators are aware of changes in IDEA laws and regulations

- Degree to which skill sets needed are already in the current repertoires of staff (e.g., practitioners, supervisors, administrators, coaches) and can reasonably be expected to be used in a different context or in new combinations.

  For example, child care staff members who already skillfully demonstrate the ability to provide descriptive praise are asked to do so for a new target behavior.

- Degree to which behavior/practice changes by front-line practitioners are required to achieve outcomes (e.g., child care staff, home visitor, preschool teacher)

  For example, practice and policy changes that are instituted to reduce exclusionary practices or 'expulsions' of children with challenging behavior or to promote measureable increases in positive peer interactions may require changes in a host of front-line practices to achieve those outcomes.

- Degree to which behavior/practice changes are required at multiple levels (e.g., front-line practice, supervision, administrative practices).

  For example, supervisors need to make time for observation of staff, to provide written and verbal feedback, and to partner with staff to do professional development planning. Or staff, supervisors, and administrators all need to review individual child and group outcome data on a regular basis to make program adjustments.

- Degree to which funding and policies are currently aligned to support the initiative

  For example, current agency policy does not allow front line staff timely access to funds (e.g., petty cash or quick turnaround in funding requests) needed to purchase snacks, arrange for transportation to community recreation sites, or to purchase materials in a timely fashion. Or staffing levels and volunteer involvement do not allow for the one-to-one services needed by some children.

- Degree to which organizational and/or state resources and supports are available to support both the direct service (practitioners' work with children and families) and the required infrastructure (e.g., training, supervision, data system use).

  For example, travel funds and insurance are not available so that staff can visit families in their homes. Or coaching positions and functions are not funded to improve staff competency and confidence.

- Degree to which the initiative interacts with or "disturbs" the rest of the service system (e.g., changes in referral process, new assessments, partnerships refocused or re-formed, competition with existing services, requires new collaborative structures).

  For example, social and emotional assessments and screening are adopted and as a result expose service gaps requiring a realignment of current services and changes to the service array.

- Degree to which the initiative is designed to create or requires systemic change (broad and deep) versus encouraging 'islands of excellence' or pilot demonstrations of feasibility.

  For example, statewide screening efforts are adopted or inclusion and embedded services are implemented across an entire region or range of services.

- Degree to which the new way of work and thinking is significantly different from the current culture and thinking (e.g., inclusion, using data on a regular basis, meaningful family engagement, cross-system collaboration) and will require changing hearts and minds as well as practice and policy (Heifitz & Laurie, 1998).

  For example, advisory boards agree not to meet unless parents are at the table. Or data-based decision-making is introduced into preschool settings. Or cross-system collaboration among health, mental health, and early childhood is required to create a needed service.

In summary, the type and scale of the initiative and degree to which new skills and behaviors are required, combined with the degree of change required in practice, infrastructure, systems,

partnerships, funding, and policies will help determine the type of TA needed for a successful partnership between the TA provider and the partners requesting assistance. A TA Discussion Tool is provided at the end of this paper to help partners discuss and identify TA strategies that are aligned with the outcomes expected and that are robust enough to achieve the desired results.

...the type and scale of the initiative and degree to which new skills and behaviors are required, combined with the degree of change required in practice, infrastructure, systems, partnerships, funding, and policies will help determine the type of TA needed for a successful partnership between the TA provider and the partners requesting assistance.

INCREASING KNOWLEDGE & CHANGING ATTITUDES THROUGH BASIC TA

As noted above, Basic TA provides timely, accessible, up to date information that is needed by and useful to recipients. Such information is particularly useful for improving knowledge and changing attitudes. Paul and Redman (1997) in their review of studies of the usefulness of print material in changing health-related knowledge, attitudes, and behavior, found that such print material for patient education was more consistent in changing knowledge and attitudes than in changing behavior.

Certainly knowledge and information, provided through a variety of mediums, are crucial to stimulating and preparing for change at the individual practice, organizational, and systems levels. And there is a wealth of knowledge and information about early childhood services, supports, frameworks, assessments, and intervention strategies for young children with, or at risk for, delays or disabilities (Dunlap et al., 2006; Fox, Dunlap, Hemmeter, Joseph, & Strain, 2003; Ringwalt, 2008; Hurth, Shaw, Izeman, Whaley, & Rogers, 1999). For example, effective dissemination can increase knowledge, awareness of resources, as well as promote changes in attitudes related to the inclusion of children with special needs in many community settings (Dunlap et al., 2006; Fox et al., 2003; Ringwalt, 2008; Hurth et al., 1999). Such information is increasingly accessible at multiple venues (conferences, workshops, training institutes) and through multiple media (e.g., webinars, podcasts, newsletters, blogs, journals) for diverse groups of stakeholders (e.g., parents, educators, administrators, etc.).

