

Introduction

Where Is the New Frontier of Implementation Science in Early Care and Education Research and Practice?

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To implement means to make something happen according to or by means of a definite plan or procedure. The science of implementation is the study of the process of implementing programs and practices that have research evidence suggesting they are worth replicating. It is *not* the act of validating a program as evidence based; instead, implementation science is the study of how a practice that is evidence-based or evidence-informed gets translated to different contexts in the “real world.” In this way, it bridges the gap between science and practice. The purpose of this volume is to present current applications of implementation science in early childhood research and practice in order to highlight their key role in ensuring that early care and education initiatives are achieving their intended effects on their target populations.

The State of Implementation Science in Early Care and Education

The science of implementation has only recently gained widespread attention in the fields of health, mental health, and education, although researchers and practitioners have long recognized the importance of understanding the conditions that affect the delivery of effective programs. There is now a growing body of research looking at the processes and core components of implementing evidence-based practices in different settings and especially examining what it takes to move an evidence-based practice from the laboratory to the field (Berkel, Mauricio, Schoenfelder, & Sandler, 2010; Durlak & DuPre, 2008; Fixsen, Naoom, Blase, Friedman, & Wallace, 2005; Meyers, Durlak, & Wandersman, 2012). However, much of this research has focused primarily on adult services (Simpson, 2002), while few studies have focused on the implementation of evidence-based practice in the early care and education (ECE) field.

In a 2009 social policy report published by the Society for Research in Child Development (SRCD), Robert B. McCall called upon developmental scientists and others engaged in evaluating programs designed to improve outcomes of at-risk

children and families to revise the research enterprise and integrate it with the community (McCall, 2009). In this report, McCall recognized that, increasingly, scholars in developmental science and related disciplines are asked by policy makers, practitioners, and funders to identify programs with demonstrated evidence of effectiveness, thus creating new opportunities for scholars to influence both policy and practice. However, McCall questioned the readiness of researchers to provide evidence about the service programs and of service professionals to implement such programs in their communities, and he concluded that "the quality of implementation of a program is as important to achieving desired outcomes in society as the original demonstration of the program, but we do not have a well-developed science of implementation" (McCall, 2009, p. 3). This disconnect between research evidence and practice evidence explains "the paradox of non-evidence-based implementation of evidence-based programs" (Drake, Gorman, & Turrey, 2002, as cited in McCall, 2009).

Another recent SRCF social policy report by Vivian Tseng entitled *The Uses of Research in Policy and Practice* (Tseng, 2012) underscores the limitations of current research approaches to gather the evidence needed to implement effective programs. Tseng rightfully states that "while researchers have focused largely on questions of internal validity and implementation.... Moreover, there are often questions of external validity and implementation.... More over, there is currently little empirical evidence on their questions" (2012, p. 11). She further acknowledges that "the research community has come a long way in strengthening standards of evidence on what works, but little progress has been made on critical questions for the would-be adopters of programs" (2012, p. 12). These realities about the state of the science of implementation in early childhood should make us reconsider our conceptual frameworks for studying both what works and what it takes to implement evidence-based programs, for which populations, and under which conditions and contexts.

Changing Conceptualizations of the Study of Implementation in Early Care and Education

New questions are surfacing about what it takes to bring to scale programs that have been proven to be efficacious or transport them to other locations, as well as about the articulation of model components that are essential for making the program a success. This is true of discrete models, such as language and literacy interventions, and also systems-level or statewide interventions such as initiatives to improve early childhood educators' professional development, children's school readiness, or child care quality (e.g., quality rating and improvement systems).

The most frequently used implementation evaluation methodologies in ECE have typically assessed whether program activities have been implemented as planned (often referred to as assessing "fidelity of implementation"). However, while making important progress, these methodologies 1) have failed to identify all of the elements required for effective implementation, 2) do not suffice to tell us fully how to replicate programs, and 3) tell us even less about strategies for improving the program. Furthermore, the lack of common implementation frameworks used in these types of implementation evaluations limit the generalizability of implementation findings across diverse programmatic and organizational

populations, or geographic locations. To advance implementation research evidence, early childhood researchers must reassess current conceptualizations of the study of implementation in the context of rigorous evaluations of programs and evidence-based interventions.

