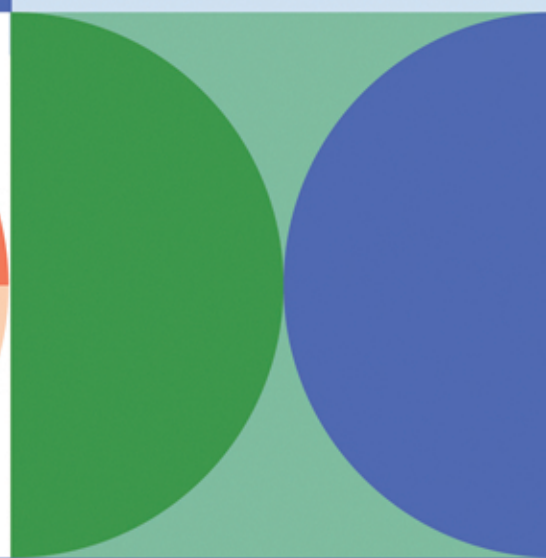
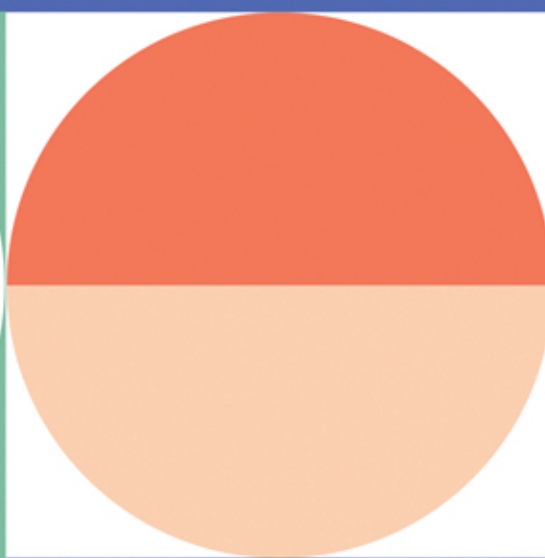


ESSENTIALS OF Practice- Based Coaching



Supporting
Effective
Practices in
Early Childhood



Patricia Snyder
Mary Louise Hemmeter
Lise Fox

Praise for
Essentials of Practice-Based Coaching

“For too long the early care and education field has sidelined the importance of early childhood educators’ competent practice. Given the expanding knowledge base about children’s early learning and the exponential growth of professional development opportunities, this book could not be more timely.”

—**Stacie G. Goffin, Ed.D.**, Principal,
Goffin Strategy Group, LLC, and author of *Early Childhood Education For A New Era: Leading For Our Profession*

“Written by the premier experts on the subject, this book is a must-have for anyone using or supporting practice-based coaching in early childhood settings. Filled with countless tips and strategies, this book will be an incredibly useful tool for both new and experienced practice-based coaches—and everyone in between.”

—**Rob Corso, Ph.D.**, Senior Researcher,
Vanderbilt University

“What a gift! Snyder, Hemmeter, and Fox provide us with a thorough grounding in the theory and research undergirding practice-based coaching. Then, they offer practical steps and guides for implementing the approach. This is an indispensable resource for understanding and implementing practice-based coaching.”

—**Susan R. Sandall, Ph.D.**, Professor Emeritus,
University of Washington

“A thorough description of effective supports for promoting best practices with infants, toddlers, and preschoolers. The coaching model is compelling, and the case examples and implementation resources are especially rich.”

—**Douglas R. Powell, Ph.D.**, Distinguished Professor Emeritus,
Department of Human Development and Family Studies, Purdue University

“A thoroughly researched and thoughtfully designed description of practice-based coaching that integrates evidence and recommended practice with the implementation strategies and procedures for early childhood educators to apply the model in their programs. The book capitalizes on the authors’ excellence in research and extensive experience in professional development and coaching to produce a highly readable guide with accompanying field-tested resources ready for use.”

—**Juliann J. Woods, Ph.D.**, SLP-CCC, Professor Emeritus,
School of Communication Science and Disorders,
Communication and Early Childhood Research and
Practice Center, Florida State University

“An essential book on one of the most important education and policy issues of our time—supporting teacher quality through coaching. Snyder, Hemmeter, and Fox, internationally renowned experts in coaching, artfully and clearly synthesize the empirical evidence supporting the effectiveness of practice-based coaching. This book will be used as the ‘gold standard’ for implementing evidenced-based coaching in early childhood classrooms.”

—**Barbara A. Wasik, Ph.D.**, PNC Endowed Chair in Early Childhood Education,
College of Education and Human Development, Temple University

“The quintessential resource for new and experienced coaches alike. Readers will appreciate the authors’ detailing of the theoretical foundations and professional applications of practice-based coaching.”

—**Alexandra Stoerger**, University of Miami,
Early Steps program

“The authoritative, must-have resource for optimal implementation [of practice-based coaching]. The editors and contributors of this practical volume have provided a valuable guide, packed with tools and tips, that I will recommend to every team involved with young children’s care and education.”

— **Glen Dunlap, Ph.D.**, University of Nevada, Reno

“Each chapter is rich with concrete examples that clearly illustrate how practice-based coaching works in real-life settings. This book is a real treasure for anyone who is engaged in supporting teachers in the implementation of practices that promote children’s early learning and development.”

— **Judith J. Carta, Ph.D.**, Senior Scientist and Professor,
Institute for Life-Span Studies/Department of Special Education,
University of Kansas

“This book provides a roadmap for anyone considering coaching and should be used by all teams in planning and implementing their professional development programs. Implementation is ‘ready-made’ with the sample forms and tools, including agendas, logs, checklists, and schedules providing helpful organizational aids for new and experienced coaches.”

— **Patty Salcedo, M.A.**, Desired Results Access Project (California)

“A comprehensive text that walks readers through the research that informs practice-based coaching to the practical implications and how to do it with fidelity.”

— **Michaelene M. Ostrosky, Ph.D.**, Grayce Wicall Gauthier Professor of Education,
Department of Special Education, College of Education, University of Illinois

“A step-by-step guide, practical tips, and easy-to-use templates that coaches can use to implement practice-based coaching with fidelity. The concepts presented in this book are grounded in theory, science, and real-life practice. This book is a must for all professionals seeking to coach teachers or parents.”

— **Michelle Schladant, Ph.D.**, Assistant Professor,
University of Miami; PI, Step Up Assistive Technology Project,
Mailman Center for Child Development University of Miami

“Practice-based coaching is the finishing process wherein practitioners can become expert purveyors of early intervention and early childhood special education services with the results children and families desire.”

— **Charles R. Greenwood, Ph.D.**, Senior Scientist,
Institute for Life Span Studies, Juniper Gardens Children’s Project,
University of Kansas

“This rich and robust package of PBC research, the coaching framework, and implementation considerations will significantly support leaders, coaches, and coachees in new and critical ways. It provides an evidence-based coaching roadmap to ensure the fidelity and delivery of effective practices, and it fully supports early childhood practitioners to continue to enhance their knowledge, skills, and dispositions in a collaborative coaching partnership!”

— **Therese Snyder, M.A.**, Desired Results Access Project (California)

“A valuable tool for anyone whose role involves supporting early education providers in the implementation of teaching practices. This book is the definitive guide to PBC implementation and an essential tool for making measurable improvements in practitioner or caregivers’ implementation of evidence-based practices for promoting positive outcomes for young children.”

— **Kathryn M. Bigelow, Ph.D.**, Assistant Research Professor,
Juniper Gardens Children’s Project, Institute for Life Span Studies,
University of Kansas

Essentials of Practice-Based Coaching

Supporting Effective Practices in Early Childhood

by

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1

Overview of Practice-Based Coaching

Theoretical, Empirical, and Practice-Based Rationales

Patricia Snyder, Mary Louise Hemmeter, and Lise Fox

INTRODUCTION

Practice-Based Coaching (PBC) is an empirically based coaching framework designed to support practitioners' or caregivers' implementation of evidence-based or recommended practices that lead to positive developmental and learning outcomes for infants, toddlers, and preschoolers (Snyder et al., 2015). As shown in Figure 1.1, the PBC framework has three key components: 1) shared goals and action planning, 2) focused observation, and 3) reflection and feedback. These components occur in the context of a collaborative coaching partnership, which is focused explicitly on supporting implementation of evidence-based or recommended practices.