Of course, such information may be disseminated more or less effectively. The National Dissemination Center for Children with Disabilities (2009) draws attention to three critical elements related to effective dissemination: access, understandability, and utilization. They also review key principles abstracted from the knowledge management and dissemination literature that are associated with effective dissemination. These overarching principles include:

- Using sources of information that are viewed as credible by the recipient
- Promoting a meaningful exchange between the information provider and the intended user of the information, including collaborative problem solving
- Employing a social-marketing approach that is oriented to the specific, intended audience
- Including multiple social components to increase the engagement, motivation, and support for users as they attempt to utilize or apply the information

Effective dissemination of information is necessary to generate interest in and readiness for actual changes in practice, programs and policy that can result in improved inclusion and social-emotional outcomes for young children. People cannot be motivated or ready for new service approaches and ways of work if they have not had the opportunity to understand, learn about, and consider the implications of such changes on many levels. In fact, there is a body of research and theory that indicates that efforts to make changes at the individual or organizational level are likely to be much more successful when individuals have the opportunity to move through their own stages of change and when activities and types of conversations are matched to the individuals' stage of change (Prochaska, Prochaska, & Levesque, 2001). Studies have found that people progress through five stages of change (Prochaska & DiClemente, 1983) from Precontemplation, in which the individual is not considering making a change, to Contemplation, or thinking about making or joining the change initiative, to Active Preparation for the change, to Taking Action and then Maintaining that change over time. Basic Technical Assistance can help prepare individuals to move through the earlier stages of change, and "get ready" to take action and join new initiatives by providing information, creating the opportunity to discuss the new ways of work and the benefits and risks of the change, and by providing the opportunity to 'try out' new approaches in the safety of a training or orientation setting.

People cannot be motivated or ready for new service approaches and ways of work if they have not had the opportunity to understand, learn about, and consider the implications of such changes on many levels.

Basic TA may not be sufficient for systemic practice change, sustaining new skills, and changing organizational and systems supports. However, the information sharing and exploration opportunities provided through Basic TA are certainly necessary to the success of such complex and systemic change processes and cannot be overlooked. In fact, research that compared Stages of Change distributions across a range of health behaviors and populations, found that for all of those individuals who were in a pre-action stage, only 20% were in Active Preparation while 80% were in Precontemplation or Contemplation and not ready to take action (Velicer, DiClemente, Prochaska, & Brandenburg, 1985; Velicer et al., 1995; Laforge, Velicer, Richmond, & Owen, 1999). While these studies were related to individuals who were considering making a change in their health behavior, Prochaska et al. (2001) point out that in organizational change if 80% of staff in the pre-action stages are in a Precontemplation or Contemplation Stage, pushing them to take action is sure to be problematic. Individuals need time, information, and activities to "get ready" for change. Providing specific information about the proposed change, discussion of pros and cons, and engendering confidence in the change are critical to helping staff begin to change. Basic TA strategies can help effectively "jump start" practice, organizational, and systems change and reduce so-called 'resistance to change.'

Basic TA strategies can help effectively "jump start" practice, organizational, and systems change and reduce so-called 'resistance to change.'

Such Basic TA is not exclusive to the Exploration Stage (Fixsen et al., 2005) of implementation but may need to be embedded throughout the all stages of implementation during Intensive TA efforts as well. After all, stakeholders, leaders, practitioners, administrators, etc. continue to come and go throughout the life of any initiative. Renewing and regenerating support, investment, and "buy-in" are shared activities among TA providers, stakeholders, and direct consumers of the TA. And if capacity building is an overarching goal, then these functions related to informing, educating, and preparing people to accept and participate in change need to be embedded in the systems and supports for the initiative.

BUILDING CAPACITY THROUGH INTENSIVE TECHNICAL ASSISTANCE

As noted earlier, Intensive TA is required when new knowledge, skills, and abilities are needed for change to occur at multiple levels. While quantitative research on the impact of TA is in a nascent state, it is important to note that positive impact has been documented in a number of qualitative and case studies in multiple domains including education, medicine, and a range of community-based and community coalition initiatives. These studies indicate that TA supports help community groups in attaining broad goals and addressing complex issues (e.g., program selection, sustainability, board cohesion) (Feinberg, Greenberg, Osgood, Anderson & Babinski, 2002). Positive results related to TA efforts also have been documented in the development and functioning of community-based AIDS networks (Yin, Gwaltney, Hare, & Butler, 1999) and in the development of tobacco control coalitions (Kegler, Steckler, Malek, & McLeroy, 1998).

In the field of early childhood inclusion for children with disabilities, Winton and Catlett (2009) cited a number of benefits for the 8 states who received Technical Assistance as part of the Natural Allies project. The project provided TA support to assist in building statewide capacity to enhance personnel preparation programs and further develop faculty who prepare practitioners who, in turn, are caring for and educating young children with disabilities in natural environments and inclusive settings. Benefits of TA ranged from improved individual capacity (e.g., increased knowledge and skills related to inclusion by those who are providing professional development), to increased organizational and system capacity (e.g., increased family involvement, formation of a statewide higher education consortium, continued system-wide use of materials to promote inclusion).

With increasing attention to the capacity building function of technical assistance, examining research related to both individual capacity building and organizational/system capacity building, helps to illuminate some of the strategies, outcomes, and challenges of providing Intensive TA with this focus. The following section of this Brief reviews both individual capacity development and organizational/system capacity development strategies and what we are learning about their impact.

INDIVIDUAL CAPACITY BUILDING THROUGH INTENSIVE TA

Technical Assistance has been provided to impact individual capacity development. As noted above, such TA has sometimes focused on broad professional development initiatives (Winton & Catlett, 2009) and at other times has been more targeted, focusing on embedded TA to directly impact and improve skills needed for promoting fidelity and quality services (e.g., through coaching) (Hemmeter & Fox, 2009).