As noted earlier, the history of implementation research in ECE is rather short, but new research, demonstration, and evaluation studies are incorporating more elements of implementation science as part of their focal activities. To illustrate how recent evaluation of early childhood interventions funded through agencies in the U.S. Department of Health and Human Services (HHS) have more fully incorporated implementation science in their logic models and conceptual frameworks, I offer here several examples of large evaluation studies funded from 2003 to the present. The examples are intended to illustrate how different waves of research have built on the insights and understandings of previous research teams.

The Partners for Inclusion Model

The first example involves the approach most frequently used in evaluations of initiatives in ECE that include an implementation component: an assessment of fidelity of implementation. It involves a recent evaluation of a quality-enhancement intervention in ECE: the evaluation of the Partners for Inclusion (PFI) model of on-site consultation conducted as part of the Quality Interventions for Early Care and Education (QUINCE) study, funded by the Administration for Children and Families (ACF) between 2003 and 2008 (Bryant et al., 2009). The PFI component of the QUINCE evaluation is noteworthy for its inclusion of an implementation as well as an impact evaluation. This was especially important because the intervention was put in place in multiple states and through multiple agencies.

After reflecting on the information provided through the implementation component of the evaluation, the authors of the PFI evaluation concluded that the implementation lens had been too narrow. By reviewing this evaluation team's reflections on what more was needed in order to fully understand implementation, we can learn a great deal about what kinds of information need to be collected in addition to fidelity of implementation for a full assessment of implementation. Such careful consideration is needed so that implementers of evidence-based models will be able to understand the conditions necessary to implement effective interventions on the ground, under different conditions, and in diverse contexts.

The PFI model of consultation was selected for this evaluation because its effectiveness had been established in two previous studies. The model was shown to enhance quality in both phases of its development: when delivered by highly trained university-based consultants with master's degrees and consultation experience (Wesley, 1994) and also when delivered by community-based child care consultants with varied levels of education and experience who were trained by the developers of the model (Palsha & Wesley, 1998). Both studies found significant gains in observed quality in infant/toddler and preschool classrooms and in a small number of family child care homes. The model developers had identified the core components of the intervention, had tested it in different early childhood settings and with diverse consultants, and had developed a standardized training system for consultants. They had also identified a set of conditions related to provision of supports for consultants that would be necessary to adequately implement the

intervention. The model, at the time, seemed ready for a full random assignment evaluation, including assessment of implementation fidelity to the model, defined as the degree to which the intervention was implemented as intended.

The evaluation of the PFI model in the QUINCE study included a random assignment of consultants working in 24 agencies providing technical assistance (TA) to ECE providers in five states. Most of the TA delivered by these agencies was directed to supporting efforts to improve the quality of care and early education and the developmental outcomes of young children. Local agencies in the five states supplied consultants to be randomly assigned to the treatment and control groups. The control group would continue to deliver TA as usual; this meant that, in some cases, consultants in the control group were delivering other models of on-site consultation and coaching to the programs assigned to them. The agencies covered the consultants' salaries, supervised them, and encouraged them to implement the PFI model in the treatment group programs. Training of the consultants was delivered by the evaluation team under the leadership of the model developers. Thus, the goal of the study was to evaluate the efficacy of an evidence-based model of on-site consultation delivered under typical conditions of provision of TA to ECE programs in different sites across the country.

In addition to the study hypotheses related to the impact of the PFI intervention on quality of care and on developmental outcomes of children participating in those programs, the study team predicted that teachers and family child care providers who participated in a greater number of on-site consultant visits would make greater gains in child care quality than those who participated in fewer on-site consultation visits. Another set of hypotheses concerned the conditions under which the PFI model would work. The team hypothesized that 1) providers served by consultants who more closely adhered to the procedures of the PFI model would show greater benefits of participation in the intervention and 2) the PFI model would be an effective model for improving the quality of child care in both child care centers and family child care homes (regulated and unregulated), with providers from diverse cultural backgrounds, and in settings that served a range of children with special needs and diverse language and socioeconomic backgrounds. In short, PFI, a child care provider consultation model, was predicted to be effective in a broad range of circumstances (Bryant et al., 2009).

