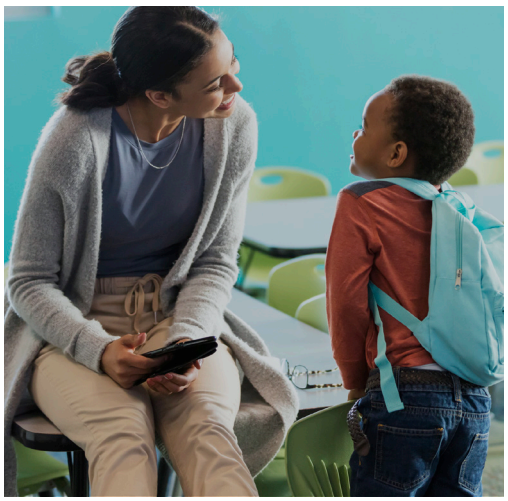
FOUNDATION FOR CHILD DEVELOPMENT

GETTING IT RIGHT: THE CONVERSATION GUIDE FOR PREPARING THE NEXT GENERATION OF IMPLEMENTATION RESEARCHERS

GETTING STARTED












PURPOSE AND RATIONALE

In 2020, the Foundation for Child Development released *Getting it Right: Using Implementation Research to Improve Outcomes in Early Care and Education*. The publication provides insights into the value of including implementation research in the study of early care and education (ECE) and its potential to improve programs and policies and achieve stronger outcomes for all young children. As more programs are brought to scale, our ability to achieve greater impacts for all young children rests on a more nuanced understanding of the context in which ECE programs and policies are being implemented locally and the different impacts on specific subgroups of children. As a result, now is the moment for ECE researchers, practitioners, and policymakers to identify the critical components of effective ECE programs and policies and engage in meaningful exploration of what works, for whom, and under what conditions.

This conversation guide was created to help faculty in institutions of higher education use *Getting it Right* as a resource in the preparation of future researchers to conduct implementation research. This guide supports higher education faculty to initiate and sustain conversations with students about effective early care and education, what still needs to be learned, and how implementation research can help fill the gaps. This guide focuses on faculty who are teaching a variety of courses, such as research design and methods, program evaluation, and statistics.

As you and your students consider research questions, study designs, the interpretation and implications of findings, and the application of research to practice, you will be joining the authors of the original volume in the challenge of gaining a deeper understanding of the context in which research is conducted. To enhance your conversations, we interviewed each author and have included quotes that capture their insights about their work and the role of implementation research in the field. As these quotes reveal, the authors respect your students as future collaborators in moving the field forward.

Many of the authors offer insights not only about implementation research design and approach, but also about the stance of implementation research based on their experiences. Stance refers to the attitudes, values, and beliefs each researcher brings to their work, as well as the skills and mindset required to be a continuous learner and/or collaborator in research. It is important to recognize that "stance" can also be influenced by unconscious bias. With this guide, you can invite each of your students to be intentional in exploring and establishing their stance. Such reflections will help ensure that long after your class, students will be aware of how who they are and what they bring to their research can impact their work.

USING THIS GUIDE AND HOW IT IS ORGANIZED

This guide is organized for ease of navigation as you plan and teach your classes. It is divided into three sections that are intended to provide an overview of an implementation research approach; offer questions to support you in sparking and sustaining conversations with your students, both those studying research evaluation and methods and those whose focus is on ECE program quality and child development; and present reflections on moving ECE implementation research forward.

Each chapter includes:

- A summary excerpted from the *Getting it Right Chapter Summaries*
- Themes excerpted from the *Getting it Right* full publication
- Quotes from the author(s)
- Questions for further discussion
- A "Moving forward" section to facilitate further insights and takeaways

The chapters open with a summary paragraph, which appear within the *Getting it Right: Using Implementation Research to Improve Outcomes in Early Care and Education Chapter Summaries* resource. The excerpts you will see throughout the chapters are from the full publication, *Getting it Right: Using Implementation Research to Improve Outcomes in Early Care and Education*. They are indicated by the corresponding page number. Discussion questions follow each excerpted theme and chapters close with the "Moving forward" insights.

Discussions may lead to new questions or reflective exercises and activities that can deepen students' understanding of implementation research and their role as researchers. You may decide to share this guide with your students as a resource to reflect upon during and after taking your class. By doing so, you help ensure the conversation continues as students have access to both content and reflections from each author about the rich possibilities of this research approach.

Resources are also provided to help further engage your students with the publication content. In the full publication, Chapter 7 is a case study that highlights the experience of Boston Public Schools in building and refining its Preschool-2nd grade program. In this guide, Chapter 7 was used to generate a series of activities that you may choose to use with your students individually or in small groups. Yet, any chapter and accompanying discussion questions can be used to create group activities or other follow-up assignments.

A complimentary *Getting it Right 2020 Summer Webinar Series* is available. You may use it to support your students in understanding the importance of implementation research, its role in the effectiveness of ECE interventions, and related

themes from the companion publication. Students may enjoy seeing the publication authors reflect on their work and hear the discussions. Please access these highlights and key takeaways on-demand as you explore this guide.

Getting it Right: Using Implementation Research to Improve Outcomes in Early Care and Education Virtual Launch

In this webinar, key authors shared an exclusive overview about the publication, chapter highlights, insights about the value of implementation research in ECE, and its potential to improve programs and policies for stronger outcomes for all young children.

Featured Presenters:
Margaret R. Burchinal, Ph.D., University of North Carolina at Chapel Hill
Jeanne Brooks-Gunn, Ph.D., Columbia University
Tamara G. Halle, Ph.D., Child Trends
JoAnn Hsueh, Ph.D., MDRC
Iheoma U. Iruka, Ph.D., HighScope Educational Research Foundation
Jacqueline Jones, Ph.D., Foundation for Child Development

Discussant: Jason Sachs, Ed.D., Boston Public Schools

Getting it Right: Part 1: What more do we need to know about high-quality ECE programs

In this webinar, presenters highlighted key takeaways from the publication as it attempts to answer several questions for the field: What instructional content and strategies are tied to positive child outcomes? What more do we need to know about supporting dual language learners and bilingual education? What elements of coaching lead to changing teacher practice? How can we build effective and sustainable systems of ongoing professional development? How can quality programs be brought to scale? How can we ensure that programs are scaled in a way that promotes the development of children from diverse racial/ethnic, socioeconomic, cultural, and linguistic backgrounds?

Featured Presenters:
Linda Espinosa, Ph.D., University of Missouri-Columbia
Dale Farran, Ph.D., Vanderbilt University
Jacqueline Jones, Ph.D., Foundation for Child Development
Robert Pianta, Ph.D., University of Virginia
Jason Sachs, Ed.D., Boston Public Schools

Discussant: Ellen Frede, Ph.D., National Institute for Early Education Research

Getting it Right: Part 2: Implementation Research in Early Care and Education

In this webinar, presenters highlighted key takeaways from the publication as it attempts to answer several questions for the ECE field: What can we learn from implementation research principles to lead ECE programs, practices, and policies to better outcomes for young children? How can various implementation research designs address questions relevant to the field? How is improvement science different from implementation science? How are qualitative studies helping us understand variation across sites and localities implementing evidence-based programs? How can equity-focused implementation research be an effective tool for reducing bias in evaluations?

Featured Presenters:
Tamara Halle, Ph.D., Child Trends
JoAnn Hsueh, Ph.D., MDRC
Milagros Nores, Ph.D., National Institute for Early Education Research
Sharon Ryan, Ed.D., Rutgers University
Sara Vecchiotti, Ph.D., Esq., Foundation for Child Development

Discussant: Caroline Ebanks, Ph.D., Institute of Education Sciences

Getting it Right: Part 3: Moving Towards Equity Through Implementation Research

In this webinar, presenters shared insights about how equity-focused ECE research attempts to address the needs of children from diverse racial/ethnic, socioeconomic, cultural, and linguistic backgrounds. The following questions are addressed: What strategies does an equity-focused implementation research study employ across various stages of research? How can a Social Determinants of Early Learning framework be used to guide researchers in addressing systemic inequities? How can ECE programs foster early bilingualism while improving outcomes for children? What can we learn from Boston Public Schools' experience in moving towards achieving equitable outcomes?

Featured Presenters:
Linda Espinosa, Ph.D., University of Missouri-Columbia
Iheoma U. Iruka, Ph.D., HighScope Educational Research Foundation
Jacqueline Jones, Ph.D., Foundation for Child Development
Milagros Nores, Ph.D., National Institute for Early Education Research
Jason Sachs, Ed.D., Boston Public Schools

Discussant: Kristine Andrews, Ph.D., Child Trends

In closing, while all these resources are provided to support student learning, you know your students. You know their interests, strengths, and the areas they need to further develop. This guide is written for you. Make it yours.

WHAT IS IMPLEMENTATION RESEARCH?

Getting it Right: Using Implementation Research to Improve Outcomes in Early Care and Education does not prescribe a single definition of implementation research. Instead, it draws attention to the rich potential of investigating ECE programs in context. It also outlines how implementation research can advance the ECE field by answering questions that policymakers and practitioners prioritize as they seek to continuously improve or strengthen the ECE policies and programs that they govern, manage, and implement to ensure positive outcomes for all young children.

In creating its publication, the Foundation for Child Development brought together a group of respected, thoughtful researchers to share their perspectives, questions, and experiences with a rigorous scientific approach that presents both opportunities and challenges. Many of them have conducted groundbreaking research that now serves as the foundation of our knowledge of what it takes to offer high-quality experiences to young children. As global attention has focused on issues of racial and social justice, we see from this foundational research that issues of equity and access to food, health care, housing, and high-quality early experiences have been a part of the early childhood landscape for a very long time. Implementation research provides an opportunity to build on our research foundations; explore root causes; examine our research methodology; and build stronger connections across research, policy, and practice.

As *Getting it Right* demonstrates, conducting sound, rigorous, high-quality ECE implementation research to build evidence for the field is no easy task. Realistically, researchers doing such work need to be willing to "embrace the messy," from initial design through final analysis, interpretation, and dissemination. The messiness reflects the intricacies of the interventions and is precisely what makes the work so interesting (Vecchiotti, Conclusion). It helps if researchers assume a stance in which they:

- Have a deep appreciation for ever-evolving contexts, typically encompassing multiple layers of policy and programmatic decisions and surrounding conditions.
- Have extensive knowledge about various rigorous designs and methods of analysis to answer nuanced and interrelated questions nested within and across these implementation contexts.

- Consider building a collaborative process with policymakers and practitioners that encompasses the entire research process, including the co-construction of research questions, and continues throughout research design, data access, collection, and reporting. This is an important shift for applied researchers, and the benefits of this two-way relationship are many. Furthermore, interpreting the data and determining the implications can help guide collaborative thinking about how to account for particular implementation contexts and provide more insights into research-to-practice connections.
- Consider developing their own knowledge about their research partner's work, especially because they are examining the tensions between the planned ideal and actual implementation. To make meaningful and useful policy recommendations, researchers need to acquire operational knowledge, such as understanding a program's or policy's specific purpose, elements, and process.
- Provide a common ground of shared operational knowledge to help build and maintain trust among collaborators throughout all stages of research. It can also help to manage appropriate expectations regarding what research can do to influence or support continuous quality improvement efforts.

With such knowledge, skills, and dispositions, applied implementation researchers can increase the potential of research to shape, improve, or transform ECE policy and programs in ways that allow these programs to better serve all children and their families.

FILLING IN THE GAPS OF OUR KNOWLEDGE TO IMPROVE OUTCOMES FOR ALL CHILDREN

Researchers have largely considered the randomized control trial (RCT) to be the gold standard of experimental design in understanding and assessing program effectiveness. This design randomly assigns some children to a group that receives a defined treatment and others to a group that does not. Assuming that the two groups and all other things are equal, post-treatment differences between the two groups are assumed to be caused by the treatment's impact. Yet these trials may not capture nuances of variation or answer critical questions, including: Are all children experiencing the program under the same conditions? Are specific subgroups of children demonstrating different responses to the intervention?

Additional robust quantitative and qualitative data are also needed to ensure stronger outcomes for all children and significantly narrow the opportunity and achievement gap for minoritized children and those living in poverty. A deeper understanding is needed about how equity issues, especially racism and poverty, discrimination related to race/ethnicity, socioeconomic status, cultural and linguistic background, gender, and immigration status, influence implementation of early childhood programs and outcomes for children. It may be that these issues are central to understanding the relationship between populations most in need of services and components or constellations of program components. Understanding this is at the foundation of informed decisions about how to design and implement programs on behalf of all children.

Getting it Right does not propose implementation research as a replacement for the RCT, but it can augment RCTs. In fact, implementation research designs often use both quantitative and qualitative data sources to fully describe the unfolding stages of implementation and changing contexts (Halle, Ch. 10; Hsueh & Maier, Ch. 9; Ryan, Ch. 11). To fully capture how ECE programs and policies influence young children's development, we must pay attention to both outcome- and implementation-oriented research.

HOW IMPLEMENTATION RESEARCH CAN SERVE THE ECE FIELD

Five key contributions that implementation research can make to the ECE field include:

Implementation research augments RCTs as it goes beyond answering the question of whether effects are demonstrated to explaining why or why not. By doing so, implementation research illuminates what makes ECE programs, practices, and policies effective and why. In this way, it can help support policies and practices around program replication, expansion, and sustainability, and guide program improvement to ensure that ECE programs reach their potential for narrowing achievement gaps.

Implementation research can push ECE research forward by identifying deeper questions about the multifaceted root causes of inequity and ways to eliminate disparities. By understanding what's working, what isn't, and why, with the aim of advancing equity across children and families, research can strongly support the development of effective programs and policies for all children. To be effective and to minimize the introduction of bias into the research itself, research integrates equity concepts across all research components, including questions asked and interpretation and dissemination of findings. Effective implementation research incorporating equity concepts depends in large part on recognizing the experiences, values, and mindsets of researchers and collaborators as individuals. The field urgently needs an implementation research approach to guide localities on the specific challenges and opportunities they may encounter as ECE programs are implemented in diverse real-world settings (Weiland, 2018[1]).

Implementation research encourages refining the measurement of ECE quality to help achieve higher program quality and better outcomes for children. Typically, the field focuses on global measures of ECE quality, despite modest associations with child outcomes (Burchinal & Farran, Ch. 1). This includes process quality (e.g., the interactions between educators and children) and structural quality (e.g., caregivers' education and training, wages and benefits, the ratio of children to caregivers, the number of children in a setting, program leadership and administration, and parental involvement[2]). Focusing instead on measures and program models that concentrate on specific instructional content and strategies to promote children's school readiness skills related to language, executive functioning, and self-regulation would be a step forward. To this end, tools will be needed to take a fine-grain look at what happens between teachers and specific subgroups of children and what works for children.

Implementation research potentially can provide timely answers to policymakers' questions as it enhances and extends findings that are useful and meaningful for continuous quality improvement of systems and practices (Halle, Ch. 10). Implementation research should be rigorous and complex, while also taking a practical approach. It examines program implementation in real time, supporting policymakers and the field to consider contexts and other variables that influence quality and outcomes for subgroups of children. An intriguing tool, implementation research has the potential to provide needed information if policymakers and the early childhood community are going to make the best decisions for all children.

Implementation research provides data needed to address implementation scale-up questions, particularly how and when ECE is effective and for whom. ECE programs and policies are increasingly being brought to scale, particularly in states and municipalities (Friedman-Krauss et al., 2019[3]). Yet as research shows, many evidence-based ECE models have proven to be insufficient to guide program scaling that successfully benefits all children. Implementation research is a systematic inquiry into how a program is received and experienced in real-world settings and situations. In the long term, if we cannot answer implementation scale-up questions related to how and when ECE is effective, we risk losing support for increased investment in ECE (Jones & Vecchiotti, 2020), because expectations for ECE to attain certain child outcomes might outstrip results (Brooks-Gunn & Lazzeroni, Ch. 2). Implementation research can help minimize this risk.

IMPLEMENTATION RESEARCH AND YOUR STUDENTS: MAKING THE LINK

Your students may already be conducting or using research, or they might do so in the future. Either way, they have an opportunity to contribute to deepening the understanding of implementation research as they raise questions and share experiences during course discussions.

Those who are writing dissertations may consider using implementation research as they design their study and interpret and apply their findings. The insight that ECE research involves having rigorous conversations about questions that still need to be answered is important for students and the field to acknolwedge.

The future of your students—whether they are studying program evaluation or research methods—and the ECE field are filled with research possibilities. In the words of Pianta (Ch. 5): "Implementation science can provide the young researcher with an intellectual home." (Interview, 11/9/2020)

Questions continue to emerge, suggesting an urgent need to expand applied research to gain a more nuanced understanding of how programs and policies are implemented and influence subgroups of children. Answering these questions will require a genuine collaboration between researchers and practitioners in all roles, and often families and community members as well.

The goal of this guide is to support you to integrate implementation research into your curriculum and initiate conversations with your students. The guide can help to encourage all students to reflect upon these emerging questions about implementation research.

Acknowledgments.

The Foundation for Child Development (the Foundation) would like to thank Amy Laura Dombro for her significant contribution to the development of this guide. The Foundation appreciates and thanks Dr. Theresa J. Canada and Dr. Ann Higgins-D'Alessandro for sharing their insights and expertise in their review of this work.

Suggested Citation

Foundation for Child Development. (2021). *Getting it Right: The Conversation Guide for Preparing the Next Generation of Implementation Researchers.* New York, NY: Foundation for Child Development. https://www.fcd-us.org/assets/2021/10/GettingitRightGuideforImplementationResearchers.pdf

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[3] Friedman-Krauss, A. H., Barnett, W. S., Garver, K., Hodges, K., Weisenfeld, G. G., & DiCrecchio, N. (2019). *The state of preschool 2018: State preschool yearbook*. National Institute for Early Education Research. http://nieer.org/state-preschool-yearbooks/2018-2

SECTION 1

WHAT DOES RESEARCH TELL US ABOUT EFFECTIVENESS AND IMPLEMENTATION OF ECE PROGRAMS ACROSS THE BIRTH-TO-EIGHT CONTINUUM?

IN SECTION 1:

SECTION 1, CHAPTER 1

WHAT DOES RESEARCH TELL US ABOUT ECE PROGRAMS?