Evaluation and research results that review the impact of TA focused on individual capacity development (e.g., technical assistance in the form of coaching or feedback for practitioners) indicate that such practice-specific TA is critical to improve practitioner competence and ensure program fidelity (Joyce and Showers, 2002; Durlak, 1998; Kelly et al., 2000; Harchik, Sherman,

Sheldon, & Strouse, 1992). Program and practice fidelity refers to the degree to which the innovation is implemented as intended by program developers and/or researchers in order to achieve positive results (Mowbray, Holter, Teague, & Bybee, 2003).

While attention to fidelity and its relationship to outcomes has not received as much attention in education as it has in other domains, particularly with regard to curriculum studies, there is a current focus on the importance of fidelity in interpreting results of both efficacy and effectiveness studies (O'Donnell, 2009). With studies in multiple domains indicating that higher fidelity is correlated with better outcomes, this 'impact' of TA to build individual capacity may be significant in achieving more consistent, positive results (O'Donnell, 2009; Hopkins, Mauss, Kearney, & Weisheit, 1988; Mitchel, Hu, McDonnell, & Swisher, 1984; Tortu & Botvin, 1989).

TA efforts aimed at improving individual practitioner competence will require Intensive TA strategies because improving and sustaining practitioner competency inevitably leads to the need for organizational and systems change. Research and evaluation findings indicate that such factors as organizational culture and leadership, resources, labor-relations, scheduling, and the need for participatory planning are variables that impact the effectiveness and sustainability of coaching in education and special education (Joyce & Showers, 2002; Denton, Vaughn, & Fletcher, 2003; Marks & Gersten, 1998). Such organizational and systems factors extend to other domains as well including the adoption of school-based tobacco prevention (McCormick & Brennan, 2001) and in the field of mental health (Kavanaugh et al., 2003).

TA efforts aimed at improving individual practitioner competence will require Intensive TA strategies because improving and sustaining practitioner competency inevitably leads to the need for organizational and systems change.

In addition to Intensive TA to address such organizational and systems factors, there is also the need for *multi-level individual capacity development* within agencies and/or the service sector. That is, not only must the competency of practitioners be developed and sustained, but the competency of coaches also must be developed and sustained. This is especially critical since quality coaching embedded in the service setting is associated with practitioners actually using newly acquired skills (Fixsen et al., 2005). Therefore, developing or improving coaching may be an important focus of Intensive TA. Intensive TA goals include ensuring that systems are put in place to develop, support, and monitor processes for selecting, training, coaching, and evaluating coaches as well as measuring the fidelity of the coaches' behavior to the intended coaching process. Research indicates that Intensive TA efforts need to focus on ensuring that coaches/consultants have the content knowledge necessary to be helpful (Schoenwald, Sheidow, & Letourneau, 2004) and that adherence of consultants (coaches) to coaching protocols can be linked to subsequent levels of therapist adherence which in turn are linked to better therapist fidelity and better outcomes for youth.

In summary, Intensive TA ensures that organizational and systems that interact with individual competency (e.g., funding, time, policies) are addressed and that systems are developed to improve, sustain, and regenerate the competencies of practitioners *and* coaches. Such multi-level organization and systems development has been a hallmark of School-Wide Positive Behavior Interventions and Support (SWPBIS) (Barrett, Bradshaw, Lewis-Palmer, 2008) ensuring that supports and capacity exist at school, district, and state levels; and similar attention has been paid to such multi-level efforts in promoting program-wide adoption of the Pyramid Model (Fox et al., 2003). Fullan (2007), Kahn et al. (2009) and Fixsen, Naoom, Blase, Friedman, & Wallace (2005), all make the case for more systematic, multi-level, multi-year approaches that align capacity on many levels to support practice change and to create hospitable environments that facilitate new practice implementation and sustainability. The characteristics of Intensive TA noted by Fixsen et al. are more likely to promote such multi-level alignment and to develop the supports needed to build individual capacity at many levels in agencies and systems.

Summary of Research and Evaluation Findings Related to Individual Capacity Development

- Fidelity is a measure of individual capacity to implement an innovation as intended
- Because high fidelity is consistently associated with improved outcomes across many domains and studies, it is important to create and sustain practitioner competence that results in high fidelity implementation
- Coaching (e.g., observation, feedback, data reviews) has been demonstrated to be an important core implementation component to improve individual capacity of practitioners
- Adherence to coaching routines has been demonstrated to be associated with improved practitioner fidelity, and higher practitioner fidelity has then been associated with improved outcomes for children
- TA efforts aimed at improving individual practitioner competence inevitably lead to organizational and systems change factors that require multi-level, Intensive TA efforts

(continued)

Summary of Research and Evaluation... *(continued)*

- Intensive TA is required because individual capacity must be developed and sustained at multiple levels (e.g., practitioner, supervisor, coach)
- Multi-level capacity development, even when focused on individuals, requires change at the organization and system level (e.g., new roles, functions, activities, policies, funding) to create hospitable environments for new ways of work.

