the Ounce

ESSENTIAL SUPPORTS FOR IMPROVING EARLY EDUCATION

Job-Embedded Professional Learning Essential to Improving Teaching and Learning in Early Education

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Please see the first paper in this series, “Reimagining Instructional Leadership and Organizational Conditions for Improvement: Applied Research Transforming Early Education,” for a comprehensive look at the Ounce approach to strengthening organizational conditions essential to the continuous improvement of teaching and learning.

From Compliance to Collaboration: the Power of Job-Embedded Learning

Teaching and Learning with Infants and Toddlers

The 2-year-old classroom was eerily calm, with the children quietly playing and teachers close beside them sitting on the floor. No one spoke, but children were silently redirected to another activity if there was any unwanted behavior, such as grabbing another child's toy or hitting. The cultural expectations at the center were to watch for safety issues and to comply with the rules established about keeping children busy.

Following two years of job-embedded professional learning (JEPL), the same teachers are planning collaboratively and questioning what else they could do to enrich the learning experiences for the children, intentionally working to individualize learning opportunities and interactions. In the classroom, there is laughter and talking, and quiet but rich back-and-forth conversations are often heard.

Teaching and Learning with Preschoolers

A preschool teacher who was enrolled in a certification program for early childhood teachers' licensure put a great deal of time into the lesson plans required for the college program but not into planning teaching practices for the children in her classroom. When questioned why, she said, "The professors care about what I'm learning and doing. It doesn't matter here what I submit as long as it's complete and meets the requirements."

Following two years of JEPL, this teacher brings the same intensity and interest she had for her college course assignments to her regular planning sessions with her assistant. Together, they pore over the documentation of student learning that they both collected, and they discuss their next instructional moves to build on children's interests and further advance their learning. The classroom set-up has changed to better support student exploration. The children and the teachers interact with joy and engage in meaningful inquiry, investigations and conversation.

Overview: The Case for a New Approach to Early Childhood Professional Learning

Improving classroom teaching improves children's learning outcomes. In pursuit of those goals, the early education field has made substantial investments aimed at increasing the quality of classroom environments and teacher-child interactions. Yet, in publicly funded programs across the country, the quality of instruction remains low and improvement stagnant.[1] Informed by a multiyear, multisite implementation of a professional development intervention (PDI) for early childhood professionals, we assert that more-effective investments can be made. Our work and our results are predicated on a simple but powerful shift in understanding and approach: Instructional improvement flows from continuously building teaching capacity on the job.[2] Therefore, we must focus on the organizational supports that hone better routines for teaching practice and sustain instructional improvement.[3]

At the core of these new understandings is a call to abandon traditional professional development; that is, professional development in the form of trainings and workshops that are externally delivered and intended for building the knowledge of individuals. Instead, we must strengthen early learning organizations and instructional leadership to drive continuous professional learning and improvement through collaborative, job-embedded professional learning (JEPL) routines.[4] To make true progress for children and teachers—and to make investments pay off—we must look beyond individual teachers and classrooms. We must build professional capacity across the entire organization. Only then can we begin to realize and sustain meaningful improvements in the quality of early childhood teaching and learning.

This paper is informed by the Ounce of Prevention Fund's Professional Development Intervention for early childhood professionals. The PDI improved the quality of teaching and children's learning in early education community-based settings (see page 3 for a description of the PDI). Drawing strongly from adjacent research on school improvement, the Ounce identified building-level leadership as the key driver and JEPL as the key vehicle of instructional excellence and continuous improvement. Specifically, the Ounce hypothesized that:

1. Instructional and inclusive leadership is the necessary driver of instructional improvement. Leaders are responsible for creating climate and conditions supportive of teaching and continuous improvement. This includes establishing a vision for excellence, building relational trust, galvanizing staff activity in service of improvement, and providing teachers with coherent instructional guidance and time during the work day to collaborate with colleagues toward ambitious and improving practice.