Margaret R. Burchinal, Ph.D., University of North Carolina at Chapel Hill
Dale C. Farran, Ph.D., Vanderbilt University

In *What Does Research Tell Us About ECE Programs?*, Margaret Burchinal and Dale C. Farran summarize the extensive research relating early care and education (ECE) quality to children's short- and long-term development. In discussing the factors that limit current ECE programs and policies from promoting better outcomes, they find that the field often focuses on current measures of global ECE quality despite very modest associations with child outcomes. Their interpretation of the research suggests focusing on program models that concentrate on specific instructional content and strategies to promote children's school readiness skills related to language, executive functioning, and self-regulation. Such a program approach is likely to be more successful in supporting the long-term development of all children.

The summary above appears in the *Getting it Right Chapter Summaries* resource.

> **We see these very modest relationships between indicators of quality and outcomes, yet we haven't wanted to question underlying assumptions of the ECE field about how they are connected. We need to take an evaluation point of view and ask: What is the goal and how is meeting this goal being implemented? What did you do to meet that goal? Are you doing what you think you are doing? What is the outcome on children?** (Burchinal interview, 10/9/2020)

The following themes, chapter excerpts from the *Getting it Right* full publication, and related questions are provided to stimulate additional engagement around the ideas and inquiry shared in this chapter.

1. Structural Quality ➡ Process Quality ➡ Children's Outcomes. Most ECE research is based on a theoretical model that posits that structural quality (e.g., characteristics such as teacher education and ratio of children to adults) lays the foundation for process quality (i.e., the frequency and quality of interactions between caregivers and children), and that it is process quality that impacts child outcomes. But the evidence supporting this model using current measures of structural and process quality is quite limited. Thus, we do not know enough about what works (or not), for whom, and under what conditions in promoting which skills for young children (p. 16).

Current ECE quality models assume that children acquire cognitive, academic, and social skills when they experience high levels of process quality, but the models do not specify how quality experiences promote specific skills. The fact that we see much larger impacts on outcomes in studies of specific curricula (Duncan & Magnuson, 2013) than in studies of ECE quality (Burchinal, 2017) suggests that ECE can produce substantial gains in specific outcomes when it promotes those outcomes with evidence-based practices (p. 27).

> **Most of our quality measures focus on what a teacher is doing. Thinking about the child might give us a better picture. We want to measure how children in a setting may have different experiences. For example, a teacher may be focusing on a few kids—those who engage with her… The teacher may be doing wonderful things, but not with all children. In that case, it is important to have your quality measure reflect the facts that only some children are benefiting from good teaching practices.**
> (Burchinal interview, 10/9/20)

Discussion Questions

Research Design and Methods

1. How should researchers understand and move forward with a paradigm shift in understanding relationships between quality definitions and child outcomes?
2. How should researchers understand and move forward with a paradigm shift, that is, moving from a bird's eye view of quality and child learning to an on-the-ground view of seeing how specific curricula and activities foster specific outcomes?
3. How does this paradigm shift influence how quality and child outcomes are measured?
    - What types of adaptations are needed and what types of new measures need to be created?
4. What are some examples of implementation research questions surrounding structural and/or process quality that can help us better understand quality, instructional content and strategies, child outcomes, and the relationship between them?
    - Do we expect the answers to these questions to vary by setting, type of service, or age of children?
    - Why and how are these differences important in implementation research specifically?

2. Specific aspects of ECE quality appear to enhance children's early development. Preschoolers showed modest but statistically significant gains in academic and social skills when they experienced more frequent, warm, and responsive interactions with caregivers (Mashburn et al., 2008; NICHD ECCRN, 2002; Raver et al., 2011). Gains in academic skills are modestly larger when instruction includes detailed feedback, and sequenced and elaborated support for learning (Howes et al., 2008; Mashburn et al., 2008). Language and academic skills were higher when caregivers encouraged children to talk and engaged in multi-turn conversations that elaborated on a given topic (Justice, Mashburn, Pence, & Wiggins, 2008; Wasik & Hindman, 2011). Finally, gains in language and social skills were larger when children were offered a wide range of age-appropriate activities such as reading with adults, pretend play with peers, and play with books, blocks, water, and sand, demonstrating gains in language and social skills (Sylva et al., 2012) (p. 19–20).

> **Don't start with an assumption of what is quality. Be strategic. We need to think carefully about what skills we want ECE to promote, identify which activities promote those skills, and how can we implement them into programs in ways that engage children.** (Burchinal interview, 10/9/2020)

Discussion Questions

Research Design and Methods

1. What research designs can be used to investigate relationships between specific teaching practices focused on instructional content and strategies tied to child outcomes?
    - How are they different from a focus on structural or process quality?

Research Collaboration and Partnerships

2. Do different understandings of quality and child outcomes change the collaboration between researchers and stakeholders (e.g., administrators, leaders, teachers, caregivers, parents, etc.)?
    - Does it change the role or participation of partner stakeholders?

Program Evaluation

3. What approach should researchers take to understand a program's purpose and design, as well as expectations of what early educators should know and be able to do to support children's learning? Provide some examples of research questions examining how program administrators and leaders support early educators' instructional practice.

3. Quality measures may need to focus more on the frequency and quality of intentional teaching. Recently, several measures have shown promise for expanding the measurement of ECE quality. They involve behavioral counts rather than ratings, and they vary in terms of whether the unit of observation is the teacher or multiple children in the classroom. Connor et al., (2011) developed an integrated system involving child monitoring, classroom observations, and instruction that has been shown to substantially improve reading skills in early elementary school; a preschool version is in the works.

Observational measures that describe how children spend their time and how teachers interact with them appear promising. One, the Snapshot (Ritchie, Weiser, Kraft-Sayre, & Howes, 2001), describes how much time individual children spend in different types of activities in terms of content area and instructional format (p. 23).

> **We are so strongly convinced that we know the answer, we don't stop to question. Of course, if you can provide high-quality interactions, children are going to do better. But when you look at quality measures, we don't see this. We've assumed that if you measure quality, that is what matters, but we don't focus on outcomes and what leads to these outcomes. Do not assume the current paradigm and widely used quality measures are sufficient to improve child outcomes long term. Don't be afraid to say we have improved quality but not outcomes.** (Burchinal interview, 10/9/2020)

Discussion Questions

Research Design and Methods

1. What underlying constructs do these measures lend themselves to?
    - What are the measurement gaps?
2. How do available measures align with the various understandings of quality (e.g., structural, process, and specific instruction content and practice)?
3. How can researchers combine or alter available measures to best evaluate quality in a way that relates to positive, short- and long-term child outcomes? Provide some examples of instructional content, strategies, and supports that can be used to measure children's learning.
4. How does the interpretation of the results of quality measurements vary based on setting, age, race, gender, etc.?
    - How does that interpretation influence the study of implementation?

5. What still needs to be understood in measures of how children and early educators interact to enhance our understanding of quality and child outcomes?

Program Evaluation

6. What are the roles of members of the ECE workforce (e.g., teachers, assistant teachers, classroom aides, directors) in data collection for measures?
    - How much *ad*ministrative demand is placed on the workforce as part of quality assessments, observations, and measures?
    - How *could* researchers help reduce this demand, either in measure design or data collection practices?
7. What types of studies could be designed to improve supports available to teachers to improve instructional practice?
8. What types of studies could be designed to improve the way preschool programs implement instructional practices to meet desired child outcomes?
9. How can researchers work with stakeholders to improve teacher salary, turnover, and retention?

Moving forward.

"If we want to improve the lives of children, we need to look with fresh eyes at the data and understand what we are doing well and need to do differently." (Burchinal interview, 10/9/2020)

Discussion Questions

Research Approach and Stance

1. What does it mean to look at the data with "fresh eyes"?
2. What knowledge, experiences, and assumptions about early care and education might you have to set aside?
3. How might looking at data with fresh eyes influence your work as a researcher?

SECTION 1, CHAPTER 2

WHAT ARE REASONABLE EXPECTATIONS FOR ECE PROGRAM EFFECTIVENESS?

Jeanne Brooks-Gunn, Ph.D., Teachers College and College of Physicians and Surgeons, Columbia University
Sarah Lazzeroni, Teachers College, Columbia University

In *What Are Reasonable Expectations for ECE Program Effectiveness?*, Jeanne Brooks-Gunn and Sarah Lazzeroni set a framework for reasonable expectations of early childhood education (ECE) program effectiveness given the great variability in quality, resources, duration, and children served. While comprehensive, high-quality ECE programs hold the promise of large effects for children at risk and very high returns on investment, the authors put forward what can be reasonably expected from programs under present conditions as policymakers and practitioners manage systemic changes to achieve ideal quality and outcomes.

The summary above appears in the *Getting it Right Chapter Summaries* resource.

> **Our chapter focuses on looking beyond whether an effect is significant or not to focus on a pattern of findings and range of effect sizes by program, outcome, treatment dose, and comparison group. When we see patterns and are realistic, we can make a difference—we can provide one piece of the puzzle.**
> (Brooks-Gunn interview, 10/9/2020)

The following themes, chapter excerpts from the *Getting it Right* full publication, and related questions are provided to stimulate additional engagement around the ideas and inquiry shared in this chapter.

1. What are reasonable expectations for ECE program effectiveness? The overlap is evident in that asking about expectations raises questions about what is reasonable today given the state of ECE quality, as well as the variability in quality. In general, ECE program impacts are expected to be small-to-medium, but not large[1] (p. 39–41).

Today, children from low-income families have access not only to Head Start but also, in many cities and states, to universal pre-K programs, often run by or in collaboration with a department of education. Other partially subsidized programs also exist (some funded through the Child Care Development Block Grant). The two best-known, small-scale evaluations, the Perry Preschool and Abecedarian projects, also were initiated in the 1960s and 70s and also targeted poor children; very few of the children in the control groups received any other preschool experiences (Belfield, Nores, Barnett, & Schweinhart, 2006; Campbell, Ramey, Pungello, Sparling, & Miller-Johnson, 2002; Heckman, Moon, Pinto, Savelyev, & Yavitz, 2010; Hill, Gormley, & Adelstein, 2015). All of this suggests that the counterfactual for treatment today is different from what it was previously (p. 45).

> **If you don't know the context, a program's theory of change, all the things that naturally go wrong when you implement any program, your expectations are likely not realistic… When you have a program that shows a modest effect size and you expected a moderate-to-large effect size, you may think it failed. That is not true. You do make a difference. Don't be discouraged. Instead, go on!**
> (Brooks-Gunn interview, 10/9/2020)

Consequently, it may be unreasonable to expect effect sizes today that are similar to those in the past if most children are now receiving some ECE at three and four years of age. This does not mean that preschool is ineffective. It just means that traditional evaluations of treatment and control will find smaller effect sizes, since most children in the control group are receiving some sort of preschool (p. 46).

Discussion Questions

Research Design and Methods

1. How does the history of the belief in the efficacy of early education intervention for children living in poverty shape ECE research today compared to the past?
2. How are the small, early-model ECE programs different than the ECE programs of today (e.g., children served, services provided, program staffing)?
    - How would your answers to these questions influence research questions and designs?
3. What do we understand about the short- and long-term effectiveness of the small, early-model programs vs. contemporary programs?
    - How have the research questions changed over time?
4. How has ECE availability as a context for research changed over the last 50 years?
    - Are there implications for expected outcomes for children and conceptualizations about ECE effectiveness?
5. Considering community context for research design and implementation, do different stakeholders emphasize similar or unique factors?
    - What are examples of factors that stakeholders may emphasize over others?

Program Evaluation

6. What child outcomes should be reasonably expected in the short- and long-term due to increased ECE participation as a result of the variety of preschool options? Explain how these expectations might change within the context of a program that you are familiar with (either local or not).
    - What factors will influence the likelihood that expectations for child outcomes are met?
7. How does understanding community context (e.g., location, program history and design, types of children served, resources) influence expectations of program effectiveness and research design?
    - How does community context change the expected impact on child outcomes and the way research results are interpreted?
8. What does the apparent change in counterfactuals mean for how researchers determine counterfactuals for comparisons?
    - What does this change mean for the way researchers assess effect sizes for impact and explain outcomes to stakeholders?
    - Are there different counterfactuals that should be considered when asking different research questions?

2. Describing and examining effect sizes (p. 47–49). It is sometimes difficult for the public, policymakers, and educators to understand what an effect size means. For example, does an effect size of .40 on early indicators of achievement for low-income students mean they'll do better in elementary school, and how much better compared to high-income students? The same question, of course, could be asked for dual language learners or for minority students. Two approaches can help translate effect sizes into more concrete indicators. The first is to explain what might be seen in a classroom where low-income students' performance was one standard deviation below that of high-income students (p. 47).

Having a robust effect size is also important given the expected reduction in effect sizes throughout the elementary school years. Without additional services or improvements to early elementary school, the effect of ECE will fall to one-half of its initial size by the end of third or fourth grade. Therefore, an effect size of one-half will become one-quarter and an effect size of one-third will become one-sixth. Effect sizes that are lower than one-third are very unlikely to be sustained into the late elementary school years (p. 40).

Another approach is to take an effect size at the end of a preschool intervention and estimate the increase in the number of children graduating from high school or college or predict kindergarten achievement scores to high school achievement scores (p. 48).

> **Don't look at one effect size from one evaluation and think you have an answer. Look for patterns over time. Be realistic. Think context.** (Brooks-Gunn interview, 10/9/2020)

Discussion Questions

Statistics I Program Evaluation

1. How would you explain effect sizes to different stakeholders who are unfamiliar with the term?
    - Would this explanation change when speaking to policymakers, as opposed to administrators or teachers? Bring your explanation to life using an example from your work or studies.
2. What is the statistical and practical significance of having a robust effect size?
3. How do we interpret findings of small, medium, and large ECE effect sizes within the context of specific programs?
4. What factors should be considered when interpreting different effect sizes across different programs?
5. What are meaningful effect sizes in relation to meeting expectations of program effectiveness and child outcomes for a program in your local context or a program you are familiar with?

Research Design and Methods

1. What types of research studies could you design to ensure that these meaningful effect sizes are sustained as children move through the K–12 system?
2. What factors might you want to consider, in terms of research design and implementation of the research results, when choosing developmental outcomes to measure?

3. Promoting success: A multilevel model. Almost all ECE evaluations have assessed individual children, typically those who received an intervention and those who did not via random assignment, waitlist, or eligible age for entrance into preschool. But some have used administrative data as well. One interesting approach is to analyze school- or district-wide data from standardized testing to look at differences in achievement levels. In this way, comparisons can be made across time to see whether an intervention implemented at the school or district level has increased mean scores or competency levels... Such a cohort comparison was used effectively in the county-level effort in Montgomery County, MD (Marietta, 2010). The school district staff, after examining the proportion of the district's high school seniors who were ready for college, set a goal of having 80% of a graduating class college-ready. Working backward, they defined their goals for classes of pre-K to third-grade children (p. 56–57).

It will take a lot of time to come up with the answers we need and are looking for. Don't be discouraged. There is no quick fix for anything that is as important as changing children's lives for the better.
(Brooks-Gunn interview, 10/9/2020)

Discussion Questions

Program Evaluation

1. Looking at the list of Montgomery County reforms, what role did research play?
    - What research questions remain?
    - What factors contributed to the success of their implementation study approach?
    - How might various stakeholders have been included in the research?
    - Which reforms used in this project do you hypothesize had the biggest impact on the study results and why?
2. What may be the benefits of coupling individual child data with school-level data?
    - What might prevent systemwide initiatives from taking this approach?
    - What could help ameliorate those factors?

Moving forward.

"We have framed our chapter in hopes that students will come away with a more realistic view of what we can expect. This is a new idea for many. Implementation research is about what really happens on the ground. It requires looking at what is really going on. And looking for patterns. It requires that researchers "get real." (Brooks-Gunn interview, 10/9/2020)

Discussion Questions

Researcher Approach and Stance I Research Collaboration and Partnerships

1. How might Brooks-Gunn's suggestion to "get real" influence your work today and in the future?
2. How might her suggestion change your view of what you can contribute, or as she says earlier, "your piece of the puzzle," regarding the goal of ensuring strong outcomes for all children?
3. What are the implications for reaching out to others and creating collaborations in terms of other researchers and stakeholders?
4. What are the implications for collaborating with people across disciplines (e.g., economists, financial analysts, health care providers, etc.)?

SECTION 1, CHAPTER 3

USING A SOCIAL DETERMINANTS OF EARLY LEARNING FRAMEWORK TO ELIMINATE EDUCATIONAL DISPARITIES AND OPPORTUNITY GAPS

Iheoma U. Iruka, Ph.D., Frank Porter Graham Child Development Institute at the University of North Carolina-Chapel Hill (formerly HighScope Educational Research Foundation)

In *Using a Social Determinants of Early Learning Framework to Eliminate Educational Disparities and Opportunity Gaps,* Iheoma U. Iruka surfaces social policies and factors that maintain inequities and ensure early learning disparities. These structural factors limit resources and supports that directly impact children's outcomes, especially for low-income and minoritized[1] children and their families. She argues that to truly address early learning inequities and disparities, we must recognize systems that invisibly maintain and perpetuate inequities (and conversely privilege) from housing to education. For early childhood education (ECE) programs to meet their goals, the field must engage in more thoughtful, meaningful, and racially responsive research focused on understanding the causes and solutions for learning disparities and gaps. This will require the ECE research community to take an equity perspective that includes diverse voices and perspectives, especially those from minoritized communities, to examine how social and structural determinants impact children's outcomes.

The summary above appears in the *Getting it Right Chapter Summaries* resource.