Each component of PBC and the essential elements needed to implement it as intended, or with fidelity, are the focus of this book. In this chapter, we set the context for the chapters that follow by providing background information about PBC and the theoretical, empirical, and practice-based rationales that support it.

The term *evidence-based practices* refers to effective practices that, when implemented as intended, have been demonstrated through empirical research to support children's development and learning. *Recommended practices* refer to practices that are informed by the best available research evidence, the knowledge and wisdom gained through experiences applying practices in authentic contexts, and the values of an organization or field of practice. Examples of recommended practices are the Division for Early Childhood Recommended Practices in Early Intervention/Early Childhood Special Education (Division for Early Childhood, 2014). Throughout the book, the term *effective practices* will be used to encompass both types of practices. Chapter 5 provides information about how the term *practice* is defined within the PBC framework.

BACKGROUND FOR PRACTICE-BASED COACHING

PBC was initially developed, validated, and evaluated for efficacy as part of an Institute of Education Sciences (IES)-funded research project. The project was focused on evaluating the effects of professional development, which included what is now known as PBC, on preschool



Figure 1.1. Practice-Based Coaching framework.

teachers' use of embedded instruction practices. This work began in 2007 and continues to the present time (e.g., Snyder, Hemmeter, et al., 2018).

PBC was subsequently used in other IES-funded projects conducted by the editors and contributors to this text. In addition to embedded instruction, these projects have included the use of PBC along with workshops and other implementation aids to support practitioners' use of social, emotional, and behavioral practices reflected in the Pyramid Model (e.g., Hemmeter et al., 2016; Hemmeter et al., 2021). PBC was the coaching framework used as part of the Head Start National Center on Quality Teaching and Learning (Head Start/ECLKC: Early Childhood Learning and Knowledge Center, n.d.). PBC is recognized as a critical professional development approach for the implementation of the Pyramid Model (von der Embse et al., 2019). It is also being used to support practitioners' and caregivers' implementation of evidence-based practices in early intervention, early childhood special education, and early care and education contexts (e.g., Fox, 2017; National Center for Pyramid Model Innovations, 2020; Snyder, Woods, et al., 2018).

Beyond projects in which contributors to this book have developed, validated, implemented, and evaluated PBC, many professional development providers, faculty in practitioner preparation programs, researchers, training and technical assistance personnel, coaches, program leaders, and practitioners are using PBC. For example, PBC has been used in studies focused on the BEST in CLASS intervention. BEST in CLASS is a Tier 2 intervention designed to address the needs of children (preschool to second grade) who demonstrate persistent and intensive challenging behaviors in classroom settings, which place them at future risk for developing social-emotional learning difficulties (e.g., Conroy et al., 2019). In addition, the most recent Head Start Program Performance Standards require that programs implement a research-based coordinated coaching strategy for education staff (Training and Professional Development, 2016). PBC is recognized as a research-based coordinated coaching strategy.

Given the widespread use of PBC in early childhood settings, we determined that a need existed for a book that contains practical and evidence-informed information on the essentials of PBC. In this book, we provide detailed information about the PBC framework and each component of the framework, case story application examples, and resources to support fidelity of PBC implementation. After spending more than 16 years developing, refining, and evaluating PBC, we are committed to disseminating more widely this research-based coaching approach to support those who coach, those who are being coached, and those who oversee the implementation of professional development, including coaching.

Throughout the book, when appropriate, we refer to those who are being coached as *coachees* and those who are coaching as *coaches*. Coachees are practitioners in early childhood programs such as early care and education programs; state-funded preschool programs; Early Head Start/Head Start programs; inclusive infant, toddler, and preschool programs; home-visiting programs; and early intervention programs. Coachees can also be caregivers (e.g., parent, grandparent, family care provider). Coaches are individuals with a designated role as a coach or caregiver coach. Coaches can be internal to the program or external to the program as professional development or training and technical assistance providers.

Essentials of Practice-Based Coaching provides guidance on the use of PBC and the evaluation of how PBC is being implemented and whether it is being implemented as intended or with fidelity. A focus on implementation fidelity is particularly important for those adopting PBC. Promising findings related to practitioners' and caregivers' fidelity of implementation of effective practices following receipt of professional development that includes PBC, and associated positive child outcomes, are unlikely to be realized outside controlled research studies without attention to fidelity. This latter assertion is particularly important given that consensus has not been reached about how coaching should be defined and how components of coaching should be implemented across various early childhood sectors and contexts (Artman-Meeker et al., 2015; O'Keefe, 2017).

Practice-Based Coaching and Other Coaching Frameworks

Several coaching definitions have been offered in early childhood and related literatures, and the number of coaching frameworks or models appears to be growing. This growth is likely the result of multiple reviews and meta-analyses that have highlighted the promise of coaching as a job-embedded professional development strategy in early childhood and Kindergarten through Grade 12 (K–12) contexts (e.g., Artman-Meeker et al., 2015; Kraft et al., 2018; Lloyd & Modlin, 2012).

Table 1.1 shows key elements from coaching definitions or frameworks commonly used in early childhood or K–12 education. The coaching definitions in Table 1.1 are from the National Association for the Education of Young Children and the National Association of Child Care Resource and Referral Agencies (2012) and Cusumano and Preston (2018). In addition to PBC, frameworks included in Table 1.1 are an early childhood coaching framework (Rush & Shelden, 2020) and an instructional coaching framework (Knight, 2007). Although variations exist, commonalities are evident. Comparing the key elements of PBC to the definitions and other frameworks shown in Table 1.1 helps identify the common or distinct elements of PBC.

Each definition or framework identifies coaching as a relationship, partnership, or collaboration. In PBC, we distinguish a collaborative partnership from a relationship. A relationship is a broader term used to describe connections, often emotional, between two or more people. In PBC, a collaborative partnership focuses on connections to achieve goals. In PBC, the partnership is formed so the coach can support the coachees' practice-focused goals. All aspects of PBC—conducting practice-focused strengths and needs assessment, goal setting and

Table 1.1. Comparing key elements from coaching definitions or coaching frameworks

Sources for definitions and coaching frameworks					
Key elements from definition	Coaching definition NAEYC/NACCRRRA (2012)	Coaching definition Cusumano & Preston (2018)	Early childhood coaching Rush & Shelden (2020)	Instructional coaching Knight (2007)	Practice-based coaching Snyder et al. (2015)
Partnership or relationship	Relationship-based process	Collaborative effort	Collaborative coach–coachee relationship	Partnership through collaboration	Collaborative partnership
Coach	Expert with specialized and adult learning knowledge and skills	Content knowledge about practice or program is critical selection criteria	Expert based	Individuals who are full-time professional developers on-site in schools	Individual with specialized knowledge, dispositions, and skills in coaching and in the practices that are the focus of coaching
Purpose or desired outcome	Build [coachee] capacity	Support and transfer skills gained during professional development to use with fidelity in practice context. Improve precision, fluency, and use across settings, recipients, and time while maintaining fidelity of practice implementation	Coachee competence and confidence to engage in self-reflection, self-correction, and generalization of new skills and strategies to other situations	Work with teachers to help them incorporate research-based instructional practices	Support practitioners or caregivers to implement effective practices with fidelity during use in practice contexts
Coaching focus	Specific professional dispositions, skills, or behaviors	Specific skills gained during professional development. Behaviors that support performance feedback, behavior change, and use of skills in job-embedded settings	Acknowledge and improve existing knowledge and practices, develop new skills, and promote continuous self-assessment and learning on the part of the coachee	Engage in partnership communications with teachers to support them to identify goals so coach can help teachers create a plan for realizing their professional goals	Support acquisition, fluency, maintenance, and generalization of practice implementation
Components explicitly included	Goal setting	Prompting Performance feedback Creating an enabling and collaborative context Data use Application of content knowledge Continuum of supports Scaffolding	Joint planning Observation Action/Practice Reflection Feedback	Enroll Identify Explain Model Observe Explore Support Reflect	Strengths and needs assessment Shared goals and action planning Focused observation Reflection and feedback Collaborative partnerships
Delivery method	Face to face, distance (technology based), hybrid	Not explicitly specified	Not explicitly specified although descriptions and examples are face to face	Face to face, with model lessons delivered by instructional coaches	Face to face, distance (technology based), hybrid
Duration	One time or series of sessions, dependent on achievement of goal	Never ends, but fades over time with a continuum of support tied to data related to use of skills (i.e., fidelity data)	Short term or long term depending on the complexity of the innovation learned and its application to the work setting and the number of different formal learning opportunities that occur	Series of sessions depending on the teacher's stage of change	Coaching cycles: Number of cycles depends on fidelity of practice implementation and number of practices
Theoretical model or approach undergirding	—	Implementation science and implementation research (Fixsen & Blase, 2008; Fixsen et al., 2005)	Contextual model (Stober & Grant, 2006a, 2006b)	Partnership approach (Knight, 1999)	Science of human behavior/ Organizational behavior management (Crow & Snyder, 1998) Behavioral coaching (Seniuk et al., 2013) Implementation science and implementation research/Active Implementation Frameworks (Fixsen & Blase, 2008; Fixsen et al., 2005)