2. Collaborative JEPL is the vehicle for improvement. The way teachers work together to develop and continuously improve curriculum and instruction, emotionally supportive learning environments, and engagement of families is far more important and predictive of achievement than any individual teacher or school quality characteristic.

This paper provides a framework for designing and implementing JEPL systems and practices in early education settings in this new paradigm. We **(1)** unpack the definition of JEPL, **(2)** contrast it with traditional professional development, **(3)** outline design and facilitation principles to make it effective in resource-strapped early education settings, **(4)** illustrate two routines of JEPL that support teachers with planning and implementing higher-quality interactions and instruction, and **(5)** provide recommendations for leaders in the field to successfully support, implement, and improve JEPL in early education settings.

Description of the Ounce Professional Development Intervention (PDI)

From 2012 to 2014, in partnership with Chicago Public Schools and the Chicago Department of Family Support Services, and with support from the Stranahan Foundation, The Crown Family, and a US Department of Education Investing in Innovation (i3) development grant, the Ounce of Prevention Fund designed, implemented and refined our professional development intervention (PDI) in four community-based early learning programs serving infants, toddler, preschoolers, and their families. Our work involved 15 administrators and 60 teachers serving approximately 600 low-income, racially, ethnically and linguistically diverse children in Chicago.

The PDI aligns the professional learning cycles of four key groups of educators—center leaders, direct supervisors, teachers, and assistant teachers—to transform centers into learning organizations collaboratively focused on excellence and on generating improvement through strong organizational conditions, including job-embedded professional learning. The PDI is grounded in a systems understanding of educational improvement and includes three core components:

1. Intensive cycles of ***job-embedded professional learning***. These cycles develop role-specific knowledge, skills and dispositions of instructional leadership aligned to the five essential supports framework for improvement, and high-impact teaching and learning aligned to the Classroom Assessment Scoring System (CLASS) respectively.[5] These intensive cycles spanned six to eight weeks and consisted of training to build knowledge, coaching and consultation supports to transfer that knowledge to practice, and reflective practice groups to support collaborative examination of practice and planning for improvement (See Figure 1).

2. ***Center-wide systems of job-embedded professional learning*** that protect time routinely and structure teacher collaboration during the program week and month.

3. ***Job aides and protocols to shape complex work and decision-making processes***. These job aides and protocols systematize how people approach and deal with tasks associated with core practices, including center-wide decision–making, collaborative data dialogues, and lesson planning.

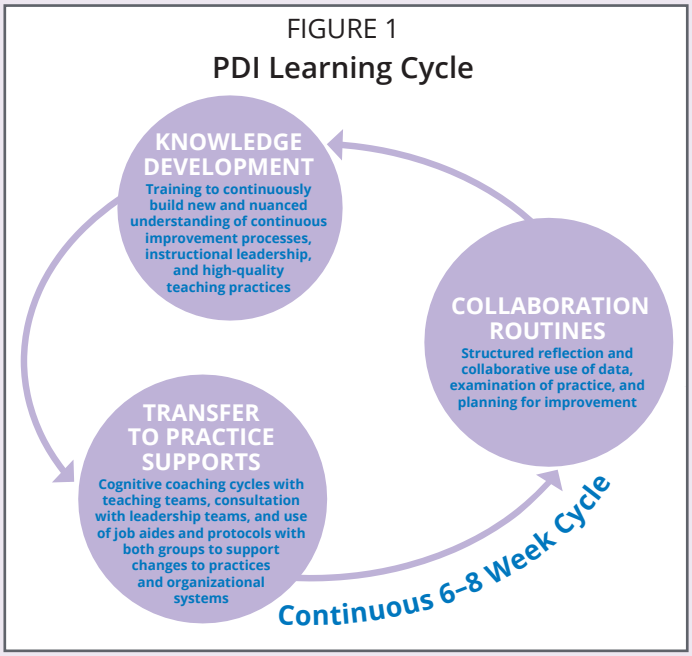
Job-embedded professional learning routines were the primary vehicle for advancing the knowledge, skills, and dispositions of the leaders, supervisors, and teachers during the intervention. These routines were also intended to be the vehicle leaders used to sustain gains and generate continuous learning and improvement in their centers beyond the intervention.