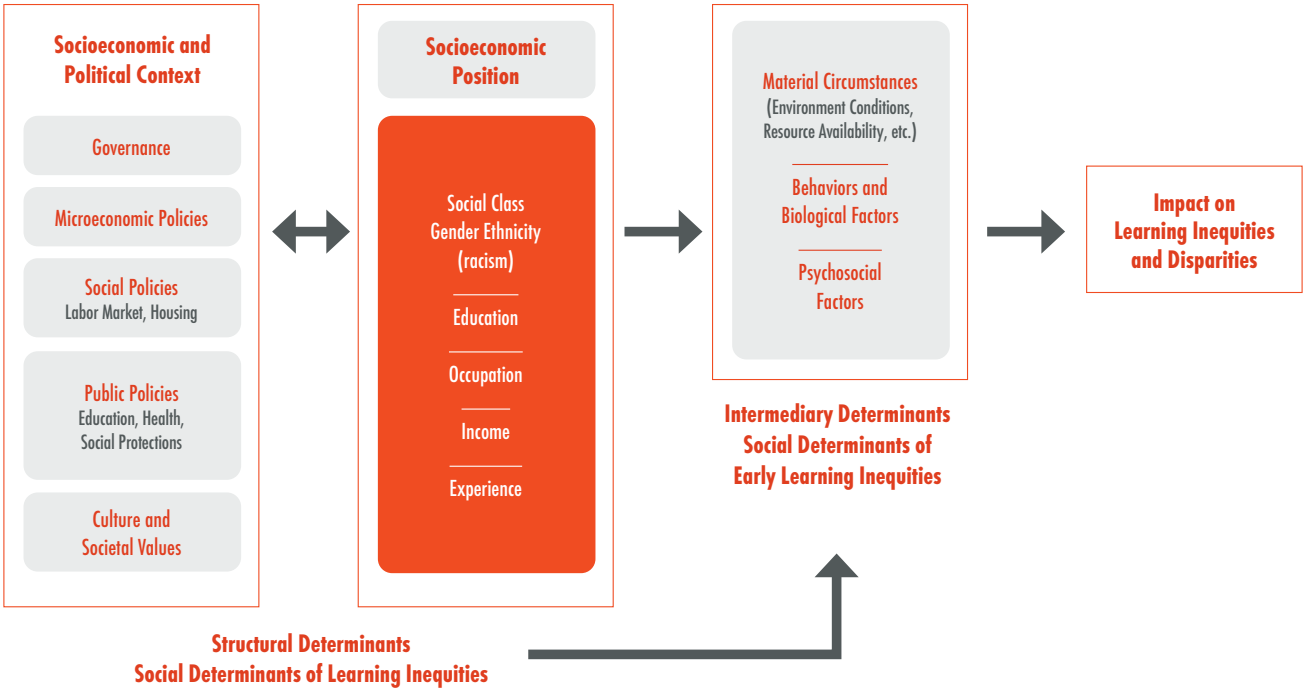
The following themes, chapter excerpts from the *Getting it Right* full publication, and related questions are provided to stimulate additional engagement around the ideas and inquiry shared in this chapter.

1. With this economic and social cost of underutilized human potential and capability, the achievement gap, which is a symptom of systemic discriminatory policies and laws, needs to be treated as a public-health crisis. In this chapter, we adapt a framework used by the public-health sector—Social Determinants of Health (SDoH)—to address inequities and support the well-being of U.S. citizens at a population level (e.g., infant mortality and morbidity, teen pregnancy, or smoking) to show how early learning can address the inequities in education (p. 65).

For early childhood education to truly address early-learning disparities at the systems level, we propose adapting the SDoH framework to early learning, calling it Social Determinants of Early Learning (SDoEL) (see Figure 2).

The Centers for Disease Control and Prevention defines social determinants of health as "the complex, integrated, and overlapping social structures and economic systems that are responsible for most health inequities. These social structures and economic systems include the social environment, physical environment, health services, and structural and societal factors. Social determinants of health are shaped by the distribution of money, power, and resources throughout local communities." (p. 69)

Figure 2. Social Determinants of Early Learning.



Source: Centers for Disease Control and Prevention

As Figure 2 shows, the concept behind SDoEL is that socioeconomic and political contexts (e.g., social policies about housing and education) lead to individuals' socioeconomic position (e.g., education, income, or occupation), which then impacts their resources and living conditions, greatly reducing some children's opportunities to thrive (p. 70).

> **Bringing a public health framework to ECE can change our lens and help us see how we can support all children.** (Iruka interview, 9/10/20)

Discussion Questions

Research Design and Methods

1. Using your local context, create a graphic of a local SDoEL framework. Do the factors included mirror or differ from the one in Chapter 3?
    - What factors are missing or need to be modified?
2. How would you design and promote local research and programs to deliver on the promise of strong outcomes for children, especially children from minoritized communities?
3. How can the SDoEL framework help ensure researchers ask questions that enable them to gain insights into the multiple layers of community and personal factors that influence a child's life and school experience?
    - What supports might researchers need in order to ask the "right questions" in the "right way"?
4. In what ways can implementation research be designed to ensure the whole systems approach in the SDoEL framework is taken into account?
5. How can research inform the development of the SDoEL framework?
6. Does the research that you are familiar with–from your studies or research you have participated in–take this systems approach into account? How so?
7. How can the SDoEL framework be used to identify racist and discriminatory policies and practices?
8. How can it be used to address racist and discriminatory policies and practices?

Program Evaluation

1. Why is the idea of quality rating and improvement systems (QRISs) important in improving early learning programs?
    - How do QRISs take factors of the SDoEL into account?
    - What factors are they not taking into account? What role could research play in assessing QRISs and improving QRISs to benefit all children?
2. What role could research play in understanding how QRISs can benefit all children?

2. ECE research must consider racism and discrimination using the SDoEL framework. For too long, most ECE research has indicated that many children of color and children from low-income households are not prepared for school and need early care and education programs. Unfortunately, most of the research, especially about children of color and their families, has been done with a deficit perspective, without consideration for the social determinants that lead to the disparities witnessed even after interventions. The results have often shamed and blamed children, families, and communities for low scores on language and cognitive assessments without considering the historical legacy of racism and discrimination and white supremacy that couches all aspects of early learning (p. 78).

> **All of us bathe and swim in the water of racism. Yet most of us don't see it or live it. If we don't see something, we can't measure it or learn about it.** (Iruka interview, 9/10/20)

Discussion Questions

Research Approach and Stance I Research Design and Methods

1. What does it mean to utilize a color-blind approach in research?
    - Why is this problematic?
2. What roles do racism and discrimination play in the lives and early learning experiences of minoritized young children today and in their later outcomes?
3. What role has racism and discrimination played in ECE research, not only theoretically but more concretely, as in the measures and assessments used, types of analysis conducted, ways data is interpreted and disseminated, etc.?
4. What narrative changes are needed to advance racial, economic, and social equity in ECE?
    - What other types of changes are needed?
5. How can various implementation research designs examine the root causes of racism and discrimination in policy and practice?
    - How can it help to identify ways to eliminate and mitigate racism and discrimination in ECE?
6. How can researchers' personal beliefs and experiences with racism and discrimination influence the questions that theorists use to frame a study?

7. What are ways researchers can mitigate potential bias and promote research grounded in equity principles?
8. What approach can researchers take to engage in more cross-sector collaborative research to examine the SDoEL framework?
9. What research questions could build on the strengths and assets of marginalized children within racially, ethnically, socioeconomically, linguistically, and culturally diverse families? What research questions could help promote families' and communities' ability to thrive and promote all children's learning?
10. Using the SDoEL framework, what research questions could be used to analyze the way the ECE workforce is impacted by the same systems that lead to early learning disparities?

Research Collaboration and Partnerships

1. How can collaboration within research teams help mitigate racism and discrimination?

3. Though access to early learning opportunities has increased, academic and social gaps by income and race/ethnicity have not been eliminated. Education scholars see some reduction in these gaps, but "at the rates that the gaps declined in the last 12 years, it will take another 60 to 110 years for them to be completely eliminated" (Reardon & Portilla, 2016, p. 12). Thus, early learning in isolation will not close the achievement gap in a timely way. Researchers, in partnership with practitioners and policymakers, must uncover and address the root causes of racial and economic disparities, and find research-based specific practices and policies that can eradicate these gaps and inequities (p. 67).

Discussion Questions

Research Design and Methods

1. What factors are leading to persistent achievement and opportunity gaps in young children's learning and development?
    - How might such factors influence early educator-child interactions and instruction provided to children from various racial, ethnic, cultural, and linguistic backgrounds?
    - How might teachers respond to such factors in their instruction and interactions, depending on whether they have similar backgrounds as their students or not?

2. What questions could be added to address the relationships between achievement and opportunity gaps?
    - How do specific circumstances and characteristics of place, location, institutions, etc. influence relationships between the two gaps?
    - How do the interactions between the two gaps, and the context in which they sit, affect efforts to reduce them?
3. How can various implementation research designs examine the multifaceted root causes leading to achievement and opportunity gaps?
4. What does it mean to ensure equity, and not equality, when it comes to funding and resources for early learning programs?
5. How can research be used to ensure equity and address disparities?

Research Collaboration and Partnerships

1. How can researchers, policymakers, and practitioners collaborate to advance equity throughout the research process, from co-construction of research questions to research design, data access, collection, interpretation, and reporting?

Moving forward.

[Is] it assumed that all children require the same amount and type of sensitive and cognitively enriching interactions and instructions, without acknowledging their health, family and home condition, community environment, or narrative about their race or neighborhood (p. 81)?

> *"Humans change systems and systems change humans. Students are needed to be part of the change conversation. The questions they ask, their interactions with others are all opportunities to raise questions and to contribute to filling in the gaps of what we know."* (Iruka interview, 9/10/20)

Discussion Questions

Research Approach and Stance I Research Collaboration and Partnerships

1. How can researchers, policymakers, and practitioners include children and their families in their work to raise questions, contribute knowledge, and inform systems change?
2. How might collaborative thinking increase and enrich your insights into research-to-practice connections?
3. What are the two most important points from Chapter 3 that resonate for you as a researcher?
    - What do you think makes these points meaningful for your work?
    - How will these insights influence your work?

Notes

[1] Smith (2016) states that "groups that are different in race, religious creed, nation of origin, sexuality, and gender and as a result of social constructs have less power or representation compared to other members or groups in society should be considered minoritized." People who are minoritized endure mistreatment and face prejudices that are forced upon them because of situations outside of their control. https://www.theodysseyonline.com/minority-vs-minoritize

SECTION 2

WHAT STILL NEEDS TO BE UNDERSTOOD?

IN SECTION 2:

SECTION 2, CHAPTER 4

MAKING PREKINDERGARTEN CLASSROOMS BETTER PLACES FOR CHILDREN'S DEVELOPMENT

Dale C. Farran, Ph.D., Vanderbilt University

In *Making Prekindergarten Classrooms Better Places for Children's Development*, Dale C. Farran illuminates four prekindergarten classroom elements that lead to better child outcomes: listening to children, teacher/child interactions that encourage critical thinking, positive classroom environments, and children's active engagement in learning. These aspects of classroom functioning often fall outside current quality ratings, curriculum assessments, and standards. Farran points to the need to recognize, analyze, and measure these critical interactions between children and teachers, as they can impact outcomes more than current standards and measures do.

The summary above appears in the *Getting it Right Chapter Summaries* resource.

> **If we are serious about investing more public money in pre-K, we need to come up with a composite set of measures for diverse teachers in diverse settings. As part of our composite set of measures, we need to pay attention to context of the setting. For example, in urban settings like New York City, pre-K programs are often placed in schools with empty classrooms. Because there is no classroom bathroom, safe playground or lunch in classrooms, more time is spent in transitions. The more transitions, the more behavioral control teachers have to assert. We also have to take into account the context of children's lives. Is the classroom serving a large number of dual language speakers? Do children come from communities where there is a lot of violence? These circumstances should affect the way the classroom is organized.** (Farran interview, 11/25/2020)

The following themes, chapter excerpts from the *Getting it Right* full publication, and related questions are provided to stimulate additional engagement around the ideas and inquiry shared in this chapter.

1. As in years past, higher-income families were more likely than lower-income families to enroll their children in center-based care. Children from higher-income families often attend privately operated center-based child care programs, while children from lower-income families are likely to be enrolled in publicly funded programs such as Head Start and, more recently, state-funded prekindergarten programs (McFarland et al., 2017).

One consequence of this division is that segregation of experiences by income begins in preschool. Moreover, privately and publicly funded programs have very different expectations and regulations. The fundamental motivation for the two sets of programs differs as well: private child care programs are more concerned with "care" and being of service to parents, while the public programs are more concerned with compensatory education to remediate presumed deficits in children's preparation for school. ***This desire to offer compensatory education can lead to a greater emphasis on academic preparation and to more prekindergarten programs in public schools. An academic emphasis can have the unfortunate consequence of increased reliance on the sort of didactic instruction that may not lead to long-term child success*** (Lipsey, Farran, & Durkin, 2018) (p. 91).

> **Right now, states are putting programs into place without a lot of guidance. As a field, we need a unified, neutral effort to pull together researchers and practitioners to pull up their sleeves to define the foundations of quality and develop a compendium of tools to use with specific populations of children. It will take looking at what data says is important in classrooms for children. We will have to learn to compromise with each other.** (Farran interview, 11/25/20)

Discussion Questions

Research Design and Methods I Program Evaluation

1. Explain what is meant by the compensatory education purpose for early childhood education (ECE). What does this purpose emphasize as the most important goals and features of ECE programs?
    - How does this frame view the locus of the "problem," as inside the child or within the environmental and societal context in which the children (especially children of color) find themselves?
    - What evidence is there that the compensatory education purpose is necessary for some groups of children and not others?

- What is the evidence that compensatory educational practices also promote developmental and remedial goals?
- Has the field changed its thinking about various purposes and outcomes for ECE? How have the research questions changed over time?

2. How can various implementation research approaches to ECE incorporate a strength-based approach versus a deficit-only frame of children and families?

3. What are possible obstacles in scaling these small, early-model programs today, apart from the ones listed in the publication?

    - What obstacles have been encountered in scaling many publicly funded programs? Are they the same obstacles?

2. The work reported by my colleagues and I (Farran, Meador, Christopher, Nesbitt, & Bilbrey, 2017) is the result of my four-year partnership among myself, a group of researchers in the Peabody Research Institute at Vanderbilt University, and the Metro Nashville Public Schools. *This work derived from an observation system developed for research purposes in the 1990s (Farran, Silveri, & Culp, 1991). Highly trained and reliable observers remained in classrooms for a full day, taking data throughout the day, several times a year. The system yielded important information about practices that mattered most for young children's growth over the year and even into kindergarten and first grade.* The practices determined to be important for children's growth over the preschool year came to be called "the Magic 8" by teachers and coaches in the school system. The appendix contains an example of how one of the practices, reducing transitions, was translated into a tool for coaches to use in our continuing partnership with the district (p. 95–96).

> **I've been interested in classroom observation since my graduate school days. I have learned that people are bad at rating things. As human beings, we just are. It is hard to use rating systems reliably. Most of us revert to our own judgements about what makes a good classroom. The other thing that happens with ratings is that if you ask one observer to look around a classroom and make a judgment as to how engaged children are, they tend to miss children who are quiet and unengaged. It is hard for human beings to make a judgment about how engaged groups of children are.** (Farran interview, 11/25/2020)

Discussion Questions

Research Design and Methods I Program Evaluation

1. What ways do researchers typically observe, document, and rate instructional practices in center-based and home-based settings?
    - What are the limitations of these approaches?
    - How might these limitations be addressed?
    - How might the researcher's perspective and bias influence the work?
2. How does the method of behavioral counts, as compared to behavioral ratings, change how the field understands classroom quality?
    - How does it change the measurement and assessment of structural, process, and instructional quality?
3. Can research that uses behavioral ratings as a measure of quality be compared with research that uses behavioral counts?
    - In what ways are these bodies of work similar?
    - In what ways are these bodies of work dissimilar?
4. What might be the benefits and drawbacks of including both measures of quality (counts and ratings) in your research?
5. What are some advantages and disadvantages of using a method of counting teacher behaviors?
    - How might different professional roles or stakeholders (e.g., researchers, practitioners, coaches, program administrators, parents, children) vary in their response to this question?
6. What are some advantages and disadvantages of using a method of counting student behaviors?
7. How can interpretation and dissemination of behavioral count data help practitioners inform their practice?

3. Four areas among the eight—teachers' listening to children, quality of instruction, positive climate, and child engagement—have also been investigated and found promising in several other studies.

Teachers' listening to children matters more than their talking to them. Language development and specifically vocabulary, has been one of the hardest areas to improve in early childhood classrooms. In general, however, few links have been found between teacher talk and child outcomes. Our research has shown that the amount of time teachers spent listening to children was actually the stronger predictor of children's growth (p. 96).

The teacher's quality of instruction is as important as the student's acquisition of basic skills. "Productive conversations," especially teachers' asking questions and listening to children's answers, are components of a more general factor related to the quality of instruction. In a recent book, William Gormley (2017) makes a persuasive argument that encouraging critical thinking through inferential teacher-student interactions may be one of the most important experiences in helping children be successful. He also argues that children from disadvantaged backgrounds are less likely to have these kinds of experiences (p. 97).

Positive classroom climates promote learning, and the importance of a positive learning environment cannot be overestimated, especially for young, vulnerable children who may be having their first educational experience in a formal setting. The classroom climate is particularly important for at-risk children, who typically have had a higher than average number of adverse childhood experiences. To promote resiliency in such children, the classroom must promote a sense of belonging, with caring and nurturing adults (Sciaraffa, Zeanah, & Zeanah, 2017). A highly negative classroom can actually function as an additional adverse experience, contributing to rather than buffering the cumulative stress that results in long-term negative health and social outcomes (p. 99).

Children's active engagement in learning is key, and engagement should not be confused with compliance. Children can be quiet and nondisruptive without being engaged. When children are actively involved in learning, they can be noisy (in a productive way). When young children are engaged, they are excited and highly attentive to the learning activity. Engagement is intertwined with all the other components described so far. For example, the level of positive emotional support in a classroom predicted children's level of classroom engagement (Castro, Granlund, & Almqvist, 2017) (p. 100).

Policies always look for the silver bullet. We try to make things easier than they are as in, "Let's make teachers teach to a scripted skill-based curriculum." There are no silver bullets. I'm not saying we don't need a curriculum. But that the teacher's interaction patterns matter. And that we need to see teachers as thinkers. One size does not fit all when diverse teachers are working with diverse children. (Farran interview, 11/25/2020)

Discussion Questions:

Research Design and Methods I Program Evaluation

1. How do measures of structural quality compare with measures of process quality?
    - How might the results be interpreted and implemented differently?
2. What factors do you think lead the field to continue to focus on structural features of ECE quality that potentially have weak or small associations with child outcomes vs. identifying specific instructional approaches that promote children's learning?
3. What additional practices does research indicate could be added to "the Magic 8" to be more closely tied to child outcomes?
4. What research questions remain for how and why listening to children, quality of instruction, positive climate, and child engagement seem to be effective?
    - What questions remain for other instructional approaches?
    - What questions remain for different groups of children?
5. How can factors of race, ethnicity, socioeconomic status, and neighborhood characteristics influence the way the four factors explained in this chapter are measured?
6. How can "the Magic 8" improve early educator preparation programs and professional development systems to better support the ECE workforce in creating supportive, stimulating learning environments for young children?
    - What roles can research play in this?