ORGANIZATION AND SYSTEMS CHANGE: *INTENSIVE TA IMPLICATIONS*

From a research perspective, very few quantitative evaluation or research studies are related to the impact of broad technical assistance endeavors intended to change not only practices but also organizations and service systems. However, there are some key studies in human services that have begun to provide quantitative data and process perspectives regarding TA impact through an evaluation lens. This section of the paper will review three such studies that were selected because they report both process and outcome data and have implications for TA geared toward capacity building through organization and systems change.

The first study is in the field of prevention and focuses on the use of community coalitions. Feinberg, Ridenour, and Greenberg (2008) examined the impact of on-site and off-site (email and phone) TA provided by five regional TA providers in Pennsylvania on the functioning of Communities That Care prevention boards. The boards were charged with initiating and developing a community-wide youth-development and prevention planning effort to promote the positive development of children and youth and prevent problem behaviors such as substance use, delinquency, teen pregnancy, school drop-out and violence.

The study looked at important factors to be considered in developing TA systems to support board development including:

- on-site vs. off-site contact
- developmental phase of the project
- level of functioning of the coalition boards.

Self-report data and ratings on board functioning were collected from board members and TA providers over three years along with TA provider data from monthly reports on time and type of TA and their assessment of need for TA for each site.

Some of the key findings include the following. Overall, there was minimal evidence that TA dosage was linked to improved coalition functioning. However, when moderators were considered, the results may help us understand some of the conditions under which on-site TA, which is relatively expensive, may be more effective. On-site TA had a modest and moderate positive impact on board functioning for newer boards. For boards that were higher functioning at baseline, there was a modest to moderate positive effect of on-site TA. The authors postulate that these results may be due to the fact that higher functioning boards (whether new or old) may be better prepared to both articulate their needs and take advantage of TA, while lower functioning boards may need time, attention, and TA intensity that could not be provided in this effort.

In terms of intensity of TA, the mean number of minutes of TA per month ranged from about one-hour a month for off-site TA to over 2 hours a month for on-site TA. Thus, it is possible that this level of intensity generally was not sufficient, regardless of the type of TA, for low functioning boards to move forward. Congruent with this hypothesis was the finding that greater off-site TA dosage, in comparison to on-site dosage, was associated with lower levels of board functioning for boards with high perceived needs.

The study authors caution that the effects of TA dosage and type may vary significantly depending on the community model being implemented as well as the characteristics of the TA providers and that it is difficult to generalize the conclusions of this study to other models and community-based efforts. They also acknowledge that the quality of the TA effort was not part of the analysis. They advocate for a more comprehensive evaluation approach to TA in which dosage, quality, focus, and need are all attended to and measured in relation to outcomes.

Kahn, Hurth, Kasprzak, Diefendorf, Goode, and Ringwalt (2009) also looked at TA strategies related to impacting sustainable systems change and building capacity, but with a focus on state early intervention and preschool special education programs under the early childhood provision of the Individual with Disabilities Education Act. This evaluation effort articulates a TA model for systems change and provides an analysis of the impact of utilizing that model as reflected in 32 to 37 state plans over a 5-year period.

The TA model hypothesized that multi-level influences need to be identified and targeted for impact in order for outcomes for children and their families to be improved. Thus, their model recognizes that:

> *"…state infrastructure, local infrastructure, and systems of personnel development interact either to support or to hinder the implementation of effective practices at the local level, which, in turn, affect the outcomes for children with disabilities and their families." (p. 27)*

This translated to a TA model for systems change that included systematic efforts to attend to multi-level strategies and impacts and was grounded in frameworks that recognize that systems

components are interrelated, dynamic, and reciprocally influential (Datnow & Stringfield, 2000; Fullan, 1999; Fullan, 2007; Fixsen et al., 2005; Harbin, McWilliam, & Gallagher, 2000; Hebbler & Wagner, 1998; Trohanis, 2004).

Process evaluation methodology captured variables related to how the TA provider's time was spent in relation to 12 activity categories related to the clients' stated purposes of the interactions with the TA provider (e.g., marketing, selecting the issue, developing and refining the plan, tracking and promoting implementation). These data indicated that:

- 54% of the time was invested in up-front work related to selecting and clarifying the issue, planning the process, developing the plan and reviewing the quality of plan
- 12.6% of the TA time was invested in implementation related activity
- 30.4 % was invested in providing content specific TA.

There was tremendous variability across states in relation to TA time devoted to each area reflecting the individualization of TA services and supports. The median total time for planning and implementation across the 32 state plans was 255.75 hours over a 1.5 to 3 year period. This is a considerably higher level of TA service than was documented in the Feinberg et al. (2008) study of TA for community boards and is more reflective of Intensive TA efforts.

Three key recommendations for determining state readiness for systems change work emerged from the analysis of the process data. The first set of recommendations related to selecting an initiative that would:

- Be able to improve the state's capacity to address the issue successfully
- Make a significant difference for children and families
- Possess a degree of urgency and/or consequences for failing to act
- Be clearly defined within a scope of work that could be addressed in a 1 to 3 year project.

The second recommendation related to factors for selecting states and included:

- Commitment of key leaders,
- Readiness and ability to devote time and resources,
- Coordination with current activities to tie initiatives together and not duplicate efforts,
- Meaningful involvement of key stakeholders.

The third recommendation involved ensuring adequate TA resources for implementing change. A TA team must be assembled and maintained with adequate time and expertise related to:

- Knowledge of the state's current context
- Planning and process expertise
- Topical expertise
- Expertise in facilitating collaborative work with other TA centers and experts.