As acknowledged by the authors in their final evaluation report (Bryant et al., 2009), several factors have been linked in the literature to treatment fidelity, including intervention complexity, time required for implementation, availability of necessary resources, number and motivation of the people involved, support of administrators, prior training of participants, and the participants' perceptions of the intervention's effectiveness. Generally, the level of fidelity decreases as the intervention complexity, time requirements, necessary resources, and numbers of people needed to assist increase. Potential barriers to addressing fidelity include the cost of directly observing implementation, the lack of appropriate measurement tools, and the difficulty of operationalizing relationship-based interventions (such as PFI). All of these barriers were issues for the QUINCE team in documenting PFI fidelity.

In addition, the measurement of implementation fidelity in a study of consultation effectiveness is complicated by the multiple points of contact in the process. In the case of the PFI intervention, these included 1) the trainers who had to train

the consultants, 2) the consultants who interact with the consultees and teachers in ECE programs, 3) the consultees who interact with the children they care for or teach, and 4) other adults involved in their programs.

These multiple transactions and contextual variables increase the difficulty of implementing interventions with the intended strength and integrity, in terms of both the consultants' adherence to the (core) components of a consultation procedure and their consultees' follow through to address consultation goals. (Bryant et al., 2009, p. 82)

The project team anticipated challenges with measurement of fidelity, which were compounded by the need to collaborate with site liaisons in charge of the consultants in the evaluation and the need to use multiple methods of communication and documentation during implementation.

The study team aimed to assess the fidelity dimensions of exposure, adherence to the model's key components, and the quality of delivery. The dimensions of exposure and adherence were assessed and monitored through documentation completed by consultants (e.g., contact summary forms, action plans, final reports) and used to create a partial fidelity index. The quality of delivery was more difficult to assess, mostly because documentation was brief or silent as to quality and the project resources did not allow for direct observations of the consultation process to assess the quality of delivery.

The fidelity index revealed important information about the implementation of the PFI model in multiple contexts (Wesley et al., 2010). For example, it showed that consultants generally received high scores both on the key component of collaborative decision making with the classroom teachers and home-based providers with whom they were working and also on the total number of visits made to teachers and providers. However, the ratings demonstrated that it was challenging for consultants to organize their quality improvement efforts around the aspects of quality receiving the lowest scores on an observational measure of quality and to schedule their visits to teachers and providers on a regular basis. Perhaps of greatest concern, their accuracy of scoring of the appropriate environmental rating scale (for center-based or home-based care settings) was documented to be an issue.

With the environmental rating scale scoring providing a foundation for the joint planning for quality improvement with the teacher or home-based provider, the issues of accuracy of scoring and organizing efforts around the lowest scoring items clearly identified areas where further efforts in strengthening implementation of the intervention would be needed. In addition, only about 8% of the consultants scored high (3.5 or higher on a 4-point summary index) on the summary index of fidelity. While about 41% received scores between 3 and 3.45, fully half of the sample had summary scores below 3, clearly pointing to room for improvement in tightening adherence to the model.

Interestingly, the authors indicated both value and limitations in the use of the fidelity assessment (Bryant et al., 2009; Wesley et al., 2010). They concluded that while further work clearly would be needed in implementing core components of the model such as accuracy in scoring the environmental rating, full implementation of the PFI model would require attention to two further dimensions: time and context. They noted that evaluating impacts in the 1st year of full implementation may not have provided for a full test of the model and that allowing for a period to monitor and tighten implementation prior to evaluation would have been

desirable. Indeed, analyses of implementation studies across several disciplinary fields suggests that it takes 2–4 years before a new practice model is fully operational and being used with fidelity in the field (Fixsen et al., 2005).

The authors also noted that aspects of the broader organizational context needed attention in order to more fully support implementation. For example, they observed that the degree to which agency directors supported the model varied, that agency directors sometimes felt pressed to deliver quality incentives to centers or home-based care sites before the assessment of quality could be completed and provide the basis of a full plan for quality improvement (thereby undermining the selection of priorities for quality improvement), and that caseloads varied substantially for consultants. Furthermore, there was an unresolved tension between the study team's provision of training and oversight for consultants providing the PFI model and the ongoing role of the agency directors. In summary, the authors of the QUINCE evaluation's PFI model underscored the need for taking into account organizational- and system-level variables in full implementation—an issue HHS has subsequently taken into account in further projects (see below).