"The Magic 8"

1. Reduce time spent in transition.
2. Improve level of instruction.
3. Create a positive climate.
4. Increase time teachers listen to children.
5. Plan sequential activities.
6. Promote cooperative interactions between children.
7. Foster high levels of child involvement.
8. Provide math opportunities.

Source: Farran, D.C., Meador, D., Christopher, C., Nesbitt, K.T. and Bilbrey, L.E. (2017), Data-driven improvement in prekindergarten classrooms: Report from a partnership in an urban district. *Child Development, 88*: 1466-1479. https://doi.org/10.1111/cdev.12906

Moving forward.

"We have to decide what it is we want to know about classrooms, and it may be different depending on the children who are learning there. For example, if there are a high number of DLLs, we should come in with a tool that looks at kids who are learning languages. The same with children who come from communities of high violence who might benefit from a tool that focuses on creating a safe, accepting, warm environment." (Farran interview, 11/25/2020)

Discussion Questions

Research Design and Methods I Research Collaboration and Partnership

1. Brainstorm how evaluative tools should be responsive to children's diverse needs and identify enriching and supportive instructional practice.

2. How will genuine collaboration between researchers, policymakers, and practitioners contribute to the development of such tools?

    - What do you bring to the table that is needed and why?

SECTION 2, CHAPTER 5

IMPROVING QUALITY AND IMPACT THROUGH WORKFORCE DEVELOPMENT AND IMPLEMENTATION SYSTEMS

Robert C. Pianta, Ph.D., University of Virginia

Bridget K. Hamre, Ph.D., Teachstone

In *Improving Quality and Impact Through Workforce Development and Implementation Systems*, Robert C. Pianta and Bridget K. Hamre point to the need for systematic improvements in professional development (PD) systems to provide children with effective education across early childhood settings. Though professional development is widely used as a strategy to improve child outcomes, it is hampered by varying standards across states, less than effective coaches, and gaps between how implementation science says it should work and how it is practiced. Professional development provided with greater intention and integration is more effective and offers a unified quality experience for children across settings and teachers.

The summary above appears in the *Getting it Right Chapter Summaries* resource.

> **We want folks out there in the field to use evidence to guide their decisions. Yet, evidence-based is not a pill you can take to improve outcomes. Educators are told to adopt evidence-based curriculum and assessments, for example. Evidence tells people that in general, under certain circumstances, this outcome is more likely. It tells us about a general tendency. But we can't leave them there. We have to take them further so that they are saying, "I need to think about this evidence and if and how it applies to me and whether I can replicate conditions that I am reading about in this brief."**
> (Pianta interview, 11/9/2020)

The following themes, chapter excerpts from the *Getting it Right* full publication, and related questions are provided to stimulate additional engagement around the ideas and inquiry shared in this chapter.

1. Recognizing the need and value for PD, policymakers have made significant investments in the workforce, which is a first step. But that investment does not focus enough on proven-effective PD models. Unfortunately, teachers rarely experience PD that reflects features of specificity and alignment to practice. In fact, a recent survey that was representative of the 1 million teachers in center-based programs for children aged 0 to 5 years indicates that the predominant form of PD is a one-hour workshop only tangentially connected to teachers' everyday practice and known to be ineffective (McCormick Center for Early Childhood Leadership, 2016; Zaslow, Tout, Halle, Whittaker, & Lavelle, 2010) (p. 113).

Discussion Questions

Research Design and Methods

1. What challenges do a fragmented early childhood education (ECE) system and corresponding professional development system pose for researchers interested in investigating effective professional development models and systems?

2. What types of research design, research questions, sampling procedures, analysis methods, and results interpretation are needed to establish an effective PD model?

    - How does correlation vs. causation play a role?

3. How can an implementation research approach be used to examine the ways early educator preparation can positively change instructional practice and, in turn, promote child outcomes?

4. How can implementation research examine professional development systems?

5. What types of research studies can be designed to evaluate the interaction of preparation and PD systems in improving instructional practice?

6. Chapter 5 explains that there is little agreement about competencies and qualifications for early educators across different ECE systems and states. What kinds of problems does this lack of consensus pose for early educator preparation and the PD system?

7. How can research examining relationships between early educator preparation, professional development, and instructional practice account for the different competencies and qualifications in the field?

2. Implementation science can offer a framework for knitting together the potential of proven-effective training and PD with the everyday realities of classroom practice, program capacity, and surrounding systems. This is because implementation science, with its focus on identifying and engineering the conditions that influence and explain strong and weak implementation, can create the kind of systemic and aligned programs of professional training and development that foster improvements in classrooms and impacts on children (p. 114).

> **We have made ad hoc arrangements around curriculum, instruction, and data. But now we've moved the needle. We are entering a new frontier with implementation science and improvement science. We know "X" works. How does it get employed? What are the decision scaffolds? There is now a science to help us answer those questions.** (Pianta interview, 11/9/2020)

Discussion Questions

Research Design and Methods I Program Evaluation

1. What research measures and tools are needed in professional development systems to help early educators improve their practice?
2. How can changes in practice be best assessed?
    - How does diversity in students and teachers influence the choice of assessments and their use?
    - How do different places, locations, and circumstances influence these assessments and their use?
3. How should findings from research measures, tools, and supports be disseminated so that they apply to practitioners (e.g., early educators and leaders) in the field and so that lessons learned can be applied in practice?
4. How should these findings be disseminated to policymakers and other stakeholders?
5. How can implementation research contribute to improving the quality of educator PD?
    - What are some of the questions that can be studied?

6. What are examples of implementation research studies that can help shape PD approaches and content that are responsive to the diverse needs of early educators aiming to improve their practice?
    - How might these studies change depending on your state or locality, ECE setting, and age of children served?
7. How do the systems that surround ECE programs interact with these educator preparation and PD initiatives?
    - How do these systems interact with research?

3. Reports have clearly described the features of PD that relate to improved practice and student learning (Zaslow et al., 2010). When targeted, practice-aligned PD supports are available to teachers, student skill gains can be considerable—at times on the order of half a standard deviation and higher in some subgroups.

Focus on teacher skills and relevant knowledge. A starting point for identifying, implementing, and eventually scaling effective PD is to consider the PD target and the system in which it will be implemented. As Burchinal (this volume) suggests, classroom observation of teacher practice is often viewed as a source of information on the focus or target of PD, as is teachers' knowledge of children's development or of a curriculum.

It may seem obvious that PD should focus on evidence-based teaching practices, but experience and the limited available data suggest that much PD for teachers does not do so. In one review of 256 published studies of ECE PD, only 25% had explicitly focused on teaching practices (Snyder et al., 2012). And the vast majority of practice-focused PD targets more generalized teaching practices, early literacy, and/or social-emotional teaching (Schachter, 2015).

Ensure sufficient intensity and duration. Intensity and a greater duration of PD consistently leads to improvements in teachers' practice (Garet, Porter, Desimone, Birman, & Suk Yoon, 2001; Markussen-Brown et al., 2017). Markussen-Brown and colleagues (2017) reported a wide range of intensity among the studies they included in their meta-analysis of PD, from six to 450 total hours; they found greater changes in teaching practice among PD programs with greater intensity. Unfortunately, we do not know exactly how much PD is enough, though it is likely that the answer depends greatly on the desired outcome.

In sum, ample evidence from rigorous experimental studies shows that PD focused on teacher practices or relevant knowledge can improve the quality of teachers' skill and, to a lesser extent, children's learning. We have curricula, methods of practice, and tools that can predictably improve teachers' knowledge and skill, and a number of them also show evidence of further benefits for children's learning. At the same time, there is fairly broad agreement that PD for ECE teachers as typically implemented by states and school systems throughout the country is not all that effective. The opportunity to deploy PD investments for greater impact holds tremendous promise for improving the benefits of programs for children (p. 115–118).

Discussion Questions

Research Design and Methods I Program Evaluation

1. How can implementation research support the alignment of early education preparation, professional development, and instructional practice?
2. Are there benefits and challenges for building a PD system that spans the continuum of birth through third grade?
    - What role can researchers play in such an effort?
    - Who else should be engaged in this effort, and what benefits could such a collaboration bring?
3. Choose a feature of a PD system. How would you design an implementation study to assess its effectiveness in enhancing the practice of early educators and improving child outcomes?
4. How might the design of a study differ when measuring a PD system that evaluates teacher practices in the classroom, as compared to teacher's general knowledge?
    - What differences would there be in the interpretation and dissemination of these results?
5. What factors contribute to the success of high-fidelity implementation of PD and the successful scaling up of such PD?
    - What role can research play?

4. To improve the quality and impact of programs at scale through workforce development, we must explicitly specify the enabling architecture—the incentives, standards, training and implementation protocols, quality control procedures, and certifications that shape the actions of various people in the system (teachers, purveyors, programs) to produce high effort and focused participation. All too often, these components of a workforce development system are misaligned with one another, with the needs of the workforce, and with the support structures needed to deliver the types of proven-effective PD described here (p. 118).

> **The only way this work can be done is by researchers in collaboration with practitioners working as partners for a bigger purpose… Very often the translation of research is conducted by the person who generated the original piece. But how can you translate without seeing how it lands?**
> (Pianta interview, 11/9/2020)

Next, we identify several conditions that are key to closing the gaps between PD that has been proven effective under local or controlled conditions to implementation with benefits at scale (p. 120).

Use a clear and focused PD program or model. Zaslow and colleagues (2010) have described the features of effective PD programs, which include a focus on:

> *a) students' skill targets and developmental progressions (e.g., developmental progressions in decoding skills); b) improving teachers' skillful use of instructional and social interactions to promote student engagement and learning (e.g., feedback or conversation); and c) fostering teachers' skills and knowledge to effectively implement curricula and appropriately engage children with content (e.g., delivering an effective and engaging activity on teaching cardinality).*

Provide necessary supports for the PD workforce. PD's success depends in large part on the people who train and coach teachers. This means hiring, training, and supporting the PD workforce. But little research has examined these elements of program delivery, and many evidence-based PD models fail to provide much detail about them. Among evidence-based PD models that do provide such detail, this workforce typically consists of experienced ECE teachers, often with master's degrees, who have relatively extensive training and ongoing support in the particular PD model (McCollum, Hemmeter, & Hsieh, 2011; Piasta et al., 2012; Powell, Diamond, Burchinal, & Koehler, 2010). Lloyd & Modlin (2012), reporting on how they delivered three coaching models in Head Start programs, suggest that successful coaches have three major attributes: knowledge of the coaching model, general coaching and consultation skills, and knowledge of early childhood development and teaching.

Use data to target and improve PD. However, data can not only help to focus PD but can also track its implementation and success. Lloyd & Modlin (2012) describe a simple but effective method for supporting the coaching delivered as a part of the Head Start CARES project. They use brief online surveys, logs, and fidelity reports to help support technical assistance and management in their monitoring of coaching implementation. Similar systems are provided with the scaled-up version of MTP [MyTeachingPartner] (Early et al., 2017). Even the simplest information, such as logs of the frequency of contacts between teachers and coaches, can be powerful ways to improve the intensity of coaching if they are used to monitor coaches' efforts and provide feedback. ... As states build systems of PD support online and link them to various forms of credentialing (including micro-credentialing), the result can be more fully integrated alignment of teachers' PD needs and goals, PD inputs to teachers, supports for effective delivery (by coaches, instructors, or web systems), and structures that codify and encourage teachers' participation and progress.

Link workforce development systems and incentive structures. However, registry systems are being developed that codify individual teachers' records of acquired PD (National Registry Alliance, 2013a) and perhaps even the competencies they attain, which will mean greater capability to identify and encourage effective PD as well to tie those experiences to accrued competence and certifications.

Certify PD providers. The skills and impact of those who provide PD support to teachers and programs vary widely (Soliday-Hong, Walters, & Mintz, 2011), and there are very few systems for documenting their expertise and effectiveness. Although almost half of the states have developed tracking systems for PD providers (Institute of Medicine and National Research Council, 2015), none have effectiveness metrics or standard certifications and training. Some have moved beyond tracking to comprehensive training and certification requirements for providers.

In some states, PD providers must register and complete training (National Registry Alliance, 2013b), but these systems are typically voluntary and their requirements are not particularly stringent. Clearly, PD providers and coaches need more intensive training and certification programs (p. 121–123).

Discussion Questions

Research Design and Methods I Program Evaluation

1. A clear and focused professional development model is the first condition listed for implementing PD with impact. Why is it important that curricula, assessment, and other enabling supports are aligned?
    - How can research be used to ensure this alignment?
2. It is noted that very few programs use a formal manual or set of materials to guide coaches as supports for the ECE workforce. How might you design a research study to examine supports that foster effective coaching practices?
    - How could you disseminate the results in a way that might change policy and practice?
    - Should coaching practices be the same across different types of ECE programs, settings, and children served, etc.?
    - If not, what kinds of differences might you expect?
3. What are the benefits and potential drawbacks of course-based PD in higher education?
4. What types of data are required for continuous improvement of PD at a federal, state, and local level?
    - What would each contribute to strengthening the PD system and thereby improving child outcomes?
    - What are the potential challenges to gathering and using this data?
    - What are potential strategies to overcome these challenges?
5. Design a workforce development system, including incentives that could help encourage effective PD. What are the research questions that arise regarding implementation?
    - How could you measure the fidelity of this system? What fidelity issues might arise?
6. Considering the factors that allow for the successful implementation of PD programs, what research questions remain?

Moving forward.

"Any translated research product has to be framed and written and content exposed from the perspective of the person who is reading it. As researchers, we have to figure out a way that the translation reflects the complexity of the issue. For example, what you have evidence for and don't have evidence for. We have to respect both the complexity of the science and respect the practitioners' ability to understand and use findings in their decision-making and work...Implementation science can provide the young researcher with an intellectual home." (Pianta interview, 11/9/2020)

Discussion Questions

Research Approach and Stance

1. As you look forward, what steps do you think you, as a researcher, must take to ensure that research findings on PD are translated in ways that are understood and used by the field?
    - What steps does the field need to take in general?
2. What role can you see yourself, as a researcher, playing in building a connection between what we know from research about effective PD and what we do as a field to support professional learning and development?

SECTION 2, CHAPTER 6

ADDRESSING EQUITY IN THE ECE CLASSROOM: EQUAL ACCESS AND HIGH QUALITY FOR DUAL LANGUAGE LEARNERS

Linda M. Espinosa, Ph.D., University of Missouri-Columbia

In *Addressing Equity in the ECE Classroom: Equal Access and High Quality for Dual Language Learners,* Linda M. Espinosa discusses research outlining the benefits of early bilingualism. She also presents strategies that all early childhood education (ECE) teachers can implement to support dual language learners' (DLL) improved outcomes through the acquisition of English, while also maintaining their home language. Directions for future implementation research are provided to help fully understand factors that influence early bilingualism, the attendant cognitive, linguistic, and social advantages, and effective practices for instructing and assessing DLLs.

The summary above appears in the *Getting it Right Chapter Summaries* resource.

> **The study of bilingual children is almost its own field of study. Who are these children in the U.S.? How are decisions about how and what to teach them and how to measure their progress impacted by the fact that they do not speak English at home and may have a varied culture?**
> (Espinosa interview, 11/24/2020)

The following themes, chapter excerpts from the *Getting it Right* full publication, and related questions are provided to stimulate additional engagement around the ideas and inquiry shared in this chapter.

1. Historically, most research examining the growth, progress, and achievement of DLLs has focused on differences between DLLs and non-DLLs, judging DLLs' performance using norms designed for English-only populations without considerations for the unique linguistic and developmental trajectories of children whose first language is not English.[1] This approach has often led to a "deficit perspective" that views DLLs as having less potential and fewer academic abilities than their monolingual English peers because of their lack of English proficiency. In fact, policymakers have sometimes referred to "the extra burden" of having to learn two languages during the early years. The deficit perspective, however, often negatively affects teachers' views of DLLs' potential, and it is, moreover, contradicted by current research (p. 135).

The scientific consensus is that children who become fully proficient in both their home language and English are likely to reap benefits in cognitive, social, academic, and professional outcomes and to be protected from brain decline at older ages (NASEM, 2017). This suggests we should view the development of DLLs through the powerful advantages of having more than one language. The assets associated with bilingualism and biliteracy have been well documented and should be recognized and supported (p. 135).

I think the discrepancy between what academics know and what practitioners implement is huge. There can even be a discrepancy between what some practitioners know and do. People have distorted views of how successful these children are. Too few see these children as advantaged because they speak more than one language. In fact, our achievement data shows them behind because they have been improperly assessed and understood. (Espinosa interview, 11/24/2020)

Discussion Questions

Research Design and Methods I Research Approach and Stance

1. What does it mean to take a strength-based vs. deficit-based research approach?
    - What are some examples of what each looks like in various ECE settings (e.g., an infant/toddler setting, a program serving children with special needs, and a program with DLLs)?
    - In what ways can the approach assumed by researchers shape findings, the communication of findings, and the impact on a program?
    - What knowledge is required to utilize a strength-based, asset-based approach in research studies? What shifts are required in a researcher's stance?
2. Why do you think deficit-based assumptions about the development and learning of dual language learners persist in research and practice?
    - How might these assumptions have an impact on practitioners' instruction and support of DLLs?
    - How might these assumptions have an impact on children's experience of school and learning?
    - How do such considerations influence research related to DLLs and to the instruction of DLLs?
    - How can you frame your research from an asset-based perspective?
    - How can teachers frame their instruction with that same asset-based perspective?
3. What additional research is needed to help move the field away from this deficit-based perspective that is so common in research and instructional practices and more toward an asset-based perspective that focuses on the strengths of DLLs?
    - What are different ways families can play a role?

4. On page 134, Espinosa identifies a wide range of questions that researchers and practitioners are asking to address this challenge. What questions would you choose to study and why? What would your hypotheses be?

5. What research questions are needed to further understand how to close the substantial and persistent achievement gap between DLLs and native English speakers?

    - What are the strengths and resilience factors that also need to be included in any study of DLLs?
    - How would you compare the two groups in a proposed study?
    - What contextual factors would you consider?
    - What types of assessments would you use?
    - What are some research designs that could offer insights into this gap and suggest new teaching practices that could close it?

6. What research questions are needed to further understand how to support children's bilingual or multilingual language development?