In examination of plans for multi-system impact, plans that were fully implemented had greater results. The study reported the following results, with percentages in parentheses representing the nine plans that were fully implemented. With respect to multi-system impact, the study reports that 97% (100%) of plans showed improved state systems, 54% (67%) showed improved local system infrastructure, 51% (67%) showed improved practices for service providers, and 35% (44%) showed improved results for children and families. Increased results for fully implemented plans help make the case for full "fidelity" to the plan.

Improvement and continuation of work were two dependent variables analyzed as outcomes. The results of these analyses indicated that:

- A state work plan had slightly lower odds of continuing if the state initially requested a specific TA service and NECTAC (the TA entity) responded by suggesting the systems change TA Model process as the strategy
- Plans where TA staff took more of a lead, but not total leadership, had better results. However, when TA staff took all, or almost all, of the leadership, results were lower.
- There was no significant difference in either improvement or continuation based on breadth of stakeholder representation.
- More total TA time only slightly increased results and increased interaction during implementation showed only slightly higher results
- Better results occurred when states consistently used, referred to, and updated their plan
- Better results occurred when the state was actively engaged with TA consultants for a sufficient amount of time to develop a plan and to receive TA services

The Kahn et al. (2009) evaluation strategies and results point the way to the importance of TA efforts that are targeted at multiple levels, account for readiness of the TA recipient, are guided by thoughtfully developed and frequently used plans, and that involve the TA Center as connecting hub for the work.

The third study provides quantitative evaluation data that indicate that the provision of TA focused on organizational capacity building was associated with more successful implementation efforts and with sustainability of service delivery capacity (Fixsen & Blase, 1993; Fixsen, Blase, Timbers, & Wolf, 2001). These data were collected over a 20-year period looking at both the longevity and quality of service provided by front-line practitioners utilizing the Teaching-Family Model of treatment (i.e., Teaching-Parents in therapeutic, community-based homes) and the sustainability of organizations (e.g., sites) that supported networks of group homes within a state.

Initial efforts at building capacity to implement the Teaching-Family Model were focused on building individual capacity of the practitioners and involved the provision of TA from a single national location to Teaching-Parents who were operating group homes across the country. The implementation challenges and program level data soon led to the program developers to conclude that,

> *"…effective, sustainable replication meant shifting from a national dissemination strategy to a regional approach that focused on the development of regional training sites that would in turn support networks of group homes" (Fixsen & Blase, 1993).*

This shift meant developing more geographically proximate organizational capacity that could utilize Intensive TA efforts to build both the individual capacity of practitioners (e.g., select, train, coach in person, evaluate) and attend to systems change issues (e.g., licensing, funding streams, local board development). The data correlated with this shift indicated dramatically different 'survival rates' for group home programs than were experienced under the national, centralized model. The first 25 replications, under the national model, focused on practitioner development and 56% of those programs ended when the first couple trained left that group home. Only 24% of those programs continued to exist after 6 years or more. In contrast, under the organizational capacity development model, only 4% ended after the original couple left, and 84% of the group home programs continued to operate after 6 years; a dramatic increase in sustainability.

The second set of lessons learned from the TA efforts involved the survival of the regional sites that supported networks of group homes in a proximate geographic area. The first efforts to establish regional sites occurred when certified Teaching-Parents, who also were graduates of the doctoral or master's degree program, launched and staffed these new regional sites. However, when degreed professional staff without such direct practice experience attempted to do so, the sites did not fare as well, as indicated by the decreased likelihood of the site achieving site certification under the criteria established by the Teaching-Family Association and the reduced longevity of the site (Fixsen & Blase, 1993). The improvement in quality (as indicated by achieving certification) and survival (6 years or more) was associated with more formal organizational capacity development through Intensive TA rather than total reliance on the professional training of the site staff. That is,

> *"…sites became successful when we initiated an integrated site development system to train the trainers, consultants, evaluators, and administrators; consult with the trainers, consultants, evaluators, and administrators; evaluate the performance of the trainers, …and provide facilitative administrative support…to a new site" (p. 607).*

While the longevity and quality data from the replication of Teaching-Family model homes and sites are only correlated with the shift in TA strategies, they do indicate that TA focused on purposefully developing organizational capacity may be important for achieving more systemic impact resulting in improved service quality and sustainability.

Summary of Research and Evaluation Findings Related to TA and Organizational and Systems Change

More research and evaluation efforts are needed to determine the relevant dimensions of TA and its impact on changing practice, organizations, and systems. Because the knowledge base represented here is not yet mature or robust, the summary findings are offered only as a beginning point for future investigation.