It is important to note that even with the limitations on implementation fidelity and the issues of time and context for implementation, the PFI model was documented to have effects on quality (Bryant et al., 2009). Though slightly fewer than half of the treatment consultants were implementing PFI at an average level or higher on the summary index of fidelity and many were at the lower end of the range, the PFI intervention produced significant effects on multiple observed aspects of quality of care in the family child care homes (subscales of the Family Day Care Environmental Rating Scale) and on a measure of literacy and math stimulation (the Early Childhood Environment Rating Scale–Extension) in both center classrooms and family child care homes. Moreover, after controlling for children's characteristics and initial scores on measures of development, children in the center classrooms in the intervention group scored higher on measures of language development than children in control classrooms.

Through the QUINCE study, it became clear that future studies of quality improvement in ECE would not only need to take into account the enactment of the intervention and receipt of the intervention, they would also need to focus on the full complexity of the intervention delivery process over time and in the surrounding organizational and systems contexts. Section I of this volume seeks to provide a more fully articulated framework for what is needed in such work. Chapters 1–3 in this volume present descriptions of implementation science frameworks and principles to guide the design and collection of implementation data, the core components and drivers of good implementation, and constructs to determine readiness to change at the level of the system, programs, and individuals.

Head Start CARES

Based on the agency's experience with the QUINCE-PFI and similar evaluations, it became clear that incorporating a strong implementation study in ECE evaluation efforts is not only desirable but also necessary. Recent studies funded by ACF and other agencies in HHS are requiring comprehensive implementation studies as part of rigorous evaluations of interventions. One example is the study Head Start CARES (Classroom-based Approaches and Resources for Emotion and Social skill

promotion), a large-scale, group-randomized trial of three social-emotional program enhancements within Head Start classrooms (Office of Planning, Research & Evaluation [OPRE], 2012). The project includes an impact and implementation study of three enhancements: the Incredible Years classroom management program, Preschool PATHS, and Tools of the Mind. The project is trying to answer both impact and implementation questions such as What is the effectiveness of specific social-emotional programs or practices within the Head Start population? Are specific social-emotional programs or practices more or less effective for certain populations? What characteristics of Head Start settings are necessary for effective implementation of different program or practices? And what factors are related to training, technical assistance, implementation, and fidelity of programs or practices within Head Start settings?

The project is intended to meet the needs of the national Office of Head Start and local Head Start settings by specifically addressing the implementation, effectiveness, and improvement of program options and practices within the Head Start community. In the short term, the research will provide the Office of Head Start with information regarding the appropriateness for use in Head Start settings of specific programs or practices nationwide, as well as information that can be used in TA efforts. In addition, the research will assist Head Start settings in deciding which programs or practices are most likely to improve children's social-emotional development, given the characteristics of their particular settings and the populations they serve. The study will also provide the field with a resource of quality research findings that practitioners can use to make decisions about program options and practices. Chapter 8 in this volume describes some of the components of the implementation evaluation in Head Start CARES.

The Maternal, Infant, and Early Childhood Home Visiting Program

Another example of an evaluation in ECE that incorporates strong implementation components is that of the Maternal, Infant, and Early Childhood Home Visiting Program (MIECHV; Health Resources and Services Administration, n.d.). The Affordable Care Act of 2010 established the MIECHV program, which is distributing \$1.5 billion over 5 years to states to establish home visiting program models for at-risk pregnant women and children from birth to age 5. The Act stipulated that 75% of the funds must be used for home visiting programs with evidence of effectiveness based on rigorous evaluation research.

The Home Visiting Evidence of Effectiveness (HomVEE; U.S. Department of Health and Human Services, n.d.) review provided information about which home visiting program models have evidence of effectiveness as required by the legislation and defined by HHS, as well as detailed information about the samples of families who participated in the research, the outcomes measured in each study, and the implementation guidelines for each model. The legislation specified a number of program implementation requirements for models to be funded as evidence-based by the MIECHV program, including that models had to 1) have been in existence for at least 3 years prior to the start of the review, 2) be associated with a national program office that provides training and support to local program sites, and 3) have minimum requirements for the frequency of home visits and for home visitor supervision. Most home visiting programs included in the HomVEE

review have preservice training requirements, implementation fidelity standards, a system for monitoring fidelity, and specified content and activities for the home visits.