Key: NAEYC, National Association for the Education of Young Children; NACCRRRA, National Association of Child Care Resource and Referral Agencies.

action planning, focused observation, and reflection and feedback—occur in the context of a collaborative partnership.

Across definitions and frameworks, coaches are identified as individuals with expertise in professional development, coaching, and adult learning principles. In PBC, we include these areas of expertise as well as explicitly acknowledging that coaches need specialized knowledge and skills in the practices that will be the focus of coaching (Snyder et al., 2015). The purposes or desired outcomes of coaching are to build coachees' capacity, to strengthen their practice-focused competence and confidence, and to support them to implement effective practices with fidelity. In PBC, we specifically identify fidelity of practice implementation as the desired coaching outcome.

A focus on enhancing knowledge, skills, or practices is evident across the definitions and frameworks. In PBC, the focus is on coachees' acquisition, fluency, maintenance, and generalization of practices. We define a *practice* as an observable or measurable action or behavior of a coachee. PBC guides practice implementation and supports contextual adaptation while ensuring practice integrity (Cusumano & Preston, 2018).

Components of coaching differ somewhat across the definitions and frameworks. The National Association for the Education of Young Children (NAEYC)/National Association of Child Care Resource and Referral Agencies (NACCRRRA) definition only specifies a goal-setting component. Cusumano and Preston (2018) identify seven components in their coaching profile. In PBC, instructional coaching, and early childhood coaching, common components include setting goals, action planning, observation, and reflection. Feedback is included as a component in early childhood coaching, Cusumano and Preston's coaching profile, and PBC. PBC distinguishes supportive and constructive feedback. PBC includes practice-focused strengths and needs assessment as part of goal setting and action planning, which is a distinct component.

As shown in Table 1.1, face-to-face interactions between the coach and coachee are recognized as a delivery method. In addition, NAEYC/NACCRRRA and PBC include distance- or technology-based or hybrid delivery methods (e.g., live observations, distance reflection and feedback meetings). The duration of coaching is noted to range from one session to a series of sessions, depending on the number of practices and the coachees' stage of change or fidelity of practice implementation.

Consensus and converging evidence suggest that coaching should include planning, observation, action, reflection, feedback, and alliance building or collaborative partnerships (Kraft et al., 2018; Kunemund et al., 2021; Snyder et al., 2015). PBC includes each of these components as part: goal setting and action planning, focused observation, and reflection and feedback. In PBC, these components occur in the context of a collaborative partnership and are guided by practice-focused strengths and needs assessments.

Theoretical Foundations of Practice-Based Coaching

The coaching definitions and frameworks shown in Table 1.1 have been influenced by other models or frameworks. For example, Rush and Shelden (2020) used the contextual model for coaching described by Stober and Grant (2006a) to inform the coaching processes used in their early childhood coaching framework. Knight's instructional coaching model has its conceptual roots in a partnership approach (Knight, 1999, 2007). Cusumano and Preston's Practice

Profile for Coaching (2018) is based in the active implementation science frameworks and implementation research.

PBC has been influenced by principles from the science of human behavior and a related discipline known as organizational behavior management (OBM; Crow & Snyder, 1998). PBC is aligned with behavioral coaching approaches based on the science of

PBC Theoretical Influences

- Principles from the science of human behavior
- Organizational behavior management principles and practices
- Implementation science and implementation research

human behavior and OBM (Seniuk et al., 2013) and how coaching is described as a competency driver in active implementation science frameworks (Cusumano & Preston, 2018; Fixsen & Blase, 2008).

Science of Human Behavior, Organizational Behavior Management, and Behavioral Coaching Influences These PBC theoretical influences focus on applying principles from the science of human behavior to human performance. In PBC, performance is related to both fidelity of coaching implementation and fidelity of practice implementation in job-embedded early childhood contexts (“organizations”), such as classrooms or homes. Applying OBM principles to PBC, Snyder et al. (2012) described four major functions of coaching: provide support, analyze application, offer feedback, and adapt results.

Using principles from the science of human behavior, Seniuk et al. (2013) identified six characteristics of effective behavioral coaching initially developed by Martin and Hrycaiko (1983). These characteristics were based on dimensions from the science of human behavior initially described by Baer et al. (1968). Table 1.2 shows these characteristics and how they have been applied in PBC for both coaches and coachees. Many structural and process features of PBC are based on these six characteristics.

PBC has an explicit focus on coachees’ actions or behaviors and emphasizes repeated, job-embedded learning opportunities to prompt, practice, reflect on, and receive feedback about implementation, which is supported by OBM principles (Crow & Snyder, 1998). PBC acknowledges that adult learners are both autonomous and collaborative. A collaborative partnership provides opportunities for those being coached to implement practices independently and with the support of a coach. When coachees are implementing newly learned actions or behaviors, having a collaborative partnership with a coach who provides effective prompts and explicit feedback about practice implementation helps shape successive approximations toward fidelity of practice implementation. In addition to helping support fidelity of practice implementation, the provision of implementation supports and resources has been identified by coachees as an important motivator for practice implementation and for building and sustaining a collaborative coaching partnership (Shannon et al., 2015; Shannon, Snyder, et al., 2021). Strengths and needs assessments are important for gathering data about learners’ current practices and determining priorities and motivations for enhancement, refinement, or change (Snyder & Wolfe, 2008).

Consistent with principles from OBM and behavioral coaching, setting performance-based practice goals supports data-informed decision making and accountability. Goals based on individual priorities, strengths, and needs are important when coaching for behavior change. Action plans are accountability plans tailored to the coachees’ priorities and their stage and pace of practice learning. Chapter 6 details how to write SMA²R²T (specific, measurable, action-oriented/achievable, realistic/relevant, and time sensitive) goals and action plans. Focused observation likely helps motivate the practitioner to use a practice or practices (Kretlow & Bartholomew, 2010). Chapter 7 describes how to conduct observations focused on fidelity of practice implementation. With respect to reflection, asking open-ended questions and providing reflective comments are strategies that can eventually lead to self-reflection, autonomy, and self-efficacy (Frates et al., 2011). The provision of feedback based on implementation (also known as performance-based feedback) has been demonstrated to support fidelity of implementation of effective practices (Barton et al., 2011; Fallon et al., 2015). Practitioners have also reported that they find performance feedback to be useful and acceptable (Shannon et al., 2015; Shannon, Snyder, et al., 2021). Chapter 8 includes resources for supporting reflection and providing feedback within the PBC framework.