Data from the above studies do provide some indication that:

- Multi-level TA efforts that attend to planning, infrastructure, partnerships, and individual, organizational change, and systems capacity building may be effective.
- TA that develops both individual capacity at multiple levels (e.g., practitioner, coach, administrator) and organizational capacity (e.g., funding, policy) increases the sustainability and quality of system and service change
- On-site TA may be more effective for entities that are "higher functioning" and thus able to articulate their needs and take advantage of TA.
- Lower functioning entities may require more time, attention, and intensity of service
- Initiatives selected for organizational and systems change are more likely to succeed when the initiative chosen:
  - » Improves the state/entity's capacity to address the issue
  - » Makes a socially significant difference for the "end user" (e.g., children, families)
  - » Possesses a degree of urgency for failing to act
  - » Can be addressed in the time allotted (e.g., 1 – 3 years)

(continued)

Summary of Research and Evaluation... *(continued)*

- Selecting entities that are ready is important. Key components of 'readiness' include:
  - » Commitment of key leaders
  - » Ability to devote time and resources
  - » Coordination, not duplication, with current initiatives
- TA Resources need to be adequate including time, knowledge of the context, process and content expertise, and ability to collaborate with other entities
- Geographically proximate TA may be more effective than TA from a single national entity
- Thoughtfully developed and frequently used and updated plans may be associated with better outcomes (e.g., quality, sustainability)

SUMMARY AND RECOMMENDATIONS

Technical assistance is a common strategy for encouraging and ensuring the uptake of new knowledge and information and increasingly it is becoming the vehicle for supporting organizational and systems change. Stakeholders and consumers of TA along with TA providers can be better prepared for the challenge and for developing a functional partnership when the scope of the change initiative is clear, the resources match the scope of change, and when the TA strategies (e.g., Intensive, Basic) match the desired outcomes. While the research efforts related to technical assistance impact are far from rigorous and conclusive, there are indicators that TA matters and there are emerging evaluation and research methods upon which future investigations of TA processes and outcomes can be built.

As initiatives are planned it is helpful to first assess the breadth and depth of the change needed to achieve the desired outcomes. The breadth and depth of the change should drive the type of TA provided.

As initiatives are planned it is helpful to first assess the breadth and depth of the change needed to achieve the desired outcomes. The breadth and depth of the change should drive the type of TA provided. To help facilitate the discussion of factors, outcomes, and TA requirements, a TA Analysis Discussion Tool is provided below. This resource is provided in order to generate a focused discussion among the implementation team members, the TA provider(s), and the stakeholders regarding the key factors associated with the effort and degree of change required. The greater the change required in relation to these factors the more likely it is that Intensive TA will be required. While the process can be used to generate a total average score, *the score alone should not be used to make the decision*. Rather it is the discussion among the participants and the agreement about the factors that will help illuminate the depth and breadth of the change and guide the decision about the intensity of TA required.

Technical Assistance Analysis Discussion Tool

This resource is provided in order to generate a focused discussion among the implementing organization, the Technical Assistance provider(s), and the stakeholders regarding key considerations associated with the effort and degree of the change required. The greater the change required in relation to these items the more likely it is that Intensive Technical Assistance will be required. While the process can be used to generate a total average score, the score should not be used to make the decision. Rather it is the discussion among the participants that will help illuminate the depth and breadth of the change and will help to guide the decision about the intensity of Technical Assistance required to achieve desired outcomes.

CONSIDERATIONS RELATED TO THE NECESSARY INTENSITY TO ACCOMPLISH DESIRED OUTCOME:	**DEGREE OF CHANGE REQ.** None → Extensive				
*Instructions: For each item rate the **degree to which**…*	**1**	**2**	**3**	**4**	**5**
New skill sets are required of practitioners to achieve outcomes for children and families					
Practice change is required at multiple levels beyond practitioner level (e.g., supervisor, administrator)					
Changes in functional organizational supports are required (e.g., equipment, insurance, space, technology)					
New thinking and acceptance of new ideas is required (e.g., inclusion, parent involvement, use of data), along with the letting go of current ways of work or adopting new values.					
Changes in local infrastructure are required to support practice change and practitioner competency (e.g., selection, training, coaching, availability and use of data)					
Policy changes, excluding funding, are required at multiple levels					
Changes in funding are required to support the required competency infrastructure (e.g., selection, training, coaching, availability and use of data)					
Changes in many parts of the system are required (e.g., new referral processes, new assessments, new partners, new services, new collaborations across systems, closing services)					
Changes in structures, policies, or funding eligibility are required at one or more levels (e.g., program, district, state, Federal) to support direct service (e.g., practitioners' work with children and families)					
Broad systems change is required to achieve desired outcomes (e.g., statewide vs. pilot sites only)					
Average Total Score (Closer to 1.0 indicates more Basic Technical Assistance required and closer to 5.0 more Intensive Technical Assistance required)					

REFERENCES

Americans with Disabilities Act of 1990, 42 U.S.C. § 12101 et seq. (West, 1993).

Barrett, S.B., Bradshaw, C.P., & Lewis-Palmer, T. (2008). Maryland statewide PBIS initiative: systems, evaluation, and next steps. *Journal of Positive Behavior Interventions*, 10; 105-114.

Barton, R. (Ed.). (2004, November). *Technical assistance guidelines*. Northwest Regional Educational Laboratory. Retrieved June 2, 2009, from http://www.nwrel.org/nwreport/2004-11/index.html

Choudhury, S. H. (2001). Fostering successful technical assistance partnerships: Input paper for the UNCDF/SUM and UNDP Africa Global Meeting May 30 to June 1, 2001Young and Promising Microfinance Institutions. New York: United Nations Capital Development Fund/Special Unit for Microfinance. Retrieved June 4, 2009, from http://www.uncdf.org/english/microfinance/uploads/thematic/02-Asa-SuccessfulTA-Final.pdf

Datnow, A., & Stringfield, S. (2000). Working together for reliable school reform. *Journal of Education for Students Placed at Risk*, 5(1), 183–204.