The Affordable Care Act also specified that there should be an ongoing program of research to increase knowledge about home visiting implementation and effectiveness. Specifically, the legislation required a national evaluation of MIECHV to report findings to Congress in 2015. The Design Options for Home Visiting Evaluation (DOHVE; OPRE, 2010) project was tasked to design this national evaluation in order to gain information to strengthen future programs by systematically studying program implementation. The DOHVE project goes beyond issues of fidelity to include factors related to the context of implementation.

The implementation study designed as part of the evaluation of MIECHV will collect information on community context, influential organizations, the service model, the implementation system, home visitors, families, and actual service delivery.

The implementation system includes the resources for carrying out the service model. It incorporates policies and procedures for staff recruitment, training, supervision and evaluation; assessment tools, protocols and curricula to guide service delivery; the use of administrative supports such as management information systems to monitor and promote staff adherence to the service model; organizational culture and climate regarding fidelity and the use of evidence-based practices; the availability of consultation to address issues beyond the home visitor's skills and expertise; and the home visiting program's relationships with other community-based organizations to facilitate referral and service coordination. (Michalopoulos et al., 2011, p. 21)

These components of the implementation study address most of the elements in the implementation science framework to be discussed in many chapters in this volume. In addition, the implementation study, in conjunction with the accompanying effectiveness study, is investigating which features of service models and implementation systems are associated with more positive effects for families.

A new project, the Maternal, Infant, and Early Childhood Home Visiting Evaluation (MIHOPE; OPRE, 2011), was launched in 2011 to conduct the evaluation designed through the DOHVE project. Chapter 10 in this volume provides some insights into efforts to improve implementation in the process of going to scale for one of the home visiting models in use by the MIECHV grantees and included in the MIHOPE evaluation: the Nurse-Family Partnership model.

Other Research Studies

Two other research efforts that involve critical implementation components were funded in September 2012 by the ACF's Office of Planning, Research and Evaluation (OPRE). One, known as the Head Start Professional Development: Developing the Evidence for Best Practices in Coaching, is a design-options project tasked with identifying effective coaching components that result in positive change in Head Start teachers' behaviors, as well as the conditions related to training, staffing, and supports that are needed to establish and maintain appropriate levels of fidelity to achieve the expected outcomes with efficiency. The other is the National Implementation Evaluation of the Health Profession Opportunity Grant, a program focused on cash assistance recipients and other low-income individuals. It will involve multiple tasks to assess implementation, systems change, and outcomes

and will provide valuable information about the operations of these federally funded programs in improving education and employment opportunities for low-income people. This grant program was designed to yield information and lessons about operating such programs. In addition, the project evaluation will document the challenges faced and how these challenges were addressed during implementation of the program models as well as throughout their operation.

Addressing Gaps in the Research

Researchers, practitioners, and policy makers are recognizing the need to attend more closely to the implementation of evidence-based models in ECE programs to ensure that desired outcomes are achieved. To promote an understanding of the implementation frameworks that could be applied in the ECE field both in research and practice, OPRE sponsored the Working Meeting on the Application of Implementation Science to Early Care and Education Research in September 2010 to conduct an in-depth examination of the application of implementation science to ECE research (the meeting summary and proceedings are available at <http://www.researchconnections.org/childcare/collaboration.jsp#Application>). The meeting was held in conjunction with a federal interagency meeting entitled Improving Implementation Research Methods for Behavioral and Social Science, which focused on the topic of implementation research methodology in behavioral and social science research.

There were three main goals of the OPRE meeting:

1. To clarify the definitions and key concepts used in implementation science and thereby to develop a shared understanding of the role implementation science can play in ECE research
2. To explore the potential lessons learned from applying implementation science principles in ECE research and evaluation
3. To identify products that would assist early childhood program implementers, policy makers, and researchers in applying implementation principles in their work

The chapters in this volume are based on presentations and discussions held at the September 2010 meeting and have benefited from extended conversations among meeting participants and other experts on the science of implementation through convening of the Workgroup on Applications of Implementation Science to ECE Research and Practice. The purpose of this volume is to highlight how implementation science can improve the application and sustainability of evidence-based, effective practices in ECE. While recognizing that assessing fidelity to a particular model is an important component of implementation science, its authors underscore the fact that this component is not the *only* component of implementation that leads to successful transfer or transportability of effective ECE initiatives. A focus throughout this volume is on highlighting and exemplifying how the use of science-based implementation frameworks that are built on stages of implementation and core implementation components can improve the application of implementation findings to replicate effective ECE programs and systems.