7. How can ECE programs and specific instructional practices better support children's language development so they can become bilingual or multilingual?

2. A 2017 report by the National Academy of Sciences, Engineering, and Medicine (NASEM), *Fostering the Educational Success of Children and Youth Learning English*, offers a research synthesis on the development and achievement of DLLs from birth to age 21. This consensus study has yielded a comprehensive view on language development, school practices, and educational policies that impact DLLs' growth and school success. It reports four major interrelated conclusions that are central to improving the educational outcomes for DLLs. First, all children are capable of learning more than one language from the earliest months of life and benefit from early exposure to multiple languages. Second, high levels of proficiency in both the home language and English are linked to the best academic and social outcomes. Third, the earlier a child is exposed to a second language, the greater their chances for full bilingualism. Fourth, home language loss is currently the norm for DLLs, particularly once they enter English-speaking ECE settings, which undermine the possibility of full bilingualism and may place the child at risk for unhealthy family relations, including estrangement from their cultural heritage (p. 138–139).

Because most in our field do not have a background in dual language children, people have defaulted to simplistic ideas of how these children are different and how to determine their accomplishments. We are making progress. For example, we've designed an in-depth family interview to learn about a child's exposure to English. But there is so much more to be done… I often tell people, "Make a tentative hypothesis about why a child is or isn't performing and 'keep the doors open' as you check into what might be reasons why. Language development can be uneven—even for kids who speak one language." (Espinosa interview, 11/25/2020)

Programs with three, four, five languages usually end up just teaching children English. They say, "We can't bring in all these languages." It's just not true. There are methods to address cultural and language diversity. Most people in our field don't have backgrounds in dual language children, so they think either dual language (hopefully) or teach only in English. (Espinosa interview, 11/24/2020)

Discussion Questions

Research Design and Methods I Program Evaluation I Research Approach and Stance

1. As you review the Summary of Findings of the NASEM report (2017), what findings are in line with what you knew or expected? Please reference page 66 of this guide for The Summary of Findings.
    - Which of these findings might have been similar or different from your expectations?
    - What research questions remain that would have been beneficial for practitioners and policymakers?
2. Consider the extensive summary of research findings on page 138. How might these footnotes be useful or not for practitioners and policymakers to identify ways to better support and instruct DLLs?
    - How could researchers best disseminate these findings?
3. What research questions are needed to help practitioners integrate DLLs' home languages and the needs and wants of families into classroom practices?

4. What research is needed to help practitioners support DLLs on an individual level? Consider that the learning environments often include children who speak a variety of home languages, all of which may be different from the teacher's home language.
    - What could be the benefits and challenges of having a teacher who comes from a background similar to DLLs in the classroom?
5. What approaches and strategies might researchers who speak one language use to ensure the development of an effective research process and design when looking at supporting children's home and second languages?
6. What factors should be considered in implementation research related to examining how instructional practice influences the bilingual and multilingual development of young children?
    - What strategies might researchers, policymakers, and practitioners use to partner with DLLs' families to promote and support these practices at home and in the classroom?

Summary of Findings of NASEM (2017) Report for DLLs 0-5.

The major findings about DLLs ages birth to five from the NASEM (2017) report include the following:

- All young children, if given adequate exposure to two languages, can acquire full competence in both languages;
- Early bilingualism confers benefits such as improved academic outcomes in school as well as enhancement of certain cognitive skills such as executive functioning;
- Early exposure to a second language–before three years of age—is related to better language skills in second language, English;
- The language development of DLLs often differs from that of monolingual children: they may take longer to learn some aspects of language that differ between the two languages and their level of proficiency reflects variations of amount and quality of language input;
- The cognitive, cultural, and economic benefits of bilingualism are tied to high levels of competence including listening, speaking, reading, and writing in both languages, e.g., balanced bilingualism at kindergarten entry predicts best long-term outcomes;
- DLLs should be supported in maintaining their home language in preschool and early school years while they are learning English in order to achieve full proficiency in both languages;
- DLLs' language development is enhanced when adults provide frequent, responsive, varied language interactions that include a rich array of diverse words and sentence types. For most DLL families this means they should continue to use their home language in everyday interactions, storytelling, songs, and book readings;
- There is wide variation in the language competency among DLLs that is due to multiple social and cultural factors such as parents' immigration status and number of years in U.S., family Socio-Economic Status (SES), status of home language in the community, resources and amount of support and for both languages.

Source: NASEM (2017). *Promoting the educational success of children and youth learning English: Promising futures*. The National Academies Press.

3. It is important for educators to recognize that there are differences between DLLs and monolinguals. Preschool DLLs seem to show a different pattern of strengths and needs than monolinguals. They are at risk for low levels of oral language development if they don't receive frequent high-quality enriched language learning opportunities in both languages. Their basic mathematical understandings may differ from those of English speakers if their first language uses different language constructs for expressing math concepts such as counting, plurals, grouping, and so forth. They may also excel in certain executive function skills such as cognitive control, and they often demonstrate social-emotional strengths (NASEM, 2017) (p. 140).

To provide equitable early education to linguistically diverse children, ECE teachers must consistently implement a set of instructional adaptations across multiple settings. One core necessity here is to recognize that these children are learning content or conceptual knowledge at the same time that they are also learning the language in which that content or concept is expressed. Thus, instructional approaches that focus on monolingual English speakers need to be adapted and enhanced (Castro, Espinosa, & Páez, 2011; NASEM, 2017) to build on what children already know in their first language while they are also adding English (p. 133).

Implications of research for instructional practices for DLLs. Before teachers can specifically address instructional goals and strategies for DLLs, they must first get to know the children. They need to gather formal and informal information on their students' backgrounds and their early language learning experiences as well as abilities, including how much exposure they have to both the home language and English and how much they use each. During face-to-face interviews with parents, teachers can learn about family values, language preferences, cultural traditions, and the ability to partner actively with teachers in the classroom (p. 142-143).

Although common features of high-quality early education described throughout this volume are beneficial for all children, DLLs require additional instructional support. The NASEM report (2017) outlines a number of instructional strategies and enhancements that have been linked to improved achievement for DLLs in early education settings (p. 143).

Currently, few states require ECE teachers who work with young DLLs to have specialized training or coursework focused on meeting the needs of such children and their families (Espinosa & Calderon, 2015). The NASEM (2017) report concludes, "The educator workforce, including early care and education providers, educational administrators, and teachers, is inadequately prepared during preservice training to promote desired educational outcomes for dual language learners" (p. 462) (p. 145).

Unless you believe "in your bones" that having a second language in addition to English is a gift, and not a disadvantage, and diversity is a resource, not a problem to be solved, you are likely to respond to DLL children in ways that discourage the continued use of the home language, especially if you are not fluent in the child's home language (Espinosa & Magruder, 2015, p. 80) (p. 142).

Discussion Questions

Research Design and Methods I Program Evaluation I Research Approach and Stance

1. What additional research is needed to better understand how practitioners can best support and instruct DLLs?

2. What are realistic expectations for including every child's language in some classrooms?

3. What are some of the differences that may exist in DLLs' and monolinguals' learning and development? Consider factors such as home language prominence, instructional content and practice, family culture and values, and school culture and values.

    - How do such considerations influence your research priorities and approach?
    - How do such considerations influence the interpretation of your research results?

4. What are the assessment and measurement considerations in research related to DLLs' development, including learning of specific skills, such as language and literacy, math, and other knowledge concepts?

    - What is the best way to assess DLLs? How might your data collection team and the tools available to you as a researcher influence the practicality of your previous response?

5. How might a practitioner's assumptions influence whether instructional content and strategies to foster bilingual and multilingual development are integrated into a program's daily life?

6. What research methods might a researcher use to understand or measure the impact of their assumptions?

7. As you read core content elements (p. 145) and competencies (p. 146), what research questions would you ask regarding the preparation and skills needed to work with DLLs?

    - Which of these questions would you research first? Why and how?

8. In what ways can ECE and PD systems be enriched to include the content, elements, and mindset necessary for educators to provide an equitable education to DLLs?

    - In doing so, what might the unintended implications (positive and negative) be for other monolingual children in the classroom?

9. What implementation research approaches may help practitioners learn about and understand the family context of DLLs?
    - What can be learned about a family's culture, values, and views of their home language and English?
    - How might they influence interactions with a child?

Moving forward.

Substantial research has been done on the capacity of all children to successfully become bilingual, the factors that influence early bilingualism, and the attendant cognitive, linguistic, and social advantages, and there is also an emerging scholarship on effective practices for DLLs. Yet there are still many gaps in our knowledge (p. 147).

Discussion Questions

Research Collaboration and Partnership

1. As you read the questions posed by Espinosa on pages 147–148, choose one that you would like to study with a research team.
    - Why is this your choice?
    - What would your hypotheses look like?
    - What role do you see yourself playing on the research team?
    - Who would you engage as collaborative partners on this research team, and how would they benefit the project?
    - What insights, information, and experience will inform your contribution to the work?
    - What research approaches will be most helpful? Why?
    - What practical or logistical considerations may arise during this project?
    - How would you work around them?

References

[1] Center for Early Care and Education Research–Dual Language Learners, 2011.

SECTION 2, CHAPTER 7

VIGNETTE: BUILDING A HIGH-QUALITY PROGRAM– THE BOSTON PUBLIC SCHOOLS EXPERIENCE

Jason Sachs, Ed.D., Boston Public Schools

In *Vignette: Building a High-Quality Program—the Boston Public Schools Experience*, Jason Sachs, who established and continues to lead the expansion of the Boston Public Schools system's Prekindergarten-2nd grade program, relates his and his staffs' experience in building an equitable, high-quality early childhood education (ECE) system that produces measurable outcomes. Sachs talks about the keys to success: committed city leadership; a focus on the child; resourcing staff, principals, teachers, and paraprofessionals to do their best work; developing strategic plans; and using data for evaluation that feeds continuous improvement.

The summary above appears in the *Getting it Right Chapter Summaries* resource.

Sachs offers a window into building and scaling up the Boston Public Schools' prekindergarten to second grade program. He describes the intentional use of research to guide change and the realities encountered while conducting implementation research (p. 8). The experience of the BPS Department of Early Childhood grounds this volume by presenting the initiative's context and the "real work" of practitioners and researchers collaborating over the last 14 years on a path to achieve their mission. Supporting his work—and that of others in the field working day by day to create stronger outcomes for all children—is the purpose of implementation research.

The three activities below are designed to help students consider key elements of effective implementation research as they begin to intentionally determine their stance as researchers: consideration of context, development of genuine research collaboration, and the need for and development of tools to assess fidelity.

The first activity focuses on the importance of context in designing and implementing an ECE program or system. The second invites students to consider the need for genuine collaboration and the "natural tensions" that can occur as researchers, practitioners, and policymakers strive to implement evidence-based, informed practice throughout all the phases of implementation research. Activity three leads students to explore the need for and development of fidelity tools to measure whether a program's delivery matches the program's original intended model and purpose. Each activity is designed to be thought-provoking and to challenge students to apply insights about implementation research to real-world situations.

The following themes, chapter excerpts from the *Getting it Right* full publication, and related questions and activities are provided to stimulate additional engagement around the ideas and inquiry shared in this chapter.

1. Context is key to continuous quality improvement efforts. At the opening of Chapter 7, Sachs invites readers to "become like the horse breaking free—taking what is useful for their own contexts." He shares his hope that "this article will help your work as you set out to build or improve your own preschool systems and partner with your own public schools."

Articulating a change theory, strategic plan and processes, and protocols help people put their egos aside as they build a collective will and interactions. People see where and how they can fit in. You know where you want to go and have a roadmap to get started on your way. (Sachs interview, 11/17/2020)

Activity

In small groups, think about how to "break free" in considering designs for ECE programs and using research to refine the implementation of an ECE program or system in your own local context. Choose a specific ECE program or system and consider contextual factors like program/system purpose, whether the program/system is being implemented as planned (why or why not), who is the program serving and how well, what implementation supports are in place or not, what the characteristics of the population implementing the program and those receiving the services are, and if data is available on program implementation outcomes and child outcomes. As part of your deliberation, also reflect on the key lessons learned by BPS (p. 165–172) as they worked to continuously improve the quality of their ECE program/system. After your discussion, write down brief answers to the following questions:

1. What refinements are needed, for what purpose, and for what outcomes?
    - What is the rationale or evidence-base for such changes?
    - What are the contextual factors that necessitate, support, or hinder such changes?
2. How would such changes be implemented?
    - What are the current constraints and how will they be addressed?
3. How can research support these refinement efforts?

Key Lessons Learned

1. There are natural tensions in a research-practice partnership.
2. Planning matters.
3. What you don't do is as important as what you do.
4. Data helps you work smarter.
5. It is important to create strategic plans, and to stick with them.
6. The curriculum needs to keep pace with the students.
7. Use NAEYC accreditation as a driver to set quality at the school level.
8. Whether degrees are critical for education workers is a fraught issue.
9. Creating a pre-K model for community-based programs is crucial.

4. What are the research questions?

    - What is the appropriate timing for developing research questions given potential or new implementation of program/system changes?

5. Which implementation research designs and approaches best fit the research questions?

Afterward, share and compare the responses across the small groups. How are they similar or unique? Were there common themes?

This same activity can be replicated for other ECE programs and systems outside of your local context. Compare and contrast the responses to these questions from your local context to those outside of your context. How are they similar or unique? Were there common themes? How does the varying context of these programs and systems contribute to the similarities or differences in the responses?

2. Building research partnerships to support data-driven, evidence-based quality improvement efforts. An element of the success of BPS is Sachs's long-term relationship and articulated understanding with a research partner.

> **There are natural tensions in a research-practice partnership. Some questions are too academic in our department's view; that is, they might benefit the field but not the department. We turn down ideas that fall into this category if they represent a burden without benefit for the district. Conversely, sometimes the department has had a question or a "need to know" that is either not of interest to academics or not publishable. Weiland and her team have generally taken these on just the same. Their view is that to be good citizens and partners and to learn as much about the district as possible, it is important to address them.** (Sachs interview, 11/17/20)

The BPS Department of Early Childhood uses data for a variety of purposes, such as identifying systematic weaknesses across classrooms and targeting PD accordingly. For example, classroom quality data collected in 2010 in prekindergarten and kindergarten revealed that although the program had the highest instructional quality of any large-scale prekindergarten to date (Weiland, Ulvestad, Sachs, & Yoshikawa, 2013), teachers were not doing enough to support children's conceptual development. Professional development was then modified to target best practices in this area. We also created a teacher-friendly template that displayed each teacher's results compared to district averages and areas for growth. Coaches worked with teachers to help them understand the implications of their scores for their practices (p. 161).

I've learned to be a manager and how to connect people's work to a strategic plan and help them see the connection. We've stayed with it for a long time so we could collect and use data to adjust as needed. It is the process of doing the work with a strategic plan and goals over time that lets us evolve… People need to learn management, strategic thinking, benchmarking skills. I have always had partnerships with people in different fields. (Sachs interview, 11/17/2020)

Activity

The building of researcher, policymaker, and practitioner partnerships to implement evidence-based, informed practice requires genuine collaboration throughout all the phases of implementation research. Research partnerships can be formal in nature according to various research-practice partnership (RPP) models, or they can be informal.[1] For this exercise, in small groups develop a logic model to outline the development of a formal RPP that is focused on examining questions related to ECE program implementation in your local context using a data-driven, practice-based approach. Attempt to add the perspective of colleagues such as policymakers, practitioners, and parents. Include roles and responsibilities for partners, collaboratively developed research questions, study designs, resources and data needed, measures to track collaboration and study progress, and the ultimate goal of the RPP. Also consider anticipated challenges, questions that remain, and next steps.

As you develop the logic model, discuss how collaboration between members of the RPP enhances the collaboratively developed line of inquiry and informs continuous quality improvement efforts within the program and the research itself. While developing the logic model, imagine that you will be asked to present your ideas to a group of stakeholders that are key to the success of the RPP but unfamiliar with RPPs. Discuss the rationale for this RPP and how you might persuade the appropriate stakeholders to join and support it.

As you develop the logic model and the rationale for the RPP, consider the following background questions:

1. What do leaders, researchers, and practitioners need to understand about each other's culture and practice to collaborate effectively, understand program implementation, and examine program effectiveness?
    - How are the partners similar and distinct?

2. What additional research questions remain about the implementation and effectiveness of the BPS early childhood program?
    - What additional data do you think could be collected in an RPP to answer those questions?
3. What should early-career researchers know and be able to do to conduct solid ECE implementation research in collaboration with policymakers and practitioners? Think not only in terms of content knowledge, but also in terms of ability to work with others and the personality traits that may or may not make that successful.
4. What points would you make to policymakers and practitioners for how research findings could be applied in practice?

Afterward, share and compare the various RPP logic models across the small groups. How are they similar or unique? Were there common themes?

3. Addressing the need for tools. As Sachs notes in Chapter 7: The lion's share of our PD focuses on first setting the table—getting teachers to understand their curriculum and the "whys" underneath it, and then getting them to reflect about whom they are teaching and how to differentiate their instruction. ***Though we focus on curriculum fidelity, we view it as "a tool, not a rule."*** We know that strong teachers will need to make adjustments along the way to meet the diverse needs of their classrooms. The rub is getting them to make choices based on what facilitates learning versus what is easier to manage (p. 159).

> **Researchers and policymakers need to help define student outcomes and what teachers should do. We need tools with specificity that take a fine-grain look at what happens between teachers and kids. To look at what works for which cultures, which languages, which income level and tools that let us see how income and culture interact. We don't have these measures and we need them urgently… The best thing we did was to create a curriculum and fidelity tool and then we could celebrate and acknowledge what good instruction looks like.** (Sachs interview, 11/17/2020)

We have tried a variety of coaching models, with ratios as low as one coach to eight teachers and as high as one coach per 20, which was more of a grade-level team focus. *What we have learned is that coaching is most effective when the teacher wants to change and that the strategies we use need to be differentiated based on a teacher's knowledge level and how committed the school or program is to change* (p. 158).