Denton, C. A., Vaughn, S., & Fletcher, J. M. (2003). Bringing research-based practice in reading intervention to scale. *Learning Disabilities Research & Practice*, 18(3), 201-211.

Council of Chief State School Officers (CCSSO). (2005). *State systems of technical assistance delivery in special education August 2005 questionnaire: Summary of findings*. Washington, DC: Author. Retrieved June 10, 2009, from www.k8accesscenter.org/documents/SETASurvey20062.doc

Dunlap, G., Strain, P.S., Fox, L., Carta, J.J., Conroy, M., Smith, B., Kern, L., Hemmeter, J.L., Timm, M.A., McCart, A., Sailor, W., Markey, U., Markey, D.J., Lardieri, S., & Sowell, C. (2006). Prevention and intervention with young children's challenging behavior: Perspectives regarding current knowledge. *Behavioral Disorders*, 32 (1), 29-45.

Durlak, J. A. (1998). Why program implementation is important. *Journal of Prevention and Intervention in the Community*, 17(2), 5-18.

Feinberg, M.E., Greenberg, M.T., Osgood, D.W., Anderson, A., & Babinski, L. (2002). The effects of training community leaders in prevention science: Communities That Care in Pennsylvania. *Evaluation and Program Planning*, 25, 245-259.

Feinberg, M. E., Ridenour, T. A., & Greenberg, M. T. (2008). The longitudinal effect of technical assistance dosage on the functioning of Communities That Care prevention boards in Pennsylvania. *The Journal of Primary Prevention*, 29(2), 145-165.

Fixsen, D. L., & Blase, K. A. (1993). Creating new realities: Program development and dissemination. *Journal of Applied Behavior Analysis*, 26(4), 597-615.

Fixsen, D. L., Blase, K. A., Horner, R., & Sugai, G. (2009, February). *Intensive technical assistance. Scaling-up brief #2*. Chapel Hill, NC: The University of North Carolina at Chapel Hill, FPG Child Development Institute, SISEP.

Fixsen, D. L., Blase, K. A., Timbers, G. D., & Wolf, M. M. (2001). In search of program implementation: 792 replications of the Teaching-Family Model. In G. A. Bernfeld, D. P. Farrington & A. W. Leschied (Eds.), *Offender rehabilitation in practice: Implementing and evaluating effective programs* (pp. 149-166). London: Wiley.

Fixsen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M. & Wallace, F. (2005). *Implementation research: A synthesis of the literature*. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, The National Implementation Research Network (FMHI Publication #231).

Fox, L., Dunlap, G., Hemmeter, M.L., Joseph, G. & Strain, P. (2003). The Teaching Pyramid: A model for supporting social competence and preventing challenging behavior in young children. *Young Children*, 58(4), 48-53.

Fullan, M. (1999). *Change forces: The sequel*. Philadelphia: Falmer.

Fullan, M. (2007). *The new meaning of educational change* (4th ed.). New York: Teachers College Press.

Godfrey, M., Sophal, C., Kato, T., Piseth, L. V., Dorina, P., Saravy, T., Savora, T., & Sovannarith, S. (2002). Technical assistance and capacity development in an aid-dependent economy: The experience of Cambodia. *World Development*, 30(3), 355-373.

Harbin, G. L., McWilliam, R. A., & Gallagher, J. J. (2000). Services for young children with disabilities and their families. In J.P. Shonkoff, & J.P. Meisels (Eds.), *Handbook of early childhood intervention* (2nd ed.). New York: Cambridge University Press.

Harchik, A. E., Sherman, J. A., Sheldon, J. B., & Strouse, M. C. (1992). Ongoing consultation as a method of improving performance of staff members in a group home. *Journal of Applied Behavior Analysis*, 25, 599-610.

Hebbeler, K. M., & Wagner, M. (1998). *The National Intervention Longitudinal Study (NEILS) design overview*. Retrieved April 30, 2008, from http://www.sri.com/neils/pdfs/neilsdgn.pdf

Hemmeter, M.L., & Fox, L. (2009). The Teaching Pyramid: A model for the implementation of classroom practices within a program-wide approach to behavior support. *NHSA Dialogue*, 12(2), 133-147.

Hopkins, R. H., Mauss, A. L., Kearney, K. A., & Weisheit, R. A. (1988). Comprehensive evaluation of a model alcohol education curriculum. Journal of Studies on Alcohol, 49, 38–50.

Hurth, J., Shaw, E., Izeman, S.G., Whaley, K. & Rogers (1999). Areas of agreement about effective practices among programs serving young children with autism spectrum disorders. *Infants and Young Children*, 12(20): 17-26.

Individuals with Disabilities Education Act Amendments of 1997, 20 U.S.C. § 1400 et seq.

International Monetary Fund. (2002). *Capacity building: Lessons for Africa*. Washington, DC: Arthur. Retrieved June 11, 2009, from http://www.imf.org/external/np/tr/2002/tr020912a.htm

Joyce, B., & Showers, B. (2002). *Student achievement through staff development* (3rd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Kahn, L., Hurth, J., Kasprzak, C. M., Diefendorf, M. J., Goode, S. E., & Ringwalt, S. S. (2009). The National Early Childhood Technical Assistance Center model for long-term systems change. *Topics in Early Childhood Special Education*, 29(1), 24-39.