Implementation Science and Research Implementation has been defined as a specified set of activities designed to put into use practices or programs with known dimensions (Fixsen et al., 2005). Implementation science refers to understanding processes and procedures that promote or impede the transfer, adoption, and use of evidence-based intervention practices in real-world

Table 1.2. Principles from science of human behavior and behavioral coaching as applied in practice-based coaching for coaches and coachees

Principle	Applied in PBC for coaches	Applied in PBC for coachees
Measurement of performance is specific, detailed, and frequent.	Measurement of PBC implementation (e.g., dose, coaching strategies used, coaching component fidelity indicators) by using a coaching log for every coaching session	Measurement of practice implementation using content-aligned practice fidelity assessments (e.g., Teaching Pyramid Observation Tool, Hemmeter et al., 2014; Embedded Instruction Observation System, Snyder et al., 2009, at regular intervals
Clear distinction between the development and maintenance of behavior and positive procedures are emphasized for both.	Initial professional development and measures of knowledge and skill for coaches on coaching behaviors and practices that are the focus of coaching with ongoing supportive and constructive feedback provided Ongoing measures of coaching and practice fidelity with supportive and constructive feedback provided	Initial professional development and coaching for acquisition of knowledge and skills related to practice implementation focus with supportive and constructive feedback provided Ongoing coaching and other forms of professional development to build practice fluency, generalization, and maintenance with supportive and constructive feedback provided
Improvement is measured with respect to own performance.	Fidelity of coaching is measured and feedback is provided about each coach's performance using criterion-based thresholds rather than relative to other coaches' performance. Self-monitoring and self-evaluation of coaching in relation to coaching fidelity feedback received from others Provision of supportive and constructive feedback	Fidelity of practice implementation is measured and feedback is provided about each coachee's performance using criterion-based thresholds rather than relative to other coachees' performance. Self-monitoring and self-evaluation of action plan goals and steps with reciprocal verbal reflections between coach and coachee Provision of supportive and constructive feedback
Emphasis is on coaching as a science rather than as an art.	Coaches use data-based approaches to inform coaching practices implementation and to examine coaching fidelity and coaches and child or family outcomes.	Coachee, with support from coach, uses data-based approaches to inform practice implementation and to examine intervention fidelity and child or family outcomes.
Science of human behavior tactics are used to nudge and boost ^a behavior.	Coach self-assesses and discusses with lead coach strengths and needs relative to PBC and practice implementation Coach uses strategies from science of human behavior to support change in coachee's behavior in desired directions (e.g., supportive feedback, constructive feedback, consideration of motivators and prompts to set occasion for behavior). Lead coach uses strategies to support change in coach's behavior in desired directions (e.g., supportive feedback, constructive feedback, consideration of motivators, prompts to set occasion for behavior). Coach uses data or video to demonstrate change in coaching behavior.	Coachee self-assesses and discusses with coach strengths and needs relative to practice implementation. Coachee identifies preferred coaching strategies and processes throughout coaching with support from coach. Coachee uses data or video from coach and self to demonstrate practice (behavior) change.
Social validity	Social validity data about PBC structural and process features and practices that are the focus of PBC are gathered from coaches to examine feasibility, acceptability, utility, response-costs, and satisfaction.	Social validity data about PBC structural and process features and practices that are the focus of PBC are gathered from coachees to examine feasibility, acceptability, utility, response-costs, and satisfaction.

^aNudges and boosts for behavior refer to simplified four-term contingencies associated with human behavior (i.e., motivating operations, antecedent stimuli, behavior, consequences) as described in Crow (2017). (Key: PBC, practice-based coaching).

contexts (Kelly & Perkins, 2014). Implementation research focuses on the scientific study of methods to promote the systematic uptake of evidence-based practices into routine practice (Eccles et al., 2009). In their literature synthesis focused on implementation research, Fixsen and colleagues (2005) identified coaching as a core component or driver of successful implementation of evidence-based practices and programs. Along with staff selection and training (i.e., professional development), coaching is depicted in the active implementation science drivers framework as a key competency driver (Fixsen & Blase, 2008; see Figure 1.2).

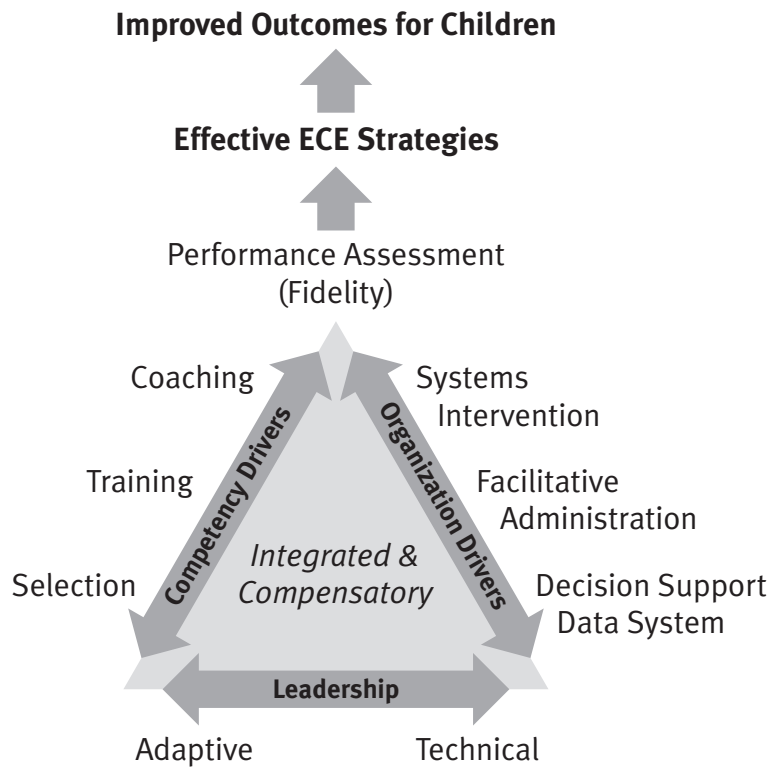


Figure 1.2. Coaching as a competency driver in active implementation science frameworks and research. (Source: Fixsen & Blase, 2008.) (Key: ECE, early childhood education.)

PBC is theoretically and operationally aligned with coaching as depicted in the Fixsen and Blase framework and with the Practice Profile for Coaching (Cusumano & Preston, 2018), which was developed as part of the State Implementation and Scale-Up of Evidence-Based Practices Center. Coaching is defined in the Practice Profile as a process that supports and transfers skills acquired during professional development to use in practice contexts. Coaching shapes newly learned skills with a focus on improving precision, fluency, and use of practices across settings, recipients, and time, while maintaining fidelity of practice implementation. According to Cusumano and Preston, coaching should be informed by data that documents fidelity of coaching implementation, fidelity of practice implementation, the intensity of coaching support, and outcomes. Essential components of coaching, which are also reflected in PBC, are prompting for practice implementation and for reflection and feedback, the provision of performance feedback, creating an enabling and collaborative context, data use, application of content knowledge, continuum of supports for coaches and coachees, and scaffolding for practice learning and implementation.

Theory of Change for Practice-Based Coaching

Based on theoretical and empirical foundations, an abbreviated theory of change for PBC is shown in Figure 1.3. Professional development that includes PBC, when implemented with fidelity, is associated with fidelity of practice implementation (i.e., effective early childhood practices). Implementation of these practices, in turn, is associated with improved or