The chapters are organized into four sections within the volume. Section I focuses on the definitions, frameworks, and methodologies related to implementation as a way to set the stage for an in-depth examination of the application of implementation science principles and practices to ECE research. In the first chapter, Robert P. Franks and Jennifer Schroeder discuss the importance of using an implementation framework as a conceptual guide to utilizing effective implementation practices. Chapter 2, by Allison Metz, Tamara Halle, Leah Bartley, and Amy Blasberg, explains in detail the core components associated with successful implementation and how these can contribute to the development of ECE programming. The authors also discuss the importance of aligning ECE research design with the stages of implementation. In the next chapter, Shira M. Peterson considers the theoretical and practical implications of "readiness to change" principles as they relate to implementation of ECE programs and practices in real-world contexts.

The final chapter in Section I is by Chris S. Hulleman, Sara E. Rimm-Kauffman, and Tashia Abry, who address the conceptualization of intervention fidelity and its implications for measurement, design, and analysis. As noted earlier in this introduction, the consideration of whether program activities have been implemented as planned (what Hulleman et al. refer to as "intervention fidelity" rather than the more commonly used "fidelity of implementation") is critical to obtaining the outcomes we hope to achieve for young children, their families, and early childhood programs. Chapter 4 provides excellent guidance on how to define, collect, and analyze this important program evaluation information.

Sections II and III of this volume build from the foundational information provided in Section I by offering examples of applications of these frameworks, principles, and analytic strategies in ECE interventions. Specifically, the chapters in Section II focus on formative evaluation and the exploration of intervention fidelity, while Section III highlights early childhood interventions that are at the stage of replication and scale-up.

Section II includes examples of the implementation of coaching-based professional development (Chapter 5), a relationship-based early childhood intervention called Getting Ready (Chapter 6), and early childhood interventions aimed at enhancing social-emotional development through the Head Start CARES project (Chapter 7). Section III features examples of replication and scaling up of an early math curriculum called Building Blocks (Chapter 9), a nurse home-visitation model called the Nurse-Family Partnership (Chapter 10), and an innovative public-private initiative aimed at closing the achievement gap for low-income children ages birth to 5 called Educare (Chapter 11). The authors of the chapters in these two sections demonstrate how program developers and researchers design evaluation studies that align with the appropriate stage of implementation and use frameworks and strategies that intentionally take into account key components of effective implementation.

Both Section II and III begin with an overview by Amy Blasberg that provides a helpful orientation to the content that is covered in the chapters that follow. In addition, both sections conclude with an integrative chapter (Chapter 8, authored by Jason Downer for Section II, and Chapter 12, by Carolyn Layzer for Section III) that provides additional, thoughtful discussion of the concepts raised in the individual chapters and their implications for future research and practice.

The programs and practices highlighted in Sections II and III of this volume are examples of ECE interventions enacted at the level of a classroom, home, or school. Can the principles and frameworks of implementation science be as easily applied to larger-scale early childhood initiatives? Section IV of this volume explores the use of an implementation lens as applied to system-wide early childhood initiatives such as professional development systems within states (Chapter 13) and quality rating and improvement systems (Chapter 14). This is a topic of particular interest to state policy makers as they work on developing and expanding statewide ECE systems. Section IV opens with an overview by Tamara Halle.

The volume concludes with Chapter 15 by Tamara Halle, Martha Zaslow, Ivelisse Martinez-Beck, and Allison Metz. This chapter addresses major themes presented throughout the volume and discusses various implications for research, policy, and practice.

Implementation science applied to the evaluation of ECE initiatives has experienced some growth during the past decade, as illustrated by the work included in this volume from many scholars in the field of ECE in support of better outcomes for at-risk children and families. But the field has a long way to go to achieve a common conceptualization of the role of implementation science research in evaluations of evidence-based interventions. Incorporating strong implementation components in studies of efficacy and effectiveness requires careful design, methodological approaches, and the development of measures that are able to capture the conditions necessary to fully implement interventions on the ground. A new research agenda needs to be developed to ensure that future studies include a strong focus on implementation and to allocate sufficient resources to accomplish the activities necessary to measure and document fidelity to program models as well as fidelity to the core components of an implementation science framework. The work included in this volume provides important information that can be used to shape this new research agenda on implementation science in ECE.