Kavanagh, D. J., Spence, S. H., Strong, J., Wilson, J., Sturk, H., & Crow, N. (2003). Supervision practices in allied mental health: Relationships of supervision characteristics to perceived impact and job satisfaction. *Mental Health Services Research*, 5(4), 187-195.

Kegler, M.C., Steckler, A., Malek, S.H., & McLeroy, K. (1998). A multiple case study of implementation in 10 local Project ASSIST coalitions in North Carolina. *Health Education Research*, 13, 225-238.

Kelly, J. A., Somlai, A. M., DiFranceisco, W. J., Otto-Salaj, L. L., McAuliffe, T. L., Hackl, K. L., et al. (2000). Bridging the gap between the science and service of HIV prevention: Transferring effective research-based HIV prevention interventions to community AIDS service providers. *American Journal of Public Health*, 90(7), 1082-1088.

Laforge, R.G., Velicer, W.F., Richmond, R.L., &Owen, N. (1999). Stage distributions for five health behaviors in the USA and Australia. *Preventive Medicine*, 28, 61-74.

Marks, S. U., & Gersten, R. (1998). Engagement and disengagement between special and general educators: An application of Miles and Huberman's cross-case analysis. *Learning Disability Quarterly*, 21(1), 34-56.

McCormick, K. M., & Brennan, S. (2001). Mentoring the new professional in interdisciplinary early childhood education: The Kentucky Teacher Internship Program. *Topics in Early Childhood Special Education*, 21(3), 131-144.

Mitchell, R., Florin, P., & Stevenson, J. (2002). Supporting community-based prevention and health promotion initiatives. Developing effective technical assistance systems. *Health, Education, and Behavior*, 29, 620-639.

Mitchel, M. E., Hu, T.-W., McDonnell, N. S., & Swisher, J. D. (1984). Cost-effectiveness analysis of an educational drug abuse prevention program. *Journal of Drug Education*, 14, 271–291.

Mowbray, C. T., Holter, M. C., Teague, G. B., & Bybee, D. (2003). Fidelity criteria: Development, measurement, and validation. *American Journal of Evaluation*, 24(3), 315-340.

National Dissemination Center for Children with Disabilities (2009). *Disseminating for Impact, 1* (2), 1-4. Retrieved May 14, 2009, from http://www.nichcy.org/Documents/dissem-cop-docs/Issue2-StartingDialogue_final_web.pdf

Odom, S.L. (2000). Preschool inclusion: what we know and where we go from here. *Topics in Early Childhood Special Education,* (20)1, 20-27.

O'Donnell, C. L. (2009). Defining, conceptualizing, and measuring fidelity of implementation and its relationship to outcomes in K-12 curriculum intervention research. *Review of Educational Research*, 78(1), 33-84.

Paul, C.L., & Redman, S. (1997). A review of print material in changing health-related knowledge, attitudes, and behavior. *Health Promotion Journal of Australia*, 7(2), 91-99.

Prochaska, J.O., & DiClemente, C.C. (1983). Stages and processes of self-change of smoking: Toward an integrative model of change. *Journal of Consulting and Clinical Psychology*, 51,390-395.

Prochaska, J.M., Prochaska, J.O., & Levesque, D. (2001). A transtheoretical approach to changing organizations. *Administration and Policy in Mental Health*, 28 (4), March, 247-261.

Ringwalt, S. (2008). *Developmental screening and assessment instruments with an emphasis on social and emotional development for young children ages birth through five*. Chapel Hill: The University of North Carolina, FPG Child Development Institute, National Early Childhood Technical Assistance Center.

Schoenwald, S. K., Sheidow, A. J., & Letourneau, E. J. (2004). Toward effective quality assurance in evidence-based practice: Links between expert consultation, therapist fidelity, and child outcomes. *Journal of Clinical Child and Adolescent Psychology*, 33(1), 94-104.

Tortu, S., & Botvin, G. J. (1989). School-based smoking prevention: The teacher training process. *Prevention Medicine*, 18, 280-289.

Trohanis, P. L. (2004). *Ideas about the change process: A short synthesis of "thinking points" gleaned from the literature, practice and over 35 years of experience*. Unpublished manuscript.

Velicer, W. F., DiClemente, C. C., Prochaska, J. O., & Brandenberg, N. (1985). A decisional balance measure for assessing and predicting smoking status. *Journal of Personality and Social Psychology*, 48, 1279-1289.

Velicer, W.F., Fava, J.L., Prochaska, J.O., Abrams, D.B., Emmons, K.M., & Pierce, J.P. (1995). Distribution of smokers by stage in three representative samples. *Preventive Medicine*, 24, 401-411.

Winton, P. & Catlett, C. (2009). Statewide efforts to enhance early childhood personnel preparation programs to support inclusion, overview and lessons learned. *Infants and Young Children* (22) 1, 63-70.

Yin, R.K., Gwaltney, M.K., Hare, M., & Butler, M.O. (1999). *Final Report: Evaluation of the CDC-supported technical assistance network for community planning*. Bethesda, MD: COSMOS Corporation.