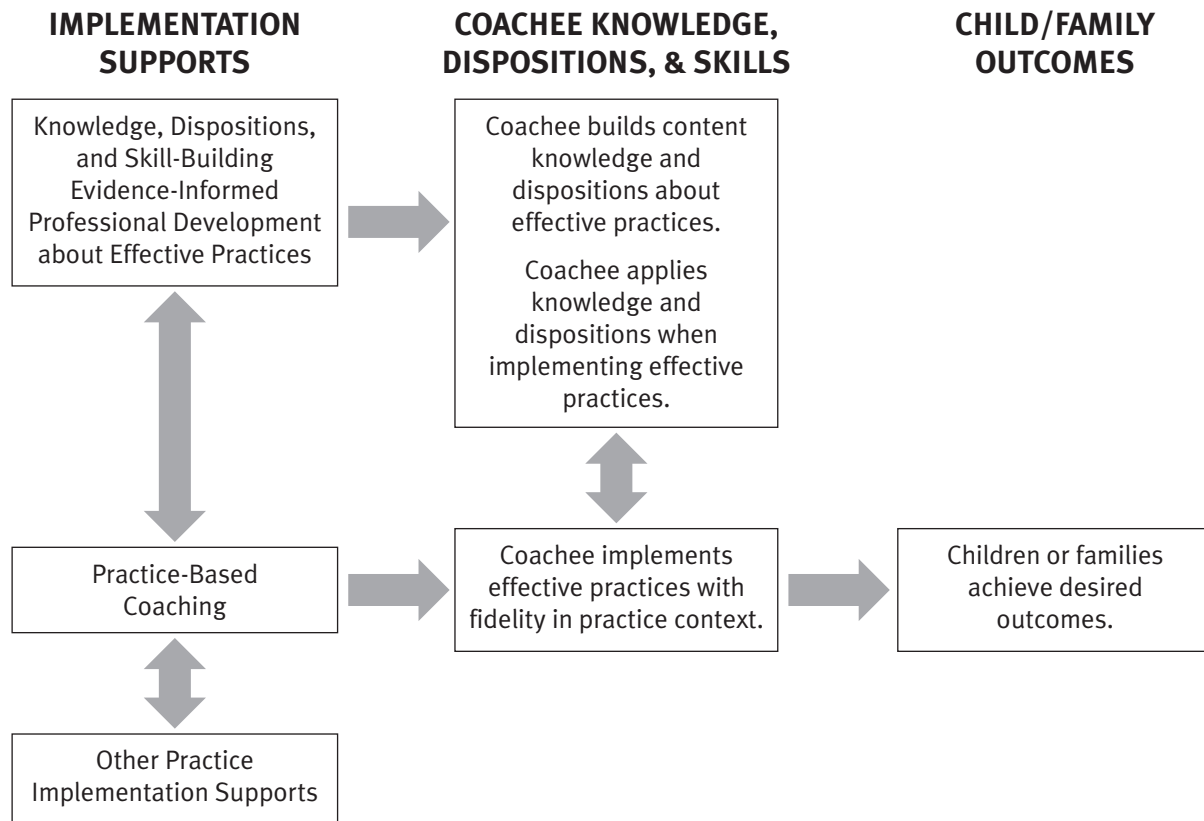


Figure 1.3. Abbreviated theory of change for practice-based coaching.

desired child developmental and learning or family outcomes. This theory of change has been used to guide research on PBC and its use in training and technical assistance contexts (e.g., Conroy et al., 2015; Hemmeter et al., 2016; Hemmeter et al., 2020; Snyder, Hemmeter et al., 2018; Sutherland et al., 2018).

Empirical Foundation for Structural, Content, and Process Features of Practice-Based Coaching

Literature reviews, systematic reviews, and meta-analyses have identified key structural, content, and process features of coaching that support fidelity of practice or intervention implementation (Artman-Meeker et al., 2015; Kraft et al., 2018; Kretlow & Bartholomew, 2010; Lloyd & Modlin, 2012; Powell & Diamond, 2013; Snyder et al. 2012). These features align with those identified for professional development when the desired outcome is fidelity of coachees' practice implementation in job-embedded contexts and associated positive outcomes for children or their families (e.g., Zaslow et al., 2010). A description of these structural, content, and process features and their relation to PBC follows.

Coaching should be coherent and sustained versus episodic. It should be job-embedded, and it should focus on a set of high-leverage (Ball & Forzani, 2011) effective practices relevant for the coachees' practice context. Multiple exemplars of the practices should be available through both modeling and video modeling. Contextual fit, defined as the alignment between the practices that are the focus of coaching and their relevance for the coachees' practice context,

particularly alignment with curricula or practices already being used, should be explicitly emphasized. Embedded opportunities for practice implementation with reflection and feedback are essential. Explicit linkages between practice implementation and child learning outcomes should be emphasized. Strategies used by coaches should be defined, and the use of these strategies during coaching should be documented. Coaches should receive professional development to ensure fidelity of coaching and practice implementation (Snyder et al., 2015).

Key Features of PBC

- Coherent and sustained
- Job-embedded
- Focused on high-leverage and effective practices
- Multiple examples of the practices that are the content focus of PBC through modeling and video modeling
- Emphasis on contextual fit between the practices that are the focus of PBC and the coachees' practice context
- Embedded opportunities for practice implementation in context
- Reflection and feedback about practice implementation
- Use of effective coaching strategies
- Collaborative partnerships between coach and coachee
- Documentation of coaching dose, dose formats, and coaching strategies
- Coaches receive professional development to ensure fidelity of PBC and practice implementation

In their meta-analysis of coaching, Kraft et al. (2018) reported findings from 60 studies, 31 of which were conducted in early childhood contexts. These authors identified essential features of coaching, which were used to frame their meta-analysis: (a) *individualized*, coaching sessions are one-on-one; (b) *time intensive*, coaches and coachees interact at least every few weeks; (c) *sustained*, coachees receive coaching over a semester or year(s); (d) *context specific*, coaching occurs in job-embedded contexts; and (e) *focused*, coaches work with coachees to engage in implementation of specific evidence-based practices. These features align with those of PBC.

Kraft et al. (2018) found that coaching in 91% of the 60 studies was combined with other forms of professional development, including workshops, professional learning communities, or training events designed to support teachers' knowledge, dispositions, and skill development. Specific to early childhood, Snyder et al. (2012) analyzed 256 studies as part of a descriptive systematic review focused on early childhood professional development. These authors found coaching with performance feedback was

provided in follow-up to other forms of professional development in 51.6% of the reviewed studies. Schachter (2015) conducted an analytic study of professional development research in early childhood education and found that 54.8% (40 of 73) of the studies reviewed included coaching as well as other forms of professional development.

Exploratory analyses from the Kraft et al. (2018) meta-analysis examined select features of coaching structures and processes. Studies that paired coaching with other forms of professional development (e.g., group training) had larger effects on teacher instructional practices. The authors suggested coachees might benefit from professional development designed to build their knowledge and application skills before they engage in coaching. As shown in Table 1.3, in the studies conducted to date that have used PBC, other forms of professional development, in addition to PBC, occurred in every study.

Twenty-two of the 60 studies reviewed by Kraft et al. (2018) provided teachers with instructional content materials such as curriculum, lesson plans, guidebooks, or practice guides. Studies that included these materials had larger effects on teachers' instructional practices. Most studies conducted to date with PBC provide teachers with these types of materials or practice implementation aides (see Table 1.3).

Fourteen of the studies supplemented coaching with a video library that teachers could access to observe other teachers implementing the practices that were the focus of coaching.

(text continued on page 17)

Table 1.3. Characteristics and outcomes of studies using practice-based coaching

Group experimental design studies (N = 10)												
Study	N practitioners	N children	Practice context	Practice focus	Experimental conditions	PD dose	PBC delivery format	PBC dose	Coach training and protocol	PBC coach fidelity	Practitioner outcomes	Child outcomes
Artman-Meeker et al. (2014)	33 teachers (16 exp, 17 con)	N/A	Head Start classrooms in one state	Pyramid Model	Workshop, PBC, practice guides, materials Workshop only	1 workshop (6 hr)	Distance PBC through e-mail using video observations collected in classroom (Individual)	Planned: 8 sessions over 12 wk Delivered: M = 6 sessions (range 1–8)	External coach (first author) trained by senior authors	M = 99% (range= 77.8%–100%)	Workshop training + distance coaching associated with small improvements in emotional, organizational, and instructional classroom interactions based on differential participation in distance PBC	NR
Conroy et al. (2015)	53 teachers (26 exp, 27 con)	130 children at risk for EBD	Head Start and state-funded preschool classrooms in 2 states	6 BiC practices (rules, BSP, OTR, PC, IF, CF)	Workshop, teacher manual, PBC BAU	1 workshop (6 hr)	On-site PBC (Individual)	14 weeks; 1× per week; 90-min focused observation, 30-min debrief	8 external coaches trained by senior authors and followed written protocol	NR	Teachers in BiC condition increased use of rules, BSP, PC, IF, and CF relative to teachers in BAU	Higher levels of child engagement; less disruptive, aggressive, or defiant behavior; and more positive social interactions than children with teachers in BAU
Conroy et al. (2018)	185 teachers (92 exp, 93 con)	462 children at risk for EBD	Early childhood classrooms across 5 school districts and 3 Head Start agencies	6 BiC practices (rules, BSP, OTR, PC, IF, CF)	Workshop, resource manual, PBC BAU	1 workshop (6 hr)	On-site PBC (Individual)	14 weeks; 1× per week; 90-min focused observation, 30-min debrief	NR	NR	Adherence differences on BiC practices across BiC and BAU teachers	Reduced number of children in the clinical or borderline range for social skills and problem behaviors in BiC vs. BAU
Conroy et al. (2019)	186 teachers (92 exp, 94 con)	NA	Early childhood classrooms across 5 school districts and 3 Head Start agencies	6 BiC practices (rules, BSP, OTR, PC, IF, CF)	Workshop, resource manual, PBC BAU	1 workshop (6 hr)	On-site PBC (Individual)	14 weeks, 1× per week; 90-min focused observation, 30-min debrief	2-d PBC and BiC training, 6-step checkout process and followed written protocol	M = 85% (range= 81.24%–100%)	Teachers in BiC increased use of all BiC practices relative to teachers in BAU	NR