Our work was independently evaluated by the University of Illinois at Chicago, Center for Urban Education Leadership (urbanedleadership.org). The evaluation found that we successfully:

- Increased leaders' knowledge, skills, and dispositions with instructional leadership, including inclusive decision-making and facilitation of job-embedded professional learning that shaped a culture of collaboration, excellence, and improvement
- Established a system of instructional guidance and feedback, and weekly and monthly job-embedded professional learning routines structured by job aides and protocols
- Increased teachers' knowledge, skills, and dispositions with intentionally planning and deliberately implementing higher-quality interactions and instruction as measured by the CLASS[6]
- Realized statistically significant improvements in children's social-emotional learning and development

FIGURE 1

PDI Learning Cycle



The Promise and the Problems: Better Outcomes Require Stronger Instruction

The great emphasis on early education in the United States is supported by evidence that low-income, high-needs children enter kindergarten significantly behind their better-resourced peers, and that gaps in early academic skills continue to persist or even widen into the elementary years.[7] For example, national data from the Early Childhood Longitudinal Study-Kindergarten Cohort found a difference of one full standard deviation (or 15 standard score points) in literacy and mathematics between children from low- and high-income backgrounds at the beginning of kindergarten.[8] In addition, children from lower-resourced families commonly have yet to develop age-expected self-regulation and social-emotional skills necessary for navigating K-3 classrooms, which may limit their capacity for learning in these environments.[9]

A substantial body of research suggests that high-quality preschool can help to narrow these gaps.[10] Historically, intensive programs, including Perry Preschool, Abecedarian, and Child-Parent Centers, showed long-term benefits for participating children.[11] More recently, state-funded pre-k programs in locations such as Boston, Oklahoma, New Jersey, and Tennessee show evidence that they improve cognitive outcomes for low-income, high-needs children by as much as one-third to three-quarters of a standard deviation compared to similar children in control groups.[12] Often, these programs use research-based curricula and provide teachers with ongoing coaching supports.[13] Because of that, they are considered to be high quality and well implemented, and therefore able to positively impact children's early achievement and kindergarten readiness.[14]

This evidence has garnered unprecedented levels of bipartisan political support and significant increases in investments to expand early education programming and to improve quality by developing program standards and systems of monitoring and professional development.[15] Recently, federal Head Start accountability structures have incorporated standards and evidence criteria for teacher-child interactions as a critical element of quality, as have some state accountability structures that historically focused on more structural elements.[16] Training and technical assistance purveyors and program leaders have been incentivized to target classroom-level elements of quality for improvement but have been slow to pivot to a focus on teacher-child interactions.[17] Indeed, improvement in instructional supports remains stagnant at scale.[18] The field remains underwhelmed by children's learning outcomes and disappointed by the pace and impacts of quality improvement efforts.[19]

Early childhood teaching and learning must become more ambitious; that is, we must increase teaching effectiveness for all children. To achieve that, we must confront a challenging paradox: Intensive monitoring and professional development focused on classroom quality do not consistently result in improved teaching and learning.

Necessary but Not Sufficient: Why Professional Development Falls Short

Traditional professional development in early childhood education is ineffective at producing and sustaining changes in professional practice.[20] Yet trainings and workshops remain the standard in early childhood professional development. For teachers, trainings focus on discreet topics and procedures that they are expected to be compliant with. For leaders, trainings focus on building knowledge of accountability requirements. However, research makes clear that we should not expect professionals to return from training and be able to apply that new knowledge into their daily work without ongoing discussion and support.[21] As we detail in our analysis of essential contexts and components for effective professional learning, not only does the traditional approach focus on the wrong topics, but it is also far too limited in its structure and complexity to ever successfully build toward deep or sustained learning and improvement of practice. As one early education administrator describes the limitations of the traditional approach:

> It was really about going to workshops and then coming