Measuring Training and Practice Fidelity in Capacity-Building Scaling-Up Initiatives

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ABSTRACT

This CELLpaper includes a framework for assessing three types (implementation, diffusion, and intervention), two elements (training processes and practice adoption), and three dimensions (exposure, adherence, and participant responsiveness) of fidelity in capacity-building scaling-up initiatives of evidence-based practices. The framework is based on descriptions of key components of fidelity found in the literature as well as components specific to efforts to scale-up the adoption and use of evidence-based early literacy learning practices by the Center for Early Literacy Learning. Examples of the measures used to assess fidelity are included.

Fidelity has been defined in different but compatible ways. Dane and Schneider (1998) defined fidelity as "the degree to which specified procedures are implemented as planned" with intended recipients (p. 23). Dusenbury, Brannigan, Falco, and Hansen (2003) similarly defined fidelity as the "degree to which [practitioners] and other program providers implement programs as intended by the program developers" (p. 240). Smith, Daunic, and Taylor (2007) defined treatment fidelity as those "strategies that monitor and enhance the accuracy and consistency of an intervention to ensure it is implemented as planned and that each component [of a program or practice] is delivered in a compatible manner" (p. 121). According to Mowbray, Holter, Teague,

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1 The terms fidelity, integrity, adherence, and implementation as well as others are often used interchangeably (e.g., Beets, 2007; Gresham, Gansle, Noell, Cohen, & Rosenbaum, 1993; Smith et al., 2007). The terms fidelity and integrity are used interchangeably in this CELLpaper to describe the degree to which training and practice methods and procedures are implemented as planned.
and Bybee (2003), “Effectiveness research is now at a point wherein black-box outcome studies are no longer acceptable....Rather, intervention[s] are expected to specify the model...explicating the mechanism through which the program will achieve its desired outcomes...[using] valid and reliable criteria for establishing fidelity to the model” (p. 315).

The focus of our descriptions of different types of fidelity is specific to efforts to scale up the widespread adoption and use of evidence-based practices. Broadly speaking, there are two approaches to scaling-up the adoption and use of evidence-based practices (Baker, 2006). In the first, program developers or researchers establish the efficacy of an intervention, and they themselves replicate the interventions in different programs or settings (e.g., Golly, Stiller, & Walker, 1998; Olds, Hill, O’Brien, Racine, & Moritz, 2003). In the second, program developers or researchers identify evidence-based practices, and employ methods and procedures designed to promote others’ abilities to take the evidence-based practices and teach or train yet other persons to use the practices in settings where neither the researchers nor program developers have face-to-face contacts with end-users (e.g., Bauman, Stein, & Ires, 1991; Sugai & Horner, 2002; Taylor, 2005). The latter, which we call capacity-building scaling-up (Cobburn, 2003; Dunst, Trivette, Masiello, & McInerney, 2006; Horner & Sugai, 2006), is the focus of this CELL paper.

The paper is divided into four sections. The first includes a description of a conceptual framework for differentiating between three types, two elements, and three dimensions of fidelity. The second uses the framework described in the first section to operationally define the different kinds of fidelity. The third section includes an overview of the approach to specialized technical assistance being used by CELL staff to scale up the use of evidence-based literacy practices. The fourth includes a description of how CELL staff are developing fidelity indicators for documenting the adoption and use of evidence-based early literacy learning practices.

FRAMEWORK FOR CONCEPTUALIZING FIDELITY

The degree to which procedures are implemented as planned with intended recipients refers to several different aspects of attempts to institutionalize evidence-based practices widely throughout a state, system, or program. This includes the fidelity of the provision of technical assistance and training as planned (implementation fidelity) and the fidelity of the use of evidence-based practices as intended (intervention fidelity). Capacity-building scaling-up initiatives include a third type of fidelity that is the extent to which persons who are trained to promote the use of evidence-based practices themselves in turn train others in a manner consistent with the core components and principles of both implementation and intervention (Bauman et al., 1991). We term this third type of fidelity diffusion fidelity. It refers to the extent to which technical assistance providers who were trained by CELL staff in turn train end-users in the same way as they were trained.