> **We are interested in getting teachers to ask questions about big things such as, "What are necessary spaces?" so they can work together to talk about children's work and to reflect on children's thinking.**
> (Sachs interview, 11/17/2020)

Activity

Fidelity tools are often used to assess how closely the delivery of a program aligns with the intended model and purpose when examining implementation. For this exercise, one aspect of a program or curricula has been identified to further your thinking about how to measure if program implementation matches the original program model and design. In small groups, choose a curriculum used by ECE programs in your local context and design a fidelity measure/tool to provide "a fine-grain look" at what happens between early educators and their students. Attempt to add the perspective of colleagues such as policymakers, practitioners, and parents. Consider the following questions:

1. How can the needed tools that Sachs describes make a difference in supporting early educators in their work and supporting children's outcomes?
2. What research questions will the fidelity tool address?
3. What dimensions of curriculum implementation and instructional practice will the fidelity tool measure?
4. How will the data be analyzed to answer the research questions?
5. In what context will this tool be used? Think about the ECE setting, geographic location, funding streams, racial/ethnic/linguistic breakdown of the children served, racial/ethnic/linguistic breakdown of the workforce, etc.

6. What element of the practitioner-child interaction, instructional content, or children's learning will be evaluated to assess fidelity?
    - How will they be studied?
    - What types of data will you collect and what measures will you use?
7. How will the tool support instructional practice responsive to the various subgroups of children attending the program?
8. How will you measure the reliability and validity of the tool?
9. How much administrative demand and time will it take to be completed?
    - Who will be involved in documentation and observation?
10. How will the tool be used by coaches to support instructional practice in classroom and home-based settings?
11. How will the tool be used by practitioners to inform their own practice?
12. In what ways will the information collected be valuable to stakeholders? Be specific about different types of stakeholders.
    - How will you use the information you collected from this measure to inform stakeholders? Describe different strategies you could use to disseminate this information.

Afterward, share and compare the various fidelity tools across the small groups. How are they similar or unique? Were there common themes?

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SECTION 3

HOW DO WE GET SMARTER? THE ROAD FORWARD

IN SECTION 3:

Chapter 8: An Overview of Implementation Research and Frameworks in Early Care and Education Research.
By JoAnn Hsueh, Ph.D., MDRC, Tamara G. Halle, Ph.D., Child Trends, and Michelle Maier, Ph.D., MDRC

Chapter 9: Designing Implementation Research to Guide the Scale-Up of Effective Early Care and Education Across Settings.
By Michelle Maier, Ph.D., MDRC and JoAnn Hsueh, Ph.D., MDRC

Chapter 10: How Implementation Science and Improvement Science Can Work Together to Improve Early Care and Education.
By Tamara G. Halle, Ph.D., Child Trends

Chapter 11: The Contributions of Qualitative Research to Understanding Implementation of Early Childhood Policies and Programs.
By Sharon Ryan, Ed.D., Rutgers, The State University of New Jersey

Chapter 12: Equity as a Perspective for Implementation Research in the Early Childhood Field.
By Milagros Nores, Ph.D., National Institute for Early Education Research

SECTION 3, CHAPTER 8

AN OVERVIEW OF IMPLEMENTATION RESEARCH AND FRAMEWORKS IN EARLY CARE AND EDUCATION RESEARCH

JoAnn Hsueh, Ph.D., MDRC
Tamara G. Halle, Ph.D., Child Trends
Michelle Maier, Ph.D., MDRC

An Overview of *Implementation Research and Frameworks in Early Care and Education Research* introduces implementation science principles specific to researching the effectiveness of early care and education (ECE) programming. Authors JoAnn Hsueh, Tamara Halle, and Michelle Maier outline principles and frameworks from implementation science that undergird implementation research and point readers to additional volume chapters explaining how to use implementation research to improve the scaling of ECE programs across different settings and contexts.

The summary above appears in the *Getting it Right Chapter Summaries* resource.

> **With frameworks, we are trying to illuminate areas where research hasn't focused. For example, how was a program designed? How is it being delivered? Is it reaching the intended population? In the literature, we often take a focused, myopic view of what makes a program effective, and we don't pay attention to the broad constructs about how the program is being delivered and the contexts and circumstances that can also shape whether the program is effective. An implementation framework can help assure you have sufficient information to know what makes a program you are developing or scaling effective or not.** (Hsueh interview, 10/13/20)

The following themes, chapter excerpts from the *Getting it Right* full publication, and related questions are provided to stimulate additional engagement around the ideas and inquiry shared in this chapter.

1. Defining implementation research. Implementation research encompasses the application of implementation science frameworks and principles to systematic inquiry into the act of carrying out a program, as well as a systematic inquiry into how a program is received and experienced in real-world settings and situations. In its most basic form, implementation research and analysis aim to illuminate what is happening, how it is happening, who is making it happen, why a program achieves the outcomes that it does, and for whom it works best. Implementation research can take a vertical perspective, looking at how processes across different levels of the supporting system can work in synergistic or countervailing ways to support a program's implementation, or it can take a horizontal perspective, examining how implementation unfolds across a range of different settings, contexts, and populations (Ryan, Ch. 11; Vavrus & Bartlett, 2006) (p. 181).

Implementation frameworks serve as organizing tools that help highlight underexplored areas and point to ways to improve ECE program effectiveness for narrowing achievement gaps. By embedding the study of ECE programs within these frameworks, we can begin to broaden our knowledge of the influences that shape the lives and trajectories of young children, particularly those from low-income and racial, ethnic, and immigrant minority backgrounds (p. 189).

As Hseuh explains, "There's not a lot of familiarity about implementation frameworks in ECE. We want people to consider their research and operational implications as we try to illuminate areas where research hasn't focused. For example: How was a program or initiative designed? How is it being delivered? Is it reaching the intended population? For whom is the program impactful?

This chapter may make it feel like you have to capture everything (in your research design), but the point of a framework is to plant seeds of where you can look. Where you can look critically at the literature about what evidence is known; where you can focus on measurement, strategies, and your design using elements of the framework."

Discussion Questions

All programs are collecting information, but often it is limited to a small set of indicators. For example, how many kids attend? Do they attend regularly? Implementation research can point towards taking a more holistic approach. It is not just dosage of how many times someone attends, but it is about what do they get when they do come. What is their experience when they are there? How does that compare to a different program that may be out there, too? (Hseuh interview, 10/13/20)

Research Design and Methods I Research Collaboration and Partnerships

1. How can implementation frameworks serve as organizing tools to support researchers, policymakers, and practitioners in collaborating to identify a research question, develop a research design, collect data, and evaluate and communicate findings?
2. Given the current context, what areas of inquiry are most critical for ECE implementation research to examine and for what purpose(s)?
    - Has this changed over time?
    - What research partners are needed?
    - What information is needed?

3. What are the benefits and challenges in collaboration between researchers, policymakers, practitioners, and families to study how a program is delivered?
    - How might you address some of the challenges?

2. Adopting an inward or outward focus on implementation. Implementation frameworks underscore where research can focus and, in turn, generate hypotheses and research questions. A growing set of implementation frameworks have been applied to ECE; one kind focuses inward on program components and structure, and another focuses outward on the contexts and larger infrastructure that support successful implementation of programs and systems...

Given this interdependence, implementation researchers differ in their perspectives of what constitutes an inward or an outward focus. Indeed, these distinctions can shift with a researcher's focus of inquiry. For the purposes of this chapter, implementation research that focuses inward addresses a program's theory of change or implementation processes, while implementation research that focuses outward is oriented to the larger context and infrastructure supports that surround a program. These foci highlight potential sources of variation that may account for the effectiveness (or lack thereof) of ECE programs, as well as for how such programs may have varying effects in different contexts and for children with different backgrounds (p. 182).

> **When we want to influence policy and practice, looking outside the program to the larger context and infrastructure of supports around a program is key to answering the questions: Are beneficial services being delivered that children (and families) aren't getting elsewhere? What is the value-add of this particular program? Many folks say, "Here's the program we designed, and here's its impact." But without taking into consideration the surrounding context and critical supports and infrastructure that were in place to create the effective program, the field has very little information to guide replication of its effects or scaling in other contexts and situations.** (Hseuh interview, 10/13/20)

Discussion Questions

Research Design and Methods I Program Evaluation I Research Approach and Stance

1. Choose a particular research question that is of interest to you. How might an implementation framework and implementation principles influence the way you design a research study around this question?

2. What are examples of research questions that might require a more inward focus on implementation?

3. What are examples of research questions that might require a more outward focus on implementation?

4. Why is it important to differentiate between an inward vs. outward focus on implementation?

    - How is implementation fidelity important in both?
    - What are some examples of inter-relations between inward and outward focuses that should be considered in research designs?

5. As researchers, how do you learn and gather data about services and opportunities offered to children and families in the community outside an ECE program?

    - What approach would you take to build research partnerships with these programs and program administrators?

6. Why are these relationships important?

7. What are the benefits of including community stakeholders and family members on your research team?

    - What are the challenges?
    - What are strategies that you could use to engage family members?

8. Based on your experience, what are internal and external conditions that are more or less influential on children's outcomes in ECE programs and can affect program quality across contexts and at scale?

    - How can implementation research help capture such conditions?

3. Focusing on stages of the implementation process. The National Implementation Research Network, for instance, identifies four implementation stages: exploration, installation, initial implementation, and full implementation (Bertram, Blase, & Fixsen, 2015[1]) (p. 186).

During ***exploration***, stakeholders are assessing their needs and identifying what will best fit those needs in terms of adopting new programs, policies, or practices. They are also examining the feasibility of taking on a new practice, program, or policy, including assessing buy-in by all those affected by such a decision. During ***installation,*** the new program is not yet being delivered, but stakeholders are busy making sure that they have the technical, financial, and human resources to carry it out. This may involve hiring and training new staff or training existing staff (i.e., addressing staff competencies) or making structural and instrumental changes organizationally (i.e., addressing organizational infrastructure) that enable stakeholders to carry out the new program. ***Initial implementation*** signals the start of service delivery. During this stage, data are regularly gathered and used to assess how well things are going and to adjust as necessary, with the goal of continuously improving implementation. Rapid-cycle problem solving becomes prominent during this stage and continues even when full implementation is achieved. ***Full implementation*** is characterized by skillful implementation of the new program, with the necessary skilled practitioners, organizational infrastructure, and leadership in place to support its continued reliable use and sustainability.[2] While these stages are presented here in a sequential, linear order, there is consensus in the field of implementation science that the stages are recursive (Saldana, 2014[3]), and that achieving full implementation of a well-defined evidence-based program can take between two and four years (Bierman et al., 2002[4]; Fixsen, Blase, Timbers, & Wolf, 2001[5]) (p. 186–187).

Often because research happens at a point in time, we assume the program, and ensuing findings, are static. But the program and the context supporting the program are always changing. For example, the population, economy, staff, and program evolve over time. As a program develops services, its theory of change may get more defined over time. If the program shows some success, it may gain new funding and serve new children, expand, and have satellite locations where it can reach more children. Every time a program expands, it comes into a new context. New staff may be hired. There is a dynamic interplay as both context and the program itself change. It requires a shift from seeing research as "a snapshot" to seeing it as "a process over time." When data collection is embedded into a program's daily life, there will always be a source of information about these dimensions. (Hsueh interview, 10/13/20)

Discussion Questions

Research Design and Methods I Program Evaluation

1. Consider the ways that programs, and instructional practices within programs, may differ across the different stages of the implementation process. How might such differences influence your research design?

    - How might this change the way you examine program and child outcomes during each stage?
    - How might the ways you collect early educator or child-centered data change throughout the stages?
    - Do the stages have any effect on how you collect classroom and home quality data?
    - How might the ways you interpret the data change across the different stages of implementation?
    - How might your overall study design change across the different stages of implementation?

2. Pretend that you have set out to design a successful early childhood program. How might your program change as it develops through the different stages of program development and implementation?

    - Do the question responses vary by professional role (e.g., director, early educator, coach, researcher) or by ECE setting?
    - What operational challenges might each professional role see at the various implementation stages?
    - What might be the advantages of blending research from both inward and outward perspectives while developing and assessing a program along different stages of implementation and program development?

Moving forward.

Any advancement you can make advances the field as a whole. It is the findings of many studies that will move the field forward by looking outside traditional research. People think, "my dissertation has to be the be-all, end-all." Move in the direction of drawing upon implementation research paradigms and principles but focus on a subset. Balance the practical and the grander vision in your research. You are part of a movement that is bigger than yourself. You have something to contribute. (Hsueh interview, 10/13/20)

Discussion Questions

Research Approach and Stance

1. How do Hsueh's insights inform your perspective as a researcher today?
2. What is Hsueh referring to when she says, "outside traditional research"?
3. How might traditional and nontraditional research work together to move the field forward?
4. What is an implementation question within the ECE field that you would like to study?
    - How will you hone this question in a way that contributes to moving the field forward?

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SECTION 3, CHAPTER 9

DESIGNING IMPLEMENTATION RESEARCH TO GUIDE THE SCALE-UP OF EFFECTIVE EARLY CARE AND EDUCATION ACROSS SETTINGS

Michelle Maier, Ph.D., MDRC
JoAnn Hsueh, Ph.D., MDRC

In *Designing Implementation Research to Guide the Scale-Up of Effective Early Care and Education Across Settings,* researchers Michelle Maier and JoAnn Hsueh call for concerted efforts to design and enhance implementation research to better understand variation in implementation and program impacts from multiple and holistic perspectives. Expanding the scope of early care and education (ECE) to scale implementation research helps to ensure findings can be used to guide policy and practice as well as determine how best to support and sustain effective programming to reach a broad number of children and close disparities in achievement.

The summary above appears in the *Getting it Right Chapter Summaries* resource.

> **Our chapter is a call to researchers and practitioners to become more intentional in asking and answering questions, including: What are the goals? What has been put in place to meet those goals? What happens? What might be getting in the way? Answers to these questions are needed to inform adaptations or improvements that will help determine and strengthen outcomes.** (Maier interview, 11/6/20)

The following themes, chapter excerpts from the *Getting it Right* full publication, and related questions are provided to stimulate additional engagement around the ideas and inquiry shared in this chapter.

1. Well-designed implementation research is the key link between small-scale early care and early childhood education (ECE) programs that have been proven to work and large-scale adaptations across populations and settings. Waiting years to see whether programs work provides too little information too late. Ongoing, well-designed implementation research, however, can provide real-time feedback on necessary program adjustments, identify the supports needed to successfully put these programs into action in varied localities and contexts (Martinez-Beck, 2016[6]), and address why and how a program works and under what circumstances. Such research gives the field the information it needs to bring promising programs to wider populations, enabling all children to have access to high-quality learning experiences (Phillips et al., 2017[7]) (p. 197).

The goal is to try to implement with fidelity. Folks in the field question whether how programs unfold naturally is sufficient to generate positive impacts but may not be taking an active stance to collect ongoing data to empirically investigate and understand how things are going. We need to consider ways to formalize data collection in doable ways. (Maier interview, 11/6/20)

What is tough is that there often isn't a strong theory of change, or core components are not clearly articulated by developers of a program. Pulling that apart is critical to setting the foundation of where to start in collecting data. Implementation research is a call to take a step back—to think about what you are doing and why. Taking the time to do this is going to shape the program, the research, and determine and enhance outcomes. (Maier interview, 11/6/20)

Discussion Questions

Research Design and Methods I Research Collaboration and Partnerships

1. How would you explain the potential benefits of using an implementation framework to your research partners (e.g., policymakers, practitioners)?
    - How would you explain the challenges?
2. How can the context of an ECE program or intervention change during various stages of program implementation and scale-up?
3. How can various contextual factors during implementation influence the attainment of the planned program and child outcomes?
4. How can contextual information from implementation research help the various research partners replicate programs or specific practices?
5. How would you manage expectations of research partners (e.g., policymakers and practitioners)?

2. Implementation frameworks guide the focus of research. This framework highlights where sources of variation may be likely to influence program effects and, therefore, underscores where research can focus. This includes operationalizing and measuring (p. 199):

- *fidelity of implementation of the program and implementation plan;*
- *proximal sources of variation in program effects such as treatment contrast, participant characteristics, and program context;*
- *distal sources of variation such as characteristics of the implementing organization and of the larger system; and*
- *potential moderators of these relationships.*

No one study needs to or can capture all of the elements in this framework. The point of this framework is to plant seeds of areas to study, to illuminate areas where research hasn't focused. It is the findings of many implementation studies that will move the field forward. (Hsueh interview, 10/13/20)

Discussion Questions

Research Design and Methods I Program Evaluation I Research Collaboration and Partnerships

1. What are examples of research questions that the conceptual framework depicted in Chapter 8 that may help answer what works or doesn't work, for whom, and under what conditions?
    - What questions could help answer how effects might vary across different contexts and populations?
    - What questions could help identify the benefits and challenges of maintaining fidelity to program models in application?
    - What questions could help answer how the "program planned" might be similar to or very different from the "program received"?
2. How is an implementation framework different from other research methodologies and frameworks?

3. Based on your experiences and knowledge of ECE, what sources of variation are more or less influential on programs and child outcomes at various stages of implementation?
    - How would this influence your research design?
4. How could this implementation framework be useful to you when you work with policymakers and practitioners to define research questions and determine research design?

3. Creating an evidence-building cycle. Embedded in each of these stages of program development are three aspects of evidence-building research (Knox, Hill, & Berlin, 2018; Metz et al., 2016):

- ***implementation*** *of the program model, which is continually in flux and evolving at each stage of program development;*
- ***adaptation*** *of and adjustment and improvement to the defined program model, organizational and system supports, and infrastructure; and*
- ***building*** *impact evidence by testing the program model.*

In essence, these evidence-building activities have a cyclical relationship; iterative feedback loops aim to strengthen the model as the circumstances, context, and environment in which the program is being delivered evolve, which in turn can help the program operate successfully at each new stage of program development (Knox et al., 2018).

ECE can benefit by aligning implementation research designs and measurement to this evidence-building cycle and stages of program development. As Manno and Miller Gaubert (2016[8]) argue, (a) many implementation research topics and questions are relevant across stages, but depending on whether a program is undertaking horizontal or vertical scale-up, the specific research questions and their emphasis will be slightly different; and (b) even in early stages of program development, implementation research can lay important groundwork for informing future scale-up (p. 200).