(continued)

Table 1.3. (continued)

Group experimental design studies (<i>N</i> = 10)												
Study	<i>N</i> practitioners	<i>N</i> children	Practice context	Practice focus	Experimental conditions	PD dose	PBC delivery format	PBC dose	Coach training and protocol	PBC coach fidelity	Practitioner outcomes	Child outcomes
Greenwood et al. (2017)	20 teachers (10 exp, 10 con)	297 children	Half-day pre-K programs, reverse inclusion	10 literacy practices	Literacy 3D workshop, PBC Wait list control (received PD Year 2)	Six 2-hr workshops (12 hr)	On-site (Individual)	3 coaching cycles for school year, 19–20 hr total	NR	NR	Literacy practice implementation increased Quality of literacy implementation increased	No significant effects on child literacy outcomes, but correlation ($r = .79$) between teacher literacy focus and child literacy engagement
Hemmeter et al. (2016)	40 teachers (20 exp, 18 con)	494 children, 104 focal children at risk for SE and behavior delays	Public preschool classrooms	Pyramid Model practices	Pyramid Model workshops, PBC, guides and materials BAU PD	Three 6.5-hr workshops (19.5 hr)	On-site (Individual)	$M = 13.4$ (7–17) sessions per teacher over 6 mo $M_o = 105$ -min observation (range 30–305 min) $M_d = 44$ -min debrief (range 10–135)	3 coaches affiliated with research project, trained by study authors and followed written PBC coaching protocol	$M = 87.4\%$ (range 45%–100%)	Differences in Pyramid Model teachers' practice implementation relative to BAU PD as measured by Teaching Pyramid Observation Tool (TPOT)	Children (all children and focal children) in Pyramid Model classrooms had higher social skills and less problem behavior than children in BAU classrooms Focal children in Pyramid Model classrooms had more social interactions than children in BAU classrooms
Hemmeter et al. (2021)	92 teachers (45 exp, 47 con)	995 children, 250 focal children at risk for SE and behavior delays	Public preschool classrooms	Pyramid Model practices	Pyramid Model workshops, PBC, guides and materials BAU PD	Three 6.5-hr workshops (19.5 hr)	On-site (Individual)	$M = 16.5$ (16–17) coaching sessions per teacher over 6 mo $M_o = 91.3$ -min observation ($SD = 25.1$) $M_d = 33.3$ debrief ($SD = 12.7$)	11 coaches affiliated with research project, trained by study authors and followed written PBC coaching protocol	$M = 97.7\%$ (range 40%–100%)	Differences in Pyramid Model teachers' practice implementation relative to BAU PD as measured by TPOT	Nonfocal and focal children had higher social skills and less problem behavior Focal children had higher social skills and less problem behavior Focal children had more social interactions

Table 1.3. (continued)

McCollum et al. (2011)	13 teachers (7 exp, 6 con)	NR (4-yr-old children)	State-funded preschool programs	Emergent literacy practices (18 strategies organized under A, B, C clusters)	Workshops, PBC, guides and materials Waitlist control	Orientation group meeting (2 d, 10 hr), 3 additional group meetings (1.5 hr each), bi-weekly (14.5 hr total)	On-site (Individual)	Biweekly, 15 total sessions (5 per each of 3 literacy strategy clusters)	4 researchers, 3 with doctorates in EC, 2 worked as emergent literacy coaches in a previous project, trained on observation checklists	NR	Differences in implementation of literacy strategies for Cluster B and C practices Differences on ELLCO language and literacy environment scores, including LEC, LLC, and LARS	NR
Snyder, Hemmeter, et al. (2018)	36 teachers (12 exp1, 12 exp2, 12 con)	106 children with disabilities	Public school preschool classrooms in 3 states	Embedded instruction for early learning	Workshops, on-site coaching, practice guides, materials, web site Workshops, self-coaching, practice guides, materials, web site BAU PD	Four ~3.5-hr workshops (14.9 hr total) for on-site and self-coaching conditions	On-site (Individual) Web-based self-coaching (Individual)	16 weekly coaching sessions per teacher over 4–5 mo $M_o = 73.9$ -min observation ($SD = 19.5$ min) $M_d = 39.3$ -min debrief ($SD = 12.1$ min) 16 weekly e-mail reminders to self-coach	4 external coaches in on-site condition trained by senior authors and followed written PBC protocol Project staff who delivered self-coaching prompts trained by senior authors and followed written PBC protocol	$M = 95\%$ (range 78%–100%) $M = 99\%$ (range 97%–100%)	Higher quality embedded instruction learning targets for on-site and self-coaching relative to BAU as measured by Learning Targets Rating Scale (LTRS; Snyder et al., 2009). More accurate implementation of embedded instruction learning trials for on-site relative to self-coaching and BAU as measured by the Embedded Instruction Observation System (EIOS; Snyder et al., 2009)	Children whose teachers in on-site coaching acquired more skills and behaviors specified in embedded instruction learning targets than children whose teachers in self-coaching or BAU Children whose teachers in on-site and self-coaching showed noteworthy improvements on standardized assessments of early literacy, receptive language, pre-academic and social skills compared to children whose teachers in BAU

(continued)

Table 1.3. (continued)

Group experimental design studies (<i>N</i> = 10)												
Study	<i>N</i> practitioners	<i>N</i> children	Practice context	Practice focus	Experimental conditions	PD dose	PBC delivery format	PBC dose	Coach training and protocol	PBC coach fidelity	Practitioner outcomes	Child outcomes
Snyder, Hemmeter, Algina et al. (2021)	111 teachers (36 exp1, 38 exp2, 37 con)	327 children with disabilities	Public school preschool classrooms in 2 states	Embedded instruction for early learning	Workshops, on-site coaching, practice guides, materials, web site Workshops, self-coaching, practice guides, materials, web site BAU PD	Four 4-hr workshops (16 hr total) for on-site and self-coaching conditions	On-site (Individual) Web-based self-coaching (Individual)	16 weekly coaching sessions per teacher over 4–5 mo $M_o = 60.6\text{-min}$ observation ($SD = 7.4\text{ min}$) $M_d = 46.7\text{-min}$ debrief ($SD = 13.9\text{ min}$) 16 weekly e-mail reminders to self-coach	11 external coaches in on-site condition trained by senior authors and followed written PBC protocol Project staff who delivered self-coaching prompts trained by senior authors and followed written protocol	$M = 90.6\%$ (range 71%–100%) $M = 99.4\%$ (96.2%–100%)	Higher quality embedded instruction learning targets for on-site coaching teachers relative to teachers in self-coaching or BAU conditions as measured by the LTRS More and more accurate implementation of embedded instruction learning trials for on-site coaching teachers relative to teachers in self-coaching or BAU conditions as measured by EIOS	Children whose teachers in on-site coaching acquired more skills and behaviors specified in embedded instruction learning targets than children whose teachers in self-coaching or BAU teachers received on-site coaching showed noteworthy improvements on a preacademic composite measure constructed of standardized early literacy, language, and school readiness assessments compared to children whose teachers were in BAU.