The distinction between implementation and intervention fidelity is similar to the one made by Fixsen et al. (2005) in their review and synthesis of implementation research (see also Gunn, n.d.; Mihalic & Irwin, 2003). The introduction of diffusion fidelity into a discussion of treatment integrity is specifically designed to ensure treatment fidelity is measured at the different levels of technical assistance and training in capacity-building scaling-up initiatives (Rogers, 1995).

The relationship between the three types of fidelity and their influence on the outcomes of targeted evidence-based practices is shown in Figure 1. Implementation fidelity is expected to influence the extent to which persons receiving training in methods and procedures for promoting adoption and use of targeted practices in turn use core training principles so that end-users implement targeted practices in ways consistent with their empirical foundations. Accordingly, variations in implementation fidelity should be related to variations in diffusion fidelity, variations in diffusion fidelity should be related to variations in intervention fidelity, and variations in intervention fidelity should be related to variations in the consequences and benefits of the practices constituting the focus of scaling-up. High degrees of fidelity at each of the three levels, in principle, should result in greater degrees of institutionalization of an evidence-based practice that in turn should result in better outcomes (e.g., Barrett, Boezio, Horner, & Sugai, 2006; Elias, Zins, Gracyzyk, & Weissberg, 2003; Griffin, Mahadeo, Weinstein, & Botvin, 2006; Kalafat, Illback, & Sanders, 2007; Zvoch, Letourneau, & Parker, 2007).

Elements of Fidelity

The three types of fidelity each include two key elements: the fidelity of training processes and the fidelity of practice adoption. Training processes refer to the methods

Figure 1. Model for differentiating between different types of fidelity and the relationship between the fidelity measures and desired evidence-based practices outcomes.
and procedures for promoting understanding and use of targeted practices (Fixsen et al., 2005). The extent to which a set of training procedures are used in the intended manner is an example of fidelity of training processes. Practice adoption refers to the extent to which targeted practices are described or used in a manner consistent with their evidence base (Dunst, 2007). The extent to which trainers describe and explain the evidence-based characteristics of a targeted practice in sufficient detail to ensure participant understanding is an example of fidelity of practice adoption.

As Fixsen et al. (2005) made clear in their synthesis of implementation research, it is important to be aware of the difference between the practices constituting the focus of training and the training methods used to promote adoption of the practices. Stated differently, processes are how we promote the adoption and use of what we want implemented by end-users (Mihalic & Irwin, 2003). Figure 2 shows a framework for showing the combinations of the three types and two elements of fidelity.

Dimensions of Fidelity

Dane and Schneider’s (1998) five dimensions of fidelity have been described extensively as core features for measuring treatment integrity (e.g., Beets, 2007; Carroll et al., 2007; Dusenbury et al., 2003; Power et al., 2005). As stated by Beets (2007), the five dimensions “offer information for evaluators to determine what implementers ultimately provided to an audience (i.e., adherence), how much (i.e., exposure) and how well (i.e., quality of delivery) it was provided, what the audience thought of what was provided (i.e., responsiveness), and whether similar provisions were taking place [under different conditions (i.e., program differentiation)]” (p. 6, emphasis added). A review and integration of different attempts to operationalize the Dane and Schneider (1998) dimensions (e.g., Beets, 2007; Carroll et al., 2007; Power et al., 2005) indicates that three dimensions capture most if not all of what is generally considered the key features of fidelity: Exposure, adherence, and participant responsiveness.

Exposure includes both the quantity and quality of the training and content received by participants (Dusenbury et al., 2003; Power et al., 2005). Exposure is typically measured in terms of dose (e.g., number, duration, and frequency of training sessions [processes]) or number and types of opportunities to learn about the evidence-based characteristics of targeted practices (adoption). Exposure also includes the extent to which the training sessions were interactive, the trainer was well prepared and enthusiastic, and the trainer was perceived as confident and capable as part of his or her attempts to communicate the content of the training. The difference between quantity and quality is perhaps best understood by recognizing the fact that no training, no matter how often it is provided (quantity), is likely to have intended effects if it is not conducted in ways that include the elements known to be key features of adult learning (quality) (e.g., Donovan, Bransford, & Pellegrino, 1999; Garet, Porter, Desimone, Birman, & Yoon, 2001; Trotter, 2006).