The authors illuminate potential areas of study within implementation research, including:[9]

- *Treatment planned, offered, and received*
- *Implementation plan and system supports*
- *Characteristics of participants*
- *Characteristics of organizations implementing the program*
- *Institutional and contextual factors external to an organization*
- *Strength of service contrast resulting from the program*

Being intentional—knowing what you are putting into place, what the goals are behind that, are you reaching your goals, and what might be the way of doing that—can help inform adaptations and improvements to achieve our goals: strong outcomes for all children. (Maier interview, 11/6/20)

Discussion Questions

Research Design and Methods I Program Evaluation I Research Approach and Stance

1. What are the most common institutional or contextual differences that may arise in program implementation that could affect program and instructional quality and/or child outcomes?
    - Choose one of these factors and design a research study investigating the impact of their differences.
    - Why does investigating these contextual factors matter for your work and for other partners?
    - How might such investigations identify deeper questions about the root causes of inequity and ways to eliminate disparities?
2. What kinds of information do researchers and their partners need at each stage of implementation?
3. In what ways may implementation research questions, designs, and measures change at the different stages of implementation?
4. Consider the three aspects of evidence-building research listed above and in the chapter. What difficulties might program administration and staff face during each of these stages, and how might you respond to those difficulties as a researcher?
5. As a researcher, how might you decide when it is appropriate to examine child outcomes across the different stages of program implementation and development?
    - What factors might you need to consider?
    - What challenges might you face?
6. Looking at the inward and outward focuses for implementation research in real-life contexts, is there an end to an evidence-building cycle? Why or why not?

4. Potential methodological approaches to implementation research. Implementation studies can take multiple forms, using quantitative, qualitative, or mixed-method approaches. Quantitative efforts are more objective, closed-ended, and numerical in nature; use statistical analysis; and commonly rely on methods like surveys, direct assessments, structured observations, and administrative data. Qualitative efforts are more exploratory, subjective, and open-ended in nature and typically rely on one-on-one interviews or focus groups (conducted at a single time point or multiple time points), ethnographies, document reviews, unstructured or semi-structured observation, and case studies, among others. Mixed-method approaches combine these two types of methods (p. 201).

We had tested Building Blocks, a math curriculum, and then folks we trained to be coaches for this evaluation moved over to the New York City Department of Education to put this curriculum in place. How to track implementation? Coaches filled out a log. At one point a coach said to me, "You forced me to learn about and do this log. I never understood why. I now understand that if I have 80 coaches doing this, there needs to be a mechanism to track fidelity." This is an example of real research in the real world. (Maier interview, 11/6/20)

Barriers in implementation research are often small and prevent human beings from doing things. For example, boxes in a journal may be too little to write in or not having a printer to print out materials. Researchers have to learn what will work from people on the ground. (Maier interview, 11/6/20)

Discussion Questions

Research Collaboration and Partnerships

1. How might a collaboration between researchers, policymakers, and practitioners increase the possibility that varied methodological approaches are used?
    - How might you foster this collaboration?

Research Design and Methods I Program Evaluation

1. What contributions can each research approach (e.g., quantitative, qualitative, and mixed method) make in understanding how, why, and for whom a policy, program, or practice does or does not work?

    - What are the advantages and disadvantages of each approach?
    - What different skills might a researcher need to utilize each approach?
    - Think about different research questions you might ask that would require a qualitative approach, a quantitative approach, and a mixed-method approach.

2. How might mixed-method designs deepen understanding of positive child outcomes in small-scale model programs that can, in turn, be applied to large-scale adaptations across populations and settings?

3. Maier lists writing space and printing issues as "small barriers" to carrying out implementation research in the real world. What other small barriers might you imagine?

    - What steps can be taken to prevent, remove, or mitigate such barriers, especially given the limited funding that research typically has?

4. Choose one of the six topics of inquiry listed in Chapter 9. Design a research study around one of these topics. Consider the methodological approaches that you might use and why, as well as the measurement considerations you will have to take into account. Additionally, consider the small barriers that might exist and how you might work around those barriers.

    - Why did you choose this topic?
    - What impact could your study have?

Moving forward.

Maier says that practitioners and researchers often get so busy that they don't take or have the time to pause and think about what they are doing and why, but doing so is key to getting it right.

Discussion Questions

Research Approach and Stance

1. How can taking time to think about your approach enhance your effectiveness in learning about what works?
2. How might taking the time to think about an approach enhance a policymaker's or practitioner's effectiveness?
    - Why might policymakers and practitioners not have the time to do this?
    - What can be done to mitigate those barriers?
3. In a very practical and concrete sense, what steps can you take to ensure that you are taking the time to think about what you are doing and why?
4. What practical steps can be taken so that your research team can have the opportunity to think and talk in depth with colleagues on an ongoing basis?

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SECTION 3, CHAPTER 10

HOW IMPLEMENTATION SCIENCE AND IMPROVEMENT SCIENCE CAN WORK TOGETHER TO IMPROVE EARLY CARE AND EDUCATION

Tamara G. Halle, Ph.D., Child Trends

In *How Implementation Science and Improvement Science Can Work Together to Improve Early Care and Education*, Tamara G. Halle explains the value of two frameworks to advance effective implementation and quality improvement in early childhood programs, policies, and practices. Despite nuanced differences between these approaches, they share enough similarities that they can be easily combined to support and promote evidence-based early childhood programs and systems by identifying what works in different contexts and conditions while providing insights for continuous improvement.

The summary above appears in the *Getting it Right Chapter Summaries* resource.

> **The bottom line is that what these frameworks are doing is organizing and helping stakeholders—including researchers, practitioners, and policymakers—to articulate and consider together what works, for whom, and under what conditions. Together they can help us see what we know and what we still need to know in order to effectively implement and improve services to children and families.**
> (Halle interview, 11/13/20)

The following themes, chapter excerpts from the *Getting it Right* full publication, and related questions are provided to stimulate additional engagement around the ideas and inquiry shared in this chapter.

1. Implementation science is the systematic inquiry into the processes by which interventions are enacted in the real world. It examines not only the interventions themselves but also the contextual factors and organizational supports that are necessary to create a hospitable environment for enacted interventions to achieve their intended outcomes (Century & Cassata, 2016; Damschroder et al., 2009; Granger, Pokorny, & Taft, 2016; Martinez-Beck, 2013; Peters et al., 2013; Peters, Tran, & Adam, 2013). It typically focuses on the implementation of an evidence-based program or practice. Consequently, implementation science, like some program evaluations, is interested in intervention fidelity, that is, the extent to which the intervention was actually delivered "as designed" and intended (Hulleman, Rimm-Kaufman, & Abry, 2013) (p. 227).

Improvement science involves a systematic examination of the methods and contextual factors that best facilitate quality improvement at the individual, program, and/or system level (Health Foundation, 2011; Langley et al., 2009; Shojania & Grimshaw, 2005). Improvement science draws heavily on process improvement models from business and manufacturing (Deming, 1986) and on organizational change management theory (Cameron & Green, 2009), as well as implementation science (Durlak & DuPre, 2008; Fixsen, Naoom, Blase, Friedman & Wallace, 2005; Meyers, Durlak, & Wandersman, 2012). Improvement science originated in manufacturing as the systematic study of

the series of steps and activities that make up a work process, with the aim of improving the quantity and/or quality of the work product and reducing costs. The inclusion of systems thinking and change management perspectives led to the study of how workers think together about improving their activities as a team. Improvement science strongly emphasizes the expertise of practitioners and their role as "active inquirers" who develop practice-based evidence (Bryk, 2015) (p. 227–228).

What, then, distinguishes these frameworks? The distinctions are subtle. Implementation science tends to focus on the conditions that support fidelity to evidence-based or evidence-informed practices as a means to achieve the intended outcomes of an intervention, whereas improvement science does not (see Table 1). Rather, improvement science tends to focus on innovation and adaptation based on evidence-based practices as a means to achieve improved outcomes. However, implementation science also acknowledges and tests adaptations and is interested in improved outcomes, not just fidelity and intended outcomes (Century & Cassata, 2016) (p. 229). See Table 1.

These frameworks came from very different disciplines—business and manufacturing and health care. They are helpful and can help us improve services to children and families. (Halle interview, 11/13/20)

Discussion Questions

Research Design and Methods I Program Evaluation

1. Why are implementation science and improvement science being brought to bear at this time to support the work of the early childhood education (ECE) field to achieve outcomes for children, especially those from low-income backgrounds?

    - What perspective does each approach bring?
    - What are the implications of an emphasis on innovation and adaptation of practice to fit the current context rather than fidelity to set program standards?

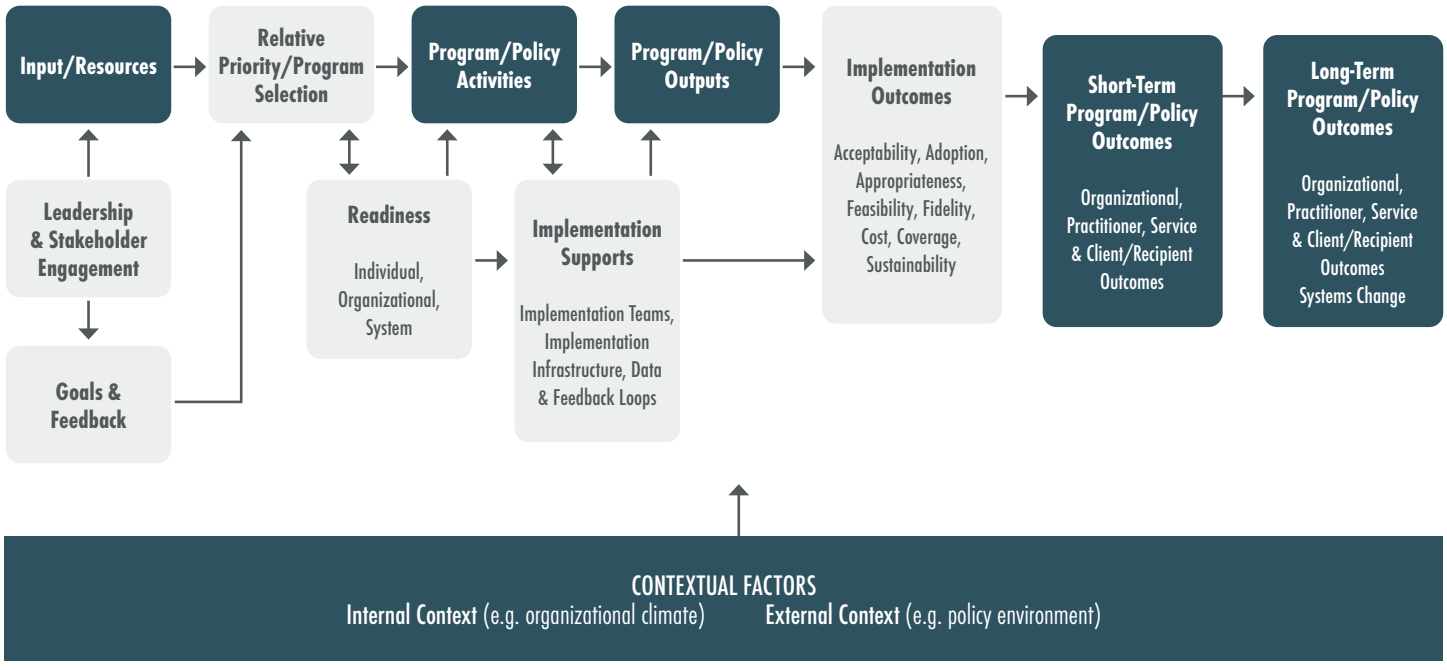
2. In what ways can implementation science and improvement science approaches contribute to moving the ECE field forward?

    - How do they do so separately?
    - How might they do so together?
    - What are the implications for research, policy, and practice in recognizing that evidence-based practices may need to be adapted to work in different contexts or for different individuals in new settings?
    - What is the importance of focusing on the use of data, implementation teams, and infrastructure throughout all stages of implementation?

3. Identify a research question about program evaluation and effectiveness and design a study using either implementation science or improvement science to answer it.

    - What considerations led you to that particular approach?
    - How will your decisions support your work better than the alternative?

2. Conceptual model incorporating implementation elements into traditional program and policy evaluations. Figure 1. (p. 233)



Note: Incorporates concepts from Bauer et al. (2015), Brennan et al. (2013), Damschroder et al. (2009), Metz et al. (2015), and Proctor et al. (2011).

Figure 1. It says to researchers: *"Paying attention to and finding measures that let you look at supports are important factors to capture in your evaluation. What the field needs is better measures of implementation supports. We need more validated measures in particular; but for now, we need to collect information about implementation supports qualitatively if not quantitatively in our program and policy evaluations. This will help us tell the story of what works, for whom, and under what conditions. And we need to write about these measures and findings in our research reports and journal articles. The more we share this in our reports, the more we will be able to build the field."* (Halle interview, 11/13/20)

Figure 1. It says to practitioners: *"Everyone is a stakeholder, everyone a leader, everyone a researcher. That is the ideal. To create a hospitable environment to sustain continuous quality improvement and to sustain best practices with the goal of achieving the desired, improved outcomes. This has to do with attitudes and mindset and with programmatic support and organizational structures. Examples of such programmatic support include time for staff to meet and talk about what is working for them; using staff meetings to talk about what works; and modeling data use in decision-making to test whether something is leading to improvements in practice."* (Halle interview, 11/13/20)

Discussion Questions

Research Design and Methods I Program Evaluation I Research Approach and Stance

1. How does knowing about the resources and supports in place in program implementation enhance a researcher's examination and understanding of what works, for whom, and under what conditions?
2. What types of data can be collected about implementation supports qualitatively and quantitatively?
3. What do you see as the impact of emphasizing the expertise of policymakers and their role as "decision makers" in creating systems and allocating resources that support programs and practice examined in your research?
4. What do you see as the impact of emphasizing the expertise of practitioners and their roles as "leaders" and "active inquirers" who develop practice-based evidence in your research?
5. What are the benefits of a feedback loop for research stakeholders?

6. How can feedback loops help communicate research findings and develop practical applications?

7. Consider the comparison of research questions and outcomes of interest in Table 2 (p. 234) and choose one that falls under implementation science and improvement science. How does each framework change the way you consider the research question/outcome?

    - How does each framework change the way you might design a study around your chosen question/outcome? What other differences exist between the two frameworks?

3. Research and evaluation design: home visiting as a real-world example.

Implementation science and improvement science argue for more practical and nimbler program development and for evaluation designs that can uncover the critical ingredients leading to successful implementation of early childhood interventions. Though some of these research design elements can be embedded in randomized control trials (RCTs), other innovative evaluation designs allow researchers, policymakers, and program designers to test innovations, identify important variability (Bryk, 2015), and get relatively quick answers to questions about what works for whom under what circumstances (p. 235).

As with most evaluations and continuous improvement efforts, asking the right questions and getting them answered produces better outcomes (p. 231).

Questions about data and feedback loops are related to another unique contribution of implementation science to program evaluation: the assessment of the existence, functioning, and quality of the implementation infrastructure to support an early childhood intervention model (p. 232).

Home visiting models have been the subject of many traditional program evaluations over the years. For example, the Home Visiting Evidence of Effectiveness (HomVEE) project, supported by the U.S. Department of Health and Human Services, recently reviewed the research evidence for 20 home visiting models (Sama-Miller et al., 2018). HomVEE includes evidence of effectiveness from well-designed, well-executed RCTs and quasi-experimental designs. Most evaluations of home visiting models measure participant outcomes targeted by the interventions, such as parenting practices, family functioning, child health and development, maternal health and mental health, child abuse and neglect, or maternal life course outcomes such as deferral of subsequent births (Gomby, Culross, & Behrman, 1999; Sama-Miller et al., 2018). As models have matured, longer-term outcomes have been monitored, such as reductions in juvenile delinquency, family violence, crime, and family economic self-sufficiency (Sama-Miller et al., 2018) (p. 240).

The home visiting field has also embraced a focus on continuous quality improvement. In 2013, the Home Visiting Collaborative Improvement and Innovation Network (HV CoIIN) was established by the Health Resources and Services Administration (HRSA) to accelerate improvement among MIECHV grantees (p. 245).

The HV CoIIN was active from September 2013 through August 2017. It demonstrated improvements in home visitors' knowledge and skills in the topical areas, as well as an increase in the use of data to achieve improvements in the targeted outcomes. However, it did not achieve the ambitious levels of performance hoped for across all performance metrics. For example, the rates of exclusive breastfeeding at 3 and 6 months rose only 3% instead of the hoped-for 20%. Specifically, exclusive breastfeeding at 3 months rose from 10% at baseline to 13.5% at the end of the CoIIN, and exclusive breastfeeding at 6 months rose from 5% at baseline to 8% at the end of the CoIIN (Arbour, Mackrain, Fitzgerald, & Atwood, 2018).

Nevertheless, the HV CoIIN was deemed successful in demonstrating that home visiting outcomes could be improved through this QI method, and many tools and resources were created through the HV CoIIN that could help spread and scale up improvement efforts among MIECHV grantees, potentially even those that had not participated in the CoIIN. As a result, a second, 4-year HV CoIIN (called HV CoIIN 2.0) was initiated in September 2017. HV CoIIN 2.0 will engage 25 state and territory MIECHV awardees and 250 local home visiting agencies in quality improvement efforts around two topic areas that were addressed in the first CoIIN: (a) maternal depression screening, access to treatment, and symptom reduction, and (b) early detection of and linkage to services for developmental risk. In addition, the collaborative teams in HV CoIIN 2.0 will develop, test, and spread improvements in three new topical areas, the first of which is intimate partner violence.[20] Awardees will be selected in three waves. Each wave will last about 12 to 18 months and will once again use the BSC [Breakthrough Series Collaborative] framework for quality improvement.

In sum, although improvements in performance metrics have been modest, positive qualitative outcomes associated with improvement science frameworks have led to additional investments in home visiting quality improvement collaboratives. Methods that focus on changing organizational climate to support continuous improvement seem promising compared to other quality improvement approaches that take a more individualized approach, such as one-on-one coaching. Early childhood researchers await with much interest and anticipation further evidence on the spread and sustainability of QI methods within organizations that participate in a BSC or CoIIN, as well as achievement of target performance metrics for the content addressed by these quality improvement models (p. 248–249).

Early childhood professionals should feel empowered to think of themselves as researchers and to collect data to see if they are reaching their goals. Ideally, they should be intentional about making a change and gathering information about if that change resulted in improvement. This is how feedback loops should look—collecting data and feeding it back into practice and systems change. (Halle interview, 11/13/20)

Discussion Questions

Research Design and Methods I Program Evaluation

1. Discuss the tension between measuring fidelity to a model and documenting adaptation or customization. What considerations are part of this conversation?
    - What difficulties might arise in measuring fidelity?
    - What difficulties might arise in documenting adaptation or customization?
2. What steps can be taken to help policymakers and practitioners gain access to research findings sooner?
    - What are the benefits of this?
    - How can findings be best integrated into instructional practice?
3. What do the studies on home visiting reveal about implementation context and program implementation?
4. What research questions regarding the implementation of home visiting programs lend themselves to an implementation vs. improvement science approach?