Single-Case Experimental Design Studies (N = 6)

Study	N practitioners	N children	Practice context	Practice focus	Design	PD	PBC delivery format	PBC dose	Coach training and protocol	Coach fidelity	Practitioner outcomes	Child (family) outcomes
Artman-Meeker & Hemmeter (2012)	4 (2 teaching teams)	2	University-based inclusive child care	Transition preparations, rule reminders, social-emotional teaching strategies from Pyramid Model	Multiple baseline across practices and teaching teams	Three 1-hr trainings over ~27 d (3 hr total) Materials and resources	E-mail	9–11 e-mails per participant	NR	96%–100%	Team 1 and Team 2 increased use of transition preparation strategies, rule reminders, and social-emotional practices relative to baseline (Replication across strategies and teams)	Child 1: Effects on challenging behavior were variable, but level of challenging behavior was lower during transitions, rule reminders, and social-emotional strategies than during baseline Child 2: Effects on challenging behavior were variable, but level of challenging behavior was lower during transitions relative to baseline
Bishop et al. (2015)	3 teachers	3 children at risk for learning challenges	University-based early care and education center	Embedded instruction on 3 learning targets	Combined multi-element and multiple probes across participants	2-hr training Videos and materials	Self-coaching (self-monitoring) with feedback from coach (Individual)	Session 1 35–40 min 2–8 coaching sessions per participant 10–20 min	NR	97% (range 87%–100%)	All teachers increased their implementation of embedded instruction learning trial implementation over baseline	One child mastered 2/3 embedded instruction learning targets, one child mastered 3/3 embedded instruction learning targets One child did not master learning target
Fox et al. (2011)	3 early childhood special education teachers	N/A	Inclusive public school classrooms	Pyramid Model practices	Multiple-probe across participants	3-d training (hours NR)	On site (Individual)	6–14 PBC coaching sessions per participant	Master's level coach trained in PBC	NR	2/3 teachers met criterion of 80% implementation of Pyramid Model practices and <1 red flag, 1 teacher did not meet criterion but improved her percentage of implemented Pyramid Model practices and reduced number of red flags, but not to criterion	N/A

(continued)

Table 1.3. (continued)

Single-Case Experimental Design Studies (N = 6)												
Study	N practitioners	N children	Practice context	Practice focus	Design	PD	PBC delivery format	PBC dose	Coach training and protocol	Coach fidelity	Practitioner outcomes	Child (family) outcomes
Hemmeter et al. (2011)	Four pre-school teachers	79 children	Inclusive preschool classrooms (3 Head Start, 1 child care)	Descriptive praise	Multiple-probe across participants	One 30-min training	E-mail (Individual)	5–7 PBC e-mails per participant	Doctoral students in early childhood special education	E-mail fidelity 100%	All 4 teachers increased percentage of intervals of descriptive praise, 2 teachers required additional supports	3 /4 classrooms had reductions in percentage of intervals with challenging behavior, slight increases in child engagement
Hemmeter et al. (2015)	3 teachers from control group of previous Pyramid Model study	NR	Inclusive preschool classrooms	Pyramid Model practices	Multiple probe-across sets of practices, replicated across teachers	One 30- to 60-min training, our guides, One 30- to 60-min booster training due to 2-wk break	Live or e-mail (Individual)	3× per wk On-site: 16–26 sessions E-mail: 8–10 e-mails per participant	NR	Live coaching: 99.43% (range 90.9%–100%) E-mail fidelity: 100%	All three teachers increased use of Pyramid Model practices to criterion levels (>80%)	2/3 classrooms had reductions in classwide challenging behavior
Hsieh et al. (2009)	5 full-time early childhood teachers	NR	Public pre-K classrooms, 3 child care centers	18 emergent literacy teaching strategies	Multiple baseline across teaching strategies replicated with 5 teachers	NA	On site (Individual)	2–3 coaching sessions per wk, 6 wk, 8 to 12 PBC sessions per participant	NR	100%	All 5 teachers increased their use of emergent literacy strategies above baseline levels, 4 teachers required booster sessions to reach higher levels	Statistically significant changes in mean picture naming, alliteration, rhyming, print knowledge from pre-test to post-test

Key: BAU, business as usual; BIC, BEST in CLASS; BSP, behavior-specific praise; con, control, comparison or BAU condition; CF, corrective feedback; d, day; mo, month; yr, year; EBD, emotional and behavioral disorders; ELLCO, Early Language and Literacy Classroom Observation Tool (ELLCO-PreK; Smith et al., 2008); exp1, experimental condition 1; exp2, experimental condition 2; IF, instructive feedback; N/A, not applicable for study; exp, experimental condition; LAR, Learning Activities Rating Scale; LEC, Literacy Environment Checklist; LLC, language, literacy, and curriculum; M_i (SD), mean intensity and standard deviation of reflection and feedback (debrief); M_o (SD), mean intensity and standard deviation of focused observation; NR, not reported; OTR, opportunities to respond; PBC, practice-based coaching; PC, precorrection; PD, professional development; SE, social-emotional; practice focus, practices that were the content focus of PD and PBC; TPOT; Teaching Pyramid Observation Tool (Hemmeter et al., 2014).

Although the sample size was limited to 14 studies, less robust effects were shown in these studies. What is not reported by Kraft et al. (2018) is the extent to which teachers accessed or were shown the available video models during coaching.

No differences were found for coaching delivered face-to-face or virtually, although the number of virtual coaching studies was 13, compared to 47 conducted face-to-face. Table 1.3 shows the delivery format for PBC studies conducted to date. Chapter 2 describes different PBC delivery formats and Chapter 10 describes how to use technology supports for delivering PBC virtually or in a hybrid format.

Dose of coaching was somewhat difficult to quantify based on information reported in the studies. In the 44 studies that reported dose, 16 reported dosages of 10 hr or less, 14 reported 21 hr or more, 6 reported 21–30 hr, and 8 reported 30 hr or more. Kraft et al. did not find any evidence to support that coaching had to be delivered at a higher dose to be effective. This finding should be interpreted with caution, however, given information about dose and particularly dose formats (e.g., dose and type of observation, dose and type of feedback or reflection) often are not reported in the literature. As Kraft et al. noted, “The lack of evidence supporting dosage effects suggests that the quality and focus of coaching may be more important than the actual number of contact hours” (p. 565). In addition, the dose and dose formats of coaching needed to support fidelity of practice implementation are also likely affected by motivational and learning characteristics of coachees and coaches, the number and type of practices that are the focus of coaching, coachees’ current practice knowledge and skills, the collaborative partnership, and contextual factors that facilitate or hinder practice implementation (Snyder et al., 2015). In Chapter 9, we provide resources for coaching implementation that includes coaching logs to record dose, dose formats, and other PBC content and process features.

In addition to the key coaching features described by Kraft et al. (2018), Lloyd and Modlin (2012) emphasized the importance of building partnerships with coachees; observing, modeling, and advising in the practice context; discussing practices; providing support and feedback; assisting with problem-solving challenges; and reviewing and documenting progress toward identified practice goals. As these authors noted, “. . . [coachees] are more likely to follow through and consistently apply the skills they have learned when they have continued support [partnerships]” (p. 3). Collaborative partnerships are an important part of PBC, and strategies for building and maintaining these partnerships are described in Chapter 3.

In their 2012 descriptive systematic review of early childhood professional development studies published between 1970 and 2011, Snyder et al. examined which coaching strategies (e.g., performance feedback, goal setting, modeling) were used in the 159 studies that included follow-up support (including coaching) as part of professional development. Although Snyder et al. reported the number and type of follow-up strategies used in these studies, they did not analyze whether these strategies were used separately or in combination, or whether use of particular strategies or combinations of strategies were differentially effective in supporting fidelity of practice implementation.