Adherence includes the extent to which the provision of training and the descriptions of targeted evidence-based practices emphasize those features known as critical and essential for an intervention to be effective. This includes, but is not limited to, the degree to which both evidence-based training and intervention practices include those characteristics that research indicates are associated with desired outcomes or benefits. The extent to which variations in adherence are

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<th>TYPES OF FIDELITY</th>
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<td>Implementation Fidelity</td>
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<td>Training Processes (How)</td>
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<td>Practice Adoption (What)</td>
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Figure 2. Framework for structuring the collection of fidelity information about the training processes used to promote adoption of evidence-based practices.

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2 Training processes and practice adoption have alternatively been described as delivery and content respectively (e.g., Gunn, n.d.).

3 In the model proposed in this paper, quality of delivery is considered an element of exposure, and differentiation is considered an element of variation in either or both training processes and practice adoption (see especially Power et al., 2005).
related to variations in adoption and use of evidence-based technical assistance and practice characteristics is how program or practice differentiation is determined (Dane & Schneider, 1998).

Participant responsiveness includes the degree to which recipients are engaged in the training and whether they view the targeted practices as relevant to their own work (Carroll et al., 2007). This includes, but is not limited to, whether the training and practices are judged as socially important and acceptable (Foster & Mash, 1999). No evidence-based training or practice is likely to be adopted or used if participants are not engaged and enthusiastic about both training processes and the targeted practices, and see the relevance of both for their own work.

DEFINITIONS OF TERMS

Table 1 includes an expanded framework that shows the types, elements, and dimensions of fidelity. The definitions of the different types and elements of fidelity described next are drawn primarily from the published literature, and provide one way of bringing practical coherence to rather diverse discussions and descriptions of implementation, diffusion, and intervention fidelity. Operationally, implementation fidelity is used to describe the integrity of training provided by program developers and implementers to technical assistance providers (first generation trainees), diffusion fidelity is used to describe the integrity of training provided by second or third generation trainers to end-users, and intervention fidelity is used to describe the integrity of the use of targeted practices by end-users (i.e., the intended adopters of the practices).

Implementation Fidelity

According to Fixsen et al. (2005) “implementation is defined as a specified set of activities designed to put into practice an activity or program of known dimensions. Accordingly, implementation processes are purposeful and are described in sufficient detail such that an independent observer can detect the presence and strength of [a] specific set of activities related to implementation. In addition, the activity or program being implemented [needs to be] described in sufficient detail so that independent observers can detect its presence and strength” (p. 5, emphasis added). The latter is described by Fixsen et al. (2005) as an intervention-level activity and the former as an implementation-level activity.

Based on the Fixsen et al. (2005) descriptions, implementation fidelity is defined as the degree to which training activities of known characteristics are implemented as planned and promote participant understanding of the known characteristics of the evidence-based practices constituting the focus of training. Accordingly, fidelity of implementation processes refers specifically to the core components and elements of the training methods and procedures used to present and describe the key features of targeted practices, and fidelity of implementation adoption refers specifically to the degree to which knowledge of those characteristics are transmitted to trainees in ways promoting deep understanding of the evidence-based characteristics of the practices.

Diffusion Fidelity

“Diffusion is defined as the process by which an intervention is communicated through channels over time among intended systems, programs, and end-users” (Mihalic & Irwin, 2003, p. 309). According to Griffin, Mahadeo, Weinstein, and Botvin (2006), diffusion of innovations or evidence-based practices “refers to the processes by which effective innovations are spread or distributed [and] adoption refers to the [degree to which] organizations [and practitioners]...use an innovation” (p. 9). Processes and adoption refer, respectively, to how and what, where fidelity is assessed in terms of the degree to which both components are implemented as intended.