Moving forward.

For the next series of questions, think about the case study home-visiting example (p. 242 and p. 245).

Discussion Questions

Research Design and Methods I Program Evaluation

1. What are the lessons learned for the ECE field about the importance of implementation infrastructure and supports to influence practice?
    - What questions remain?
2. How did the implementation studies support continuous quality improvement?

SECTION 3, CHAPTER 11

THE CONTRIBUTIONS OF QUALITATIVE RESEARCH TO UNDERSTANDING IMPLEMENTATION OF EARLY CHILDHOOD POLICIES AND PROGRAMS

Sharon Ryan, Ed.D., Rutgers, The State University of New Jersey

In *The Contributions of Qualitative Research to Understanding Implementation of Early Childhood Policies and Programs,* Sharon Ryan argues that qualitative studies examining the implementation of early childhood programs can provide practical information to help policymakers and leaders understand why early childhood programs do or do not fulfill their promise. The early childhood field has assumed that with evidence of best practices, it is possible to scale up what works in one site to many programs. Yet, evidence-based practices are often transformed, adapted, or even ignored in local sites. Therefore, it is imperative to look across programs at a macro scale while also employing qualitative studies to go deeply into variations in context and implementation strategies. With more qualitative studies of implementation across multiple sites, it might be possible to identify which local adaptations make sense and which may unnecessarily undermine best practices for young children.

The summary above appears in the *Getting it Right Chapter Summaries* resource.

> **This chapter tries to elevate the voice of practitioners through qualitative research. They are the ones who make a difference for children and families. We've been remiss as a field to not use mixed research method designs more often, even though we need both qualitative and quantitative research to answer basic questions about what works and what adaptations are needed if all young children are to benefit from best practice. These research approaches complement each other as long as they are rigorously done.** (Ryan interview, 11/5/20)

The following themes, chapter excerpts from the *Getting it Right* full publication, and related questions are provided to stimulate additional engagement around the ideas and inquiry shared in this chapter.

1. More recently, implementation researchers have begun to theorize about implementation as enactment—a complicated network of relations that assumes the movement from innovation to practice is multidirectional, not just top down or bottom up, as well as deeply political (Datnow, 2006; Honig, 2006). From this perspective, the implementation process is influenced and shaped by many agents (from children to policymakers) with varying levels of power and influence within educational settings that constitute a nexus of multiple policies at any one time. Researchers working from an enactment perspective look at the politics of innovation, and how a wide range of stakeholders working in various networks resist, transform, and implement policy depending on organizational ethos and resources, professional theories, and perceived need (Braun, Maguire, & Ball, 2010) (p. 262).

> **Many people conducting research in our field don't know what it is like to be in the classroom, to run a program, or to run a site. They are good researchers but have not had hands-on experience. Now there is a group of researchers trying to explain what it is like to be on the ground on the front lines and the challenge of implementing a program and policy program… We need to learn about the work with and from them.** (Ryan interview, 11/3/20)

Discussion Questions

Research Design and Methods I Research Approach and Stance

1. What does "implementation as enactment" suggest about the importance of researchers understanding the goals and daily life of the educators, children, families, leaders, classrooms, and programs being studied?

    - What are the implications of this perspective for the work of a researcher?
    - What does this suggest about the value of qualitative research?
    - What does this suggest about the development of research questions?
    - What does this suggest about collaboration between researchers and practitioners?
    - What does this suggest about collaboration between researchers and policymakers?
    - What does this suggest about collaboration between researchers and children?

2. What is your understanding of indicators of rigorous qualitative research?
3. What are examples of how qualitative research can be used across the various stages of program implementation?
4. How can researchers use qualitative and quantitative approaches to fill in gaps in their research and understanding of issues?
5. How do qualitative and quantitative methodologies complement each other?

2. Qualitative or interpretive research is interested in how individuals construct their social worlds and how those worlds are mediated by context and culture (Glesne & Peshkin, 1992). Research from this perspective typically involves spending a lot of time in educational settings, observing and talking with participants to develop an understanding and interpretation of educational phenomena. Qualitative researchers interested in implementation therefore examine innovations in sites of practice, often observing what takes place in schools and early childhood settings; they also shadow key stakeholders (leaders, teachers, families, state-level policymakers, coaches, etc.) and question them about an innovation and the reasoning behind their approach to implementing it. Using both the mutual adaptation and the enactment perspective, this research tends to focus mostly on the implementation of various public policies guiding prekindergarten or preschool (p. 263).

> **Qualitative research can provide portraits of practice so you can imagine what it is like to be in that classroom setting, community, or what it is like to be that kid.** (Ryan interview, 11/3/20)

Discussion Questions

Research Approach and Stance

1. What does qualitative research capture that is different or missed through quantitative research methods?
2. What types of specific research questions could you answer with qualitative research that you cannot answer with quantitative research?
3. What are the implications for the field that there are fewer qualitative research studies? How can the field better prepare researchers to do such work?

4. What would you say to a potential funder to advocate for additional qualitative studies?

Research Design and Methods

1. How can qualitative research help to understand: leadership, organizational climate, contextual factors (e.g., setting, location, resource allocation, participant experience, and perspective), policy, and practice in application?

2. What other factors, apart from those listed in the text, might mediate the implementation of any educational reform?

3. Why is it important for qualitative research to examine relationships (or lack thereof) between prekindergarten (including infant, toddler, and preschool) and K-12 systems?

    - What might be revealed about philosophical and instructional goals?
    - What might be learned about fade-out?
    - What might be learned about equity and ensuring strong outcomes for all children?

4. How can qualitative research contribute to an agreed-upon vision and understanding of a continuum of education for children birth to grade 12 to move the field forward?

    - What would you want to communicate about philosophical and instruction goals?
    - What would you want to communicate about fade-out?
    - What would you want to communicate about equity and ensuring strong outcomes for all children?

3. Toward a quality implementation research agenda. Focusing on the implementation of early childhood programming in local sites of practice and on the perspectives of participants helps us understand whether and to what extent a policy is implemented as intended, makes it possible to see how policies and programs are shaped by context and local actors, and can help with theorizing change and improvements in practice. However, the research base is limited to a handful of studies, and few of these look at implementation across multiple sites, multiple states, or at all levels of the system. The research reviewed in this paper suggests three possible paths toward a more comprehensive, critical, and policy-capturing use of qualitative research to improve the implementation of high-quality early childhood education systems. These include moving beyond classrooms and school districts to investigate multiple levels of the early childhood system, focusing on multiple stakeholders in the early childhood system, and, finally, considering equity (p. 269).

There are times when, to understand implementation, you should start with rigorous qualitative work. My work calls for consideration of qualitative research to understand equity for teachers and kids… You have to hang out every day to understand the subtleties—the decisions that are made every day.
(Ryan interview, 11/2/20)

You can gain a deeper understanding of issues like equity that can't be captured in numbers. Qualitative and quantitative research can complement and enhance each other as long as they are rigorously done.
(Ryan interview, 11/3/20)

Discussion Questions

Research Design and Methods I Research Approach and Stance

1. Ryan suggests possible paths toward using qualitative research to improve the implementation of high-quality early childhood education (ECE) systems, such as investigating multiple levels of the system, focusing on all stakeholders, and examining issues of equity. What is similar about these paths? Different?

    - Choose one path you would focus on first and explain why.

2. How can qualitative research capture social, economic, and political factors that might be influencing program or policy implementation?

    - Pick a research question that you are interested in. Think about what a qualitative study in two very different communities seeking to answer that question might look like. How would the social, economic, and political factors in each of those contexts influence your research? Think about your methods, your data collection procedures, and how you might interpret the data.
    - What factors might researchers consider as they decide whether to examine an innovation vertically, horizontally, or across stages of development using a qualitative approach?
    - What are the possible benefits and limitations of each of these approaches?

Moving forward.

"It is one thing to learn research methodology and another to think conceptually and be able to see where your work fits in the field... In our field, your approach depends on how you are mentored rather than taking a look at what the field needs. You are lucky if you study with a researcher who is flexible in using methods. You have to build your skill set and be open to different ideas, to taking some risks." (Ryan interview, 11/2/20)

Discussion Questions

Research Approach and Stance

1. Why is it so important that researchers understand the daily life and context of a program they intend to study?
2. Why is it important for researchers to be flexible in what research methods can be utilized in implementation studies?
3. How might your responses to the questions in Sections 1, 2, and 3 above intentionally or unintentionally shape you as a researcher?

SECTION 3, CHAPTER 12

EQUITY AS A PERSPECTIVE FOR IMPLEMENTATION RESEARCH IN THE EARLY CHILDHOOD FIELD

Milagros Nores, Ph.D., National Institute for Early Education Research

In *Equity as a Perspective for Implementation Research in the Early Childhood Field*, Milagros Nores argues that addressing equity in implementation research is important to shape early childhood development investments and programs, particularly given that many of these have expanded under the principle of reducing inequities and disadvantages before kindergarten. Research with an equity lens helps define inequities in present conditions that may determine outcomes, ensures that the research itself does not introduce biases, and captures the extent to which programs and policies reduce or increase inequities.

The summary above appears in the *Getting it Right Chapter Summaries* resource.

> **Start with the research questions. Are you trying to understand differences? If you don't think about this from the beginning, equity will not be addressed. Then think about your methods so that you can dig into differences in opportunities. If the goal is to learn about and improve equity, we have to reach out to others to learn. To admit, "My ideas may be wrong." To be flexible. To modify research questions and our approach as needed to keep the thread of equity running throughout the work.**
>
> **I do acknowledge that it is an ambitious goal, but at least we have equity in mind and we are trying to go in that direction… Ultimately, at the end of the road, we want to bring out voices of all sectors.** (Nores interview, 10/21/20)

The following themes, chapter excerpts from the *Getting it Right* full publication, and related questions are provided to stimulate additional engagement around the ideas and inquiry shared in this chapter.

1. Research can not only help bring to light what works in the early years but can also document how programs contribute to increasing equity (or reducing inequity) and at what point in the education process they do so. That is, it can help us understand the effectiveness, efficiency, relevance, impact, and sustainability of ECED programs with respect to equity goals… ***Yet we cannot escape the fact that research itself—and the measures, researchers, observers, interviewers and other agents of research—may introduce biases of its own to any evaluation process.*** And if questions pertaining to equity are not asked, then equity is not assessed at all (p. 278).

Equity in research implies capturing the extent to which programs, policies, and interventions reduce or increase inequities, validly defining inequities in relation to the context and the disadvantages that are present, and integrating the concept of equity into all components of research, from the questions asked to the analysis and interpretation stage. In sum, understanding equity means being able to answer questions that attend to equity concerns. Who are the less advantaged, and how does this evaluation capture their experience with ECED policies and programs (p. 279)?

> **Are your questions addressing equity in any way? If you don't consider this at the beginning, equity won't be addressed… Be thoughtful about where to embed equity, trying to keep perspective alive throughout… Research has to be fluid when trying to engage individuals and families with experiences and obligations. Keep it alive—the equity thread has to be alive throughout. This is what allows you to be intentional—to make decisions with a purpose.** (Nores interview, 10/21/20)

Discussion Questions

Research Design and Methods I Research Approach and Stance

1. How can practitioners and researchers identify their own implicit and explicit biases?
2. What strategies can be used to reduce or mitigate bias in research and practice?
    - What advantages could collaboration in research have to reduce or mitigate these biases?
3. What effects might your own personal biases have on the research you conduct, interpret, and disseminate?
4. What biases and inequities exist in current early care and education (ECE) systems, research, and practice? How do these biases and inequities impact the experiences and outcomes of children participating in ECE programs?
5. Since researchers, observers, and interviewers may introduce their own biases in the evaluation process, how do you suggest researchers avoid exacerbating inequities across the various stages of the research process?
6. What are the implications for the field and the children and families served if equity is not integrated into all components of research?
7. What research practices lead to enhancing multicultural validity across the research process, and especially in measurement and assessment?

8. How can the preparation of ECE researchers better equip students to conduct research that does not exacerbate inequities?

9. What knowledge and skills do you think you need to prevent your research from perpetuating or exacerbating inequities?

10. How can research help support efforts to implement anti-bias, anti-racist instructional approaches?

    - What are the challenges in acknowledging and addressing these inequities?

2. Equity, cultural competence and responsiveness, and intersectional approaches all interconnect in central ways in the design, collection, analyses, and interpretation stages of the research work. *At their core is an emphasis on understanding the complexity of social and power dynamics and an explicit attempt to recognize, measure, and assess differences, as well as reduce biases (as much as possible) and employ culturally appropriate methods* (p. 281).

> **Maybe your questions address equity. Be open to modifying your questions and approach as you collect data. You start looking at data, why does it look in a certain pattern? Maybe there is something you missed... Maybe your instruments need to be adjusted depending on all that you learn. There are so many differences, including gender, disability, race/ethnicity, language, minority status, or religion... Which one are you trying to surface? They are not independent. Trying to surface some to make them visible can lead to actions that address them.** (Nores interview, 10/21/20)

Discussion Questions

Research Design and Methods I Research Approach and Stance

1. In what ways is equity-focused implementation research dependent upon what the researcher brings to the work as an individual?

2. How is research enhanced when it is grounded in equity-based perspectives, cultural competence, and intersectional approaches?

3. How do you explain the differences between the terms "culturally competent" and "culturally responsive"?

    - As a researcher, how could you be more culturally competent?
    - How could you be more culturally responsive?

4. How can an equity perspective, cultural competence, and intersectional approaches be promoted in research involving populations from diverse racial, ethnic, cultural, linguistic, and socioeconomic backgrounds, especially when these factors are not independent of one another and may differ from yours?

    - What personal/professional traits are required to do so?
    - How can you promote these traits within yourself and within other researchers on your team?
    - What questions and thought processes could you suggest?
    - How does research practice need to change to promote the factors listed above?
    - How might interpretation, dissemination, and application of your findings need to be handled?
    - How would you consider the different audiences digesting and implementing your research?

5. How can researchers actively engage all stakeholders across the research process to promote equity and cultural competence?

3. Components of research. Thomas and McKie (2006) provide examples of how researchers' values, beliefs, and biases can compromise an evaluation process. The questions asked and the questions not asked, what is focused on versus what is minimized, the evaluation approach selected versus the one discarded, the data collected versus the data disregarded, the interpretations made, and how and to whom the results are presented can all undermine an evaluation.

An approach to research that truly incorporates equity requires integrating equity concepts across all these components, from questions asked to interpretation (Hood, Hopson, & Kirkhart, 2015) (p. 284).

Many of us are trained in one way of doing research. Reach out to others. Think of yourself as coming together and questioning together. If the goal is to improve and capture aspects of equity that will improve ECE for all, come with the view of growing yourself and your team. If I'm not the right person to do a study (e.g., Native Americans), that leads me to look to others. It still could be my research, my team, but I step back and someone representing the community may need to move to the front. (Nores interview, 10/21/20)

Discussion Questions

Research Design and Methods I Research Approach and Stance

1. Choose three components of research from those listed in Chapter 12. In your role as a researcher:

    - What are the potential equity considerations for each?
    - Do they change by component?
    - Describe how you could change what you do to address inequities.
    - What are the challenges in doing so?
    - How do you reduce or mitigate bias?

Moving forward.

"I try to be humble. I strive to have an equity lens. As a researcher, it is impossible to address it all. In some places, issues of equity are less obvious. For example, race in a program that is 90% white. You still have gender, special ed, language. In a more rich context—you can see them—they are more obvious... Issues of equity exist everywhere. I'm not expecting myself or any researcher to see or know it all... But to be open to reaching out to learn. There is a whole other world out there."
(Nores interview, 10/21/20)

Discussion Questions

Research Approach and Stance

1. As you look across your work using an equity lens, what do you see differently than you did before?

    - What do you see differently about yourself as a researcher?
    - What do you see differently about your team?
    - What do you see differently about your research questions, methods, data collection, analysis, and dissemination of findings?
    - What do you see differently about your communication and engagement with research partners and subjects of study?
    - How can you ensure that you continue to use this equity lens moving forward in your work and your career?

ADDITIONAL RESOURCES

You may be at the point of collaborating with colleagues to integrate implementation research even more effectively into your work. Or perhaps you are introducing this valuable approach into your research for the first time. To support and guide you in moving forward, here are related resources:

Barnett, W. S., Kwanghee, J., Youn, M. J., & Frede, E. (2013). *Abbott Preschool Program longitudinal effects study: Fifth grade follow-up*. Retrieved from National Institute for Early Education Research: http://nieer.org/research-report/201311apples205th20grade-pdf

Brooks-Gunn, J., Markman-Pithers, L., & Rouse, C. E. (Eds.). (2016). Starting early: Education from prekindergarten to third grade (special issue). *The Future of Children*, *26*(2).

Brooks-Gunn, J., McLanahan, S. (Eds.). (2005). School readiness: Closing racial and ethnic gaps. *The Future of Children*, *15*(1).

Charmaz, K. (2014). *Constructing grounded theory (Introducing qualitative methods series)* (2nd ed.). SAGE Publications, Inc.

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Webinars

Getting it Right 2020 Webinar Series www.fcd-us.org/getting-it-right-webinars

Getting it Right: Using Implementation Research to Improve Outcomes in Early Care and Education Virtual Launch (June 30, 2020)

Getting it Right: Part 1: What more do we need to know about high-quality ECE programs (July 14, 2020)

Getting it Right: Part 2: Implementation Research in Early Care and Education (August 18, 2020)

Getting it Right: Part 3: Moving Towards Equity Through Implementation Research (September 2, 2020)

Websites

Learn more about the Foundation for Child Development's Young Scholars Program and view examples of implementation research
https://www.fcd-us.org/about-us/young-scholars-program

Learn more about the National Network of Education Research-Practice Partnerships (NNERPP)
https://nnerpp.rice.edu

Learn more about the New York City Early Childhood Research Network Studies
https://www.earlychildhoodresearchny.org/researchlibrary/projects/networkstudies

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Suggested Citation

Foundation for Child Development. (2021). *Getting it Right: The Conversation Guide for Preparing the Next Generation of Implementation Researchers.* New York, NY: Foundation for Child Development. https://www.fcd-us.org/assets/2021/10/GettingitRightGuideforImplementationResearchers.pdf