References

- Berkel, C., Mauricio, A.M., Schoenfelder, E., & Sandler, I.N. (2010). Putting the pieces together: An integrated model of program implementation. *Prevention Science, 12*, 23-33.
- Bryant, D., Wesley, P., Burchinal, P., Sideris, J., Taylor, K., Fenson, C., & Iruka, I. (2009). *The QUINCE-PFI Study: An evaluation of a promising model for child care provider training, final report*. Chapel Hill, NC: FPG Child Development Institute. Retrieved from <http://www.researchconnections.org/childcare/resources/18531>
- Drake, R.E., Gorman, P., & Turrey, W.C. (2002). *Implementing adult "tool kits" in mental health*. Paper presented at the NASMHPD Conference on EBPs and Adult Mental Health, Tampa, FL.
- Durlak, J.A. & DuPre, E.P. (2008). Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation. *American Journal of Community Psychology, 41*, 327-350.
- Fixsen, D.L., Naoom, S.F., Blase, K.A., Friedman, R.M., & Wallace, F. (2005). *Implementation research: A synthesis of the literature* (FMHI Publication No. 231). Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, National Implementation Research Network.
- Health Resources and Services Administration. (n.d.). Maternal, Infant, and Early Childhood Home Visiting Program. Retrieved from <http://mchb.hrsa.gov/programs/homevisiting>
- McCall, R.B. (2009). Evidence-based programming in the context of practice and policy. *Social Policy Report 23*(3). Washington, DC: Society for Research in Child Development.

- Meyers, D.C., Durlak, J.A., & Wandersman, A. (2012, May 30). The quality implementation framework: A synthesis of critical steps in the implementation process. *American Journal of Community Psychology*.
- Michalopoulos, C., Duggan, A., Knox, V., Filene, J.L., Lundquist, E., Snell, E.K., ... Mello, M. (2011). *Design options for the home visiting evaluation: Draft final report* (ACF-OPRE Report 2011-16). Washington, DC: U.S. Department of Health and Human Services. Retrieved from <http://www.acf.hhs.gov/programs/opre/resource/design-options-for-the-maternal-infant-and-early-childhood-home-visiting>
- Office of Planning, Research & Evaluation. (2010). *Design Options for Home Visiting Evaluation (DOHVE), 2010–2015*. Retrieved from <http://www.acf.hhs.gov/programs/opre/research/project/design-options-for-home-visiting-evaluation-dohve-2010-2015>.
- Office of Planning, Research & Evaluation. (2011). *Maternal, Infant and Early Childhood Home Visiting Evaluation (MIHOPE), 2011–2015*. Retrieved from <http://www.acf.hhs.gov/programs/opre/research/project/maternal-infant-and-early-childhood-home-visiting-evaluation-mihope-2011>
- Office of Planning, Research & Evaluation. (2012). *Head Start CARES (Head Start Classroom-based Approaches and Resources for Emotion and Social skill promotion), 2007–2013*. Retrieved from <http://www.acf.hhs.gov/programs/opre/hs/cares/index.html>
- Palsha, S.A., & Wesley, P.W. (1998). Improving quality in early childhood environments through on-site consultation. *Topics in Early Childhood Special Education, 18*(4), 243–253.
- Simpson, D.D. (2002). A conceptual framework for transferring research to practice. *Journal of Substance Abuse Treatment, 22*(4), 171–182.
- Tseng, V. (2012). The uses of research in policy and practice. *Social Policy Report, 26*(2). Washington, DC: Society for Research in Child Development.
- U.S. Department of Health and Human Services. (n.d.). *Home Visiting Evidence of Effectiveness*. Retrieved from <http://homvee.acf.hhs.gov>
- Wesley, P.W. (1994). Providing on-site consultation to promote quality integrated child care programs. *Journal of Early Intervention, 18*, 391–402.
- Wesley, P.W., Bryant, D., Fenson, C., Hughes-Belding, K., Tout, K. & Susman-Stillman, A. (2010). Treatment fidelity challenges in a five-state consultation study. *Journal of Educational and Psychological Consultation, 20*(3), 209–227.