Based on the Griffin et al. (2006) distinctions, diffusion fidelity is defined as the degree to which second and third-generation technical assistance providers use training

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<th>Table 1</th>
<th>Expanded Framework for Assessing Different Types, Elements, and Dimensions of Fidelity</th>
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<td>Elements</td>
<td>Types of Fidelity</td>
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<td>Training Processes</td>
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<td>Exposure</td>
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<td>Responsiveness</td>
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<tr>
<td>Practice Adoption</td>
<td>Exposure</td>
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<td>Responsiveness</td>
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Adapted from frameworks and descriptions by Beets (2007), Carroll et al. (2007), Dane and Schneider (1998), and Dusenbury et al. (2003).
methods and procedures (processes) to promote end-user understanding and use of targeted evidence-based practices (adoption). Thus, fidelity of diffusion processes refers to the ability of technical assistance providers to use core components and elements of training methods and procedures to promote end-user knowledge and understanding of targeted practices, and fidelity of diffusion adoption refers to end-users' understanding of the characteristics of the targeted evidence-based practices.

**Intervention Fidelity**

The term intervention means "an activity or set of activities aimed at modifying a process, course of action or sequence of events, in order to change one or several of their consequences such as performance or expected outcomes" (World Health Organization, 2001, p. 53). Evidence-based intervention practices are defined as "practices informed by research findings demonstrating a relationship between the characteristics and consequences of a planned or naturally occurring experience or opportunity where the nature of the relationship directly informs what someone can do to produce a desired outcome" (Dunst, Trivette, & Watson, in preparation).

Hogue, Liddle, Singer, and Leckrone (2005) assert that the "most rigorous kind of fidelity research is fidelity process analysis...that investigates how the core, change-promoting elements of a given practice are delivered" (p. 193, emphasis added). Accordingly, intervention fidelity is defined as the extent to which end-users adopt and use instructional methods and procedures (processes) for implementing targeted practices mirroring the evidence-base characteristics of the practices (adoption). Thus, fidelity of intervention processes refers to the extent to which end-users employ the core elements of effective teaching methods, and fidelity of intervention adoption is the extent to which targeted practices are used by end-users in ways that mirror the evidence-based characteristics of the practices. The extent to which a parent uses the core elements of responsive teaching (processes) to promote a child's active engagement in an interest-based learning activity (adoption) are, respectively, examples of both types of fidelity of intervention.

**CENTER FOR EARLY LITERACY LEARNING**

The fidelity framework was developed at the Center for Early Literacy Learning (CELL) to scale-up (Dunst, Trivette, Masiello, & McInerney, 2006) the use of evidence-based early literacy learning practices (Dunst, Trivette, Masiello, Roper, & Robyak, 2006). The major aims of CELL are to: (1) synthesize available research evidence on effective early literacy learning interventions, (2) identify and develop evidence-based practices from this research, (3) implement and evaluate the use of these evidence-based practices, and (4) conduct both general and specialized technical assistance promoting the adoption and use of evidence-based early literacy learning practices. These aims are being achieved by developing evidence-based early literacy learning practice guides based on the findings of practice-based research syntheses. A practice-based research synthesis involves the analysis and integration of small bodies of evidence where researchers have investigated the manner in which the same or similar intervention variables are related to the same or similar outcomes (Dunst et al., in preparation). The characteristics associated with positive effects and outcomes in turn are used to develop practice guides that mirror the research findings (Dunst, 2007).

The widespread adoption and use of evidence-based early literacy learning practices is being accomplished in CELL by specialized technical assistance using evidence-based scaling-up methods and procedures (e.g., Menter, Kaaria, Johnson, & Ashby, 2004; Ovin & Miller, 1996) to promote understanding and use of evidence-based early literacy learning practices. CELL defines scaling-up as the "adoption of policies and practices...that promote widespread, sustained use of evidence-based early literacy learning practices by early childhood intervention programs serving young children, birth to 6 years of age, and their families, to achieve outcomes that are socially and developmentally important and valued" (Dunst, Trivette, Masiello, & McInerney, 2006, p. 2).

**State-Level Infrastructure**

The scaling-up of evidence-based early literacy learning practices is accomplished by a state leadership (resource) team made up of key personnel with the authority, knowledge, credibility, and technical expertise necessary to scale-up the use of early literacy learning practices (Menter et al., 2004). These teams include, but are not limited to, state lead agency and state education agency representatives, other state-level early childhood program representatives, Part C and Part B(619) coordinators, early childhood intervention technical-assistance program staff (Part C, Part B(619), Early Head Start, Head Start, child care, etc.), early childhood intervention opinion leaders, early childhood practitioners, parent and family organization representatives, and other entrepreneurial leaders (Doig & Hargrove, 1987; Schneider & Teske, 1992). CELL works with either an existing or newly established leadership team that creates a state vision for early literacy learning, assesses technical assistance and content needs, provides training to technical assistance providers who will in turn provide training to regional and local technical assistance providers, and conducts self-evaluations of implementation fidelity and effectiveness.

Table 2 shows the core components and key elements of the CELL state-level scaling-up plan and approach. A CELL capacity-building planning tool is used by state team members to ascertain the status of a State's infrastructure for scaling-up early literacy learning practices and developing and evaluating CELL capacity building action plans (see
Table 2
Core Components of the CELL Capacity-Building Scaling-Up Implementation Model

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<tr>
<th>Core Components</th>
<th>Key Elements</th>
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</thead>
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<tr>
<td><strong>Vision</strong></td>
<td>Scaling-up goals, team member roles and responsibilities, dissemination of information about the scaling-up initiative, and timelines for meeting agreed upon goals.</td>
</tr>
<tr>
<td><strong>Leadership Team</strong></td>
<td>Team member organization, agreed upon team member roles, designated team member assignments, CELL technical assistance staff roles, and team member meetings and CELL contacts.</td>
</tr>
<tr>
<td><strong>Needs Assessment</strong></td>
<td>Identification of early literacy learning practices needs, assessment of existing service delivery program strengths and needs, and the development of a scaling-up implementation plan.</td>
</tr>
<tr>
<td><strong>Outreach and Training</strong></td>
<td>Provision of state-level technical assistance and training, regional and local technical assistance and training, end-user technical assistance and training, and ongoing opportunities for follow-up with participants.</td>
</tr>
<tr>
<td><strong>Self-Evaluation</strong></td>
<td>Treatment fidelity and integrity data collected at all levels of technical assistance and training, outcome (impact) data collected at all levels of scaling-up, and fidelity data used to make changes in the scaling-up processes.</td>
</tr>
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</table>

especially Sugai et al., 2005). The planning tool includes key indicators for the different elements of each core component. The item content of the instrument is based on findings from previous scaling-up initiatives as well as recommendations by implementation researchers (e.g., Baker, 2006; Fixsen et al., 2005; Fullan, 2001; Louis, Rosenblum, & Molitor, 1981; Mclnerney & Hamilton, 2007; Menter et al., 2004; Simmons & Shiffman, 2006). The planning tool is completed and updated on multiple occasions where indicators that are judged as present are used to assess the establishment and status of the state-level capacity-building infrastructure and the action plan. A state-level infrastructure is seen as a necessary, but not sufficient, condition for effective scaling-up.

Technical Assistance Providers

The state resource team includes designated technical assistance staff who are provided CELL training to promote use of both evidence-based training processes (Fixsen et al., 2005) and evidence-based early literacy learning practices (Dunst, Trivette, Masiello, Roper et al., 2006). These state level technical assistance providers typically include staff from programs and organizations who already provide or offer training to local program directors, practitioners, and parents.

Scaling-up at the regional and local levels is accomplished by state-level technical assistance providers training regionally or locally constituted groups of technical assistance staff to use CELL training methods and procedures (processes) and CELL evidence-based practices (practice adoption). These second- and third-generation technical assistance providers spread adoption and use of CELL practices through replications of replications of CELL training methods and practices with end-users (practitioners and parents). This is accomplished primarily by mapping the scaling-up and training onto existing networks of technical-assistance and early childhood intervention programs since these kinds of associative strategies can be especially effective in promoting end-user use of targeted practices (CORE, 2005). Figure 3 shows graphically the manner in which CELL scaling-up is achieved.

Transfer of Expertise Model

The scaling-up of CELL training procedures and targeted practices is best described as a capacity-building, or transfer-of-expertise, model (e.g., Eggbeer, Fenichel, Pawl, Shanok, & Williamson, 1994; Floden, Goertz, & O’Day, 1995; Sayre & Wetterlund, 2002). The transfer-of-expertise model used by CELL for scaling-up evidence-based early literacy practices is considered successful to the extent that technical assistance providers receiving CELL-specialized technical assistance in

![Figure 3. Multi-tiered approach to scaling-up the adoption and sustained use of evidence-based early literacy learning practices.](image-url)
The training methods were especially relevant to how I can conduct training with others. The duration of the training was sufficient to cover all the planned topics. The training was conducted in a well-organized manner. Practitioners and parents would really see the value of using CELL practices. The importance of active learner participation in the training process was clearly explained.Indicator Examples

It was evident that the trainer(s) really bought into the training. The importance of interest-based child literacy learning was illustrated clearly. A sufficient amount of time was devoted to each component of the CELL literacy learning practices. This is accomplished by gathering different kinds of information about CELL-related activities aimed at promoting adoption and sustained use of CELL intervention practices. Information gathering is done at state, regional or local, and end-user levels, and parallels the framework outlined in this CELLpaper.

Fidelity of CELL Training

Fidelity of both implementation and diffusion training is measured by a participant completed training experiences fidelity scale. The scale assesses the degree to which CELL training processes and CELL targeted practices are conducted and described, respectively, in ways that were of sufficient dose and judged as “well done” (exposure), include clearly described and discernable characteristics of the training processes and intervention practices (adherence), and are viewed by participants as relevant and socially valid (responsiveness). The fidelity scale includes indicators of each dimension and element of fidelity described earlier, and incorporates recommendations by others using self-report instruments for assessing fidelity (e.g., Paulson, Post, Herinckx, & Risser, 2002; Ponti, Zins, & Graden, 1988; Schoenwald & Hoagwood, 2001). Table 3 includes examples of fidelity indicators for assessing CELL training.

The training experiences fidelity scale is completed by all participants receiving CELL training, including, but not limited to, technical assistance providers, practitioners, and parents. The collection of fidelity data at different levels of training permits an assessment of the degree to which implementation and diffusion training and CELL practices are delivered and communicated as intended. A nested framework is used to trace the degree to which both training processes and practice adoption occur as intended (see e.g., Borrelli et al., 2005). The nested structure permits assessment of the degree to which persons trained by CELL staff in turn train others as intended, and the extent to which second and third generation trainers train end-users in the use of the CELL methods and procedures having intended child outcomes.

Table 3
Examples of Fidelity Indicators Used to Assess Both Training Processes and Practice Adoption

<table>
<thead>
<tr>
<th>Fidelity</th>
<th>Indicator Examples</th>
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<tr>
<td>Training Processes</td>
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<tr>
<td>Exposure (Quantity)</td>
<td>The duration of the training was sufficient to cover all the planned topics</td>
</tr>
<tr>
<td>Exposure (Quality)</td>
<td>The training was conducted in a well-organized manner</td>
</tr>
<tr>
<td>Adherence</td>
<td>The importance of active learner participation in the training process was clearly explained</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>The training methods were especially relevant to how I can conduct training with others</td>
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<td>Exposure (Quantity)</td>
<td>A sufficient amount of time was devoted to each component of the CELL literacy learning practices model</td>
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</tr>
<tr>
<td>Responsiveness</td>
<td>Practitioners and parents would really see the value of using CELL practices</td>
</tr>
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Variations in implementation and diffusion fidelity are related to variations in end-user adoption and use of targeted teaching methods (training processes) and practice adoption to ascertain fidelity.

Fidelity of End-User Interventions

Fidelity of end-user (practitioners or parents, or both) adoption and use of both instructional and literacy learning practices is measured by end-user completed scales of the number and frequency of use of CELL practices, the development-enhancing characteristics of the practices, the social validity of the practices, and the child benefits of the practices. The scales are modeled after ones used to promote practitioner and parent adoption and use of evidence-based early childhood intervention practices (Dunst, Pace, & Hamby, 2007; Dunst & Raab, 2007; Trivette & Dunst, 2007; Trivette, Dunst, Hamby, & Pace, 2007). The fidelity scale includes indicators of both the instructional and intervention practices that are the foundations of CELL methods and procedures (Dunst, Trivette, Masiello, Roper et al., 2006).

The fidelity scale of end-user adoption and use of CELL practices is completed by practitioners or parents, or both, who received CELL diffusion training. Fidelity of training processes is measured by the instructional practice indicators used routinely by end-users (e.g., “It was easy for me to be responsive to my child’s attempts to communicate with me”). Fidelity of practice adoption is measured in terms of the number and frequency of use of CELL practices (e.g., “I was able to do the practices with my child almost every day”) and the extent to which the practices were characterized by evidence-based development-enhancing qualities and features (e.g., “My child was especially interested in the learning activities”).

Variations in both fidelity of training processes and practice adoption are related to variations in child outcomes using a generally interpretable quasi-experimental research design (Shadish, Cook, & Campbell, 2002). This is accomplished using a post-test only design with two dependent measures, one that the CELL practices are expected to affect and one that the CELL practices are not expected to affect. The effectiveness of the CELL practices are established by testing for a predicted variations in fidelity by outcome measure interaction (see e.g., Dunst et al., 2007). This type of design has been used widely in a number of fields for ascertaining the effectiveness of interventions in real-world settings (e.g., Mohr & Clemmer, 1989; Nisbett & Kanouse, 1969; Orgel, Milliron, & Frederick, 1992; Seaver, 1973; Simester, Hauser, Wernerfelt, & Rust, 2000).

CONCLUSION

This CELL paper included a description of the ways in which treatment fidelity is conceptualized and operationalized as part of efforts to scale-up the adoption and use of evidence-based early literacy learning practices using capacity-building training methods and procedures. Inasmuch as the CELL training processes and intervention practices are intentionally straightforward and easily adapted to existing technical assistance and early childhood intervention program practices, the procedures for measuring fidelity are straightforward as well.

The approach to measuring fidelity is at the same time comprehensive and circumscribed. The approach is comprehensive in the sense that it assesses multiple kinds of fidelity to insure important elements and dimensions of treatment integrity are measured. The approach is circumscribed in the sense that what is measured and how it is measured is easily incorporated into the day-to-day practices of technical assistance providers and end-users.

The approach to conceptualizing and measuring fidelity is also based on the “less is more” principle (Halpern & Hakel, 2003). The indicators used to measure fidelity include only those features and dimensions deemed important and necessary for assessing fidelity, and the indicators themselves are relatively few in number. The latter is the case because the majority of fidelity measures are obtained from participants, and the more succinct the indicators, the greater the likelihood of obtaining reliable and valid information (Babbie, 2004).

The multi-tiered approach to collecting fidelity information (Figure 3) provides a basis for tracking fidelity of both training processes and intervention practices, and for evaluating the extent to which variations in fidelity at different levels are related to variations in end-user adoption and use of targeted practices. As noted by Groark and McCall (2005), “variations in treatment fidelity can be used to assess dose-response and qualitative variations in treatment that then can be associated with qualitative variations in outcomes” (p. 574). Le Menestrel, Tout, McGregor, Zaslow, and Moore (1999) discuss a number of approaches for evaluating variations in different aspects of intervention processes and practices. Durlak and Ferrari (1998) stated that “Future research priorities [should] involve identifying the specific factors that promote implementation [of a program or practice] and determining what levels of implementation are necessary to achieve maximum program impact” (p. 81). The CELL approach to measuring and evaluating fidelity permits just this kind of analysis.

REFERENCES


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