Artman-Meeker et al. (2015) reviewed 49 studies that focused on coaching early childhood professionals to implement intervention practices in job-embedded settings. In addition to examining the characteristics of learners and coaches, preparation and supports offered to coaches, and the rigor and quality of the studies, these authors identified coaching strategies used in the reviewed studies from a list of 12 strategies. The most commonly used strategies, occurring in 30% or more of the reviewed studies, were performance feedback (85.7%), intentional planning for practice between sessions (55.1%), use of a coaching manual (53.1%), collaborative progress monitoring (38.8%), ongoing use of an action plan (32.7%), and practice of new skills (30.6%). Less frequently used strategies were live modeling (26.5%), help with instructional materials (20.4%), video models (16.3%), video self-reflection (14.3%), intentional focus on relationships (12.2%), and role play (4.1%). Of note, only 2 of 49 studies included in the review described a comprehensive coaching model like PBC with a focus on partnerships, goal setting and action planning, focused observation, reflection and feedback, and action in the early

childhood setting. More than half of the studies included four of these five features but did not describe an emphasis on the collaborative partnership, which is an essential component of PBC. Less than one third of the studies reported providing training or follow-up support to coaches on the effective practices that were the focus of coaching. This is a key feature of PBC, which emphasizes the importance of professional development for coaches, including ongoing support for fidelity, on both PBC and the practices that are the focus of PBC. Chapter 9 details essential supports for coaches.

Findings from Snyder et al. (2012) and Artman-Meeker et al. (2015) about coaching strategies were used to inform the identification of and operational definitions for the coaching strategies included in the PBC framework. Subsequent empirical studies conducted using PBC (see Table 1.3), which have examined further the use of these strategies, have resulted in the identification of essential and enhancement coaching strategies. Both classes of strategies are defined and illustrated in detail in Chapter 4. In addition, Chapter 5 defines what is meant by a practice and provides resources for conducting practice-focused strengths and needs assessments. Chapter 9 describes supports for PBC implementation, including coaching logs that list essential and enhancement coaching strategies. Chapter 10 provides information about how technology can be used to support PBC implementation and how essential and enhancement coaching strategies can be included.

Empirical Support for Practice-Based Coaching

As shown in Table 1.3, there is growing empirical support for PBC and its promise for improving coaches' implementation of evidence-based practices and child outcomes. Both group experimental ($N = 10$) and single-case design experimental studies ($N = 6$) have been conducted. Across these 16 studies, 605 practitioners were included. For the 12 studies that examined both practitioner and child outcomes, 2,895 children were included.

As shown in Table 1.3, the practice focus for PBC in the 16 studies was social-emotional practices, including the Pyramid Model (e.g., Hemmeter et al., 2016); targeted social, emotional, and behavioral teaching practices for young children at elevated risk for emotional and behavioral disabilities (BEST in CLASS; e.g., Conroy et al., 2015); early literacy practices (e.g., Greenwood et al., 2017; Hsieh et al., 2009); and embedded instruction (e.g., Snyder et al., 2018). To date, practice contexts have included Head Start, state-funded pre-Kindergarten programs, preschool classrooms in public schools serving children with disabilities, and early care and education settings. The use of practice-based coaching is currently being examined in early intervention programs serving infants and toddlers with disabilities and their families (e.g., Bigelow et al., 2020; Woods et al., 2018).

In all but one study shown in Table 1.3, knowledge-, dispositional-, or skill-building forms of professional development (e.g., workshop series, brief trainings, online video exemplars, case stories, web-based modules, implementation guides, materials) were provided to coaches in addition to PBC. PBC was provided as follow-up support for fidelity of practice implementation in the coaches' job-embedded context. This approach is consistent with evidence that shows knowledge- dispositional-, and skills-building forms of professional development are necessary, but not sufficient, for supporting practice implementation in job-embedded contexts (Joyce & Showers, 2002; Kraft et al., 2018). The dose of the professional development varied as a function of the number of practices and ranged from one 30-min training in a study focused on supporting teachers' implementation of a single practice (i.e., descriptive praise; Hemmeter et al., 2011) to 19.5 hr in a study focused on supporting teachers' implementation of Pyramid Model practices (Hemmeter et al., 2016; Hemmeter et al., 2020).

PBC was primarily provided face-to-face, although two studies examined the effects of distance coaching via e-mail on providers' implementation of Pyramid Model practices (Artman Meeker & Hemmeter, 2012; Artman-Meeker et al., 2014), and three studies examined effects of self-coaching, including self-monitoring (Bishop et al., 2015; Snyder, Hemmeter, et al., 2018;

Snyder, Hemmeter, Algina et al., 2020). Those providing coaching were a) study authors with expertise in both PBC and the practices that were the focus of coaching, b) study personnel who were experienced providers of professional development or technical assistance and received additional training and support to reach and maintain fidelity in PBC implementation and the practices, or c) graduate students or research assistants who received training and ongoing support to reach and maintain fidelity in PBC implementation and the practices. Dose of coaching in the group experimental design studies ranged from 6 to 16.5 coaching sessions with variability in the duration and length of sessions. In the single-case experimental design studies, dose varied as a function of the number and type of practices and the delivery format for the coaching.

Improved reporting about coaching dose and dose formats is needed in both research and practice (Kraft, 2018). As Artman et al. (2015) noted, these data are important to increase understanding and decision making, both in research and in practice, about what dose (intensity, frequency, duration) and dose formats (e.g., expert/peer/self/group; on site/distance/hybrid) are needed for which coachees and under what conditions (e.g., PBC to support implementation of six instructional practices versus a comprehensive framework such as the Pyramid Model).

Research to date has illuminated the importance of preparing coaches to implement PBC and to ensure they have knowledge and skills in the practices that are the content focus of coaching. In addition, coaches need ongoing professional development to maintain fidelity of PBC implementation, including opportunities to discuss coaching successes and challenges with other coaches, to have focused observations of their coaching implementation, and to reflect and receive feedback about coaching implementation. Professional development supports provided to coaches should mirror the components of the PBC provided to coachees (i.e., coaching strengths and needs assessment, coaching goal setting and action planning, focused observation of coaching, reflection and feedback about coaching implementation). The professional development supports should be provided in the context of a collaborative partnership with other coaches, including lead coaches who are internal or might be external to the program as part of technical assistance or professional development systems at programmatic, local, regional, state, or national levels.

In 11 of 16 studies, data were reported about the fidelity with which PBC was implemented. Fidelity data often were obtained from coaching protocols, including coaching logs and action plans. Data on the fidelity of PBC implementation are important to enable data-informed decision making about relationships among coaching structures, content, and processes (i.e., coaching efforts); practice implementation; and desired outcomes (i.e., coaching effects) as shown in Figure 1.3.

The group experimental design studies show increases in practitioners' fidelity of practice implementation relative to those who did not receive professional development and PBC. The data reported in these studies represent average practice implementation for participants based on the experimental condition to which they were assigned. For the single-case design studies, all practitioners showed increases in their fidelity of practice implementation relative to their baseline implementation of practices. Seven of the 10 group experimental design studies examined child outcomes. On average, children in practitioners' classrooms who received professional development and PBC had better development and learning outcomes relative to children in practitioners' classrooms who did not receive professional development and PBC. More detailed information about each of the studies shown in Table 1.3 can be found in the original research reports, which are referenced with asterisks in the reference list.

SUMMARY

In this chapter, we have provided background about PBC and its common and distinct features. The theoretical foundations for PBC, including how PBC relates to coaching as a competency driver in the active implementation science frameworks, and an abbreviated theory of change for PBC has been described and illustrated. The empirical foundations for the structural,

content, and process features of PBC have been described along with a summary of the existing empirical evidence for PBC. Chapter 2 provides additional information about PBC, including an overview of professional development, PBC in the context of professional development, PBC components, and PBC delivery formats and modalities. Three case stories are introduced at the end of Chapter 2 that will be used throughout the remaining chapters. Following Chapter 2, each chapter provides detailed information about the structural and process features of PBC. Supplemental materials and resources to support implementation of PBC are included in these chapters, and the case stories are used to illustrate how these materials and resources are used. Our goal is to provide readers with essential information, materials, and resources to implement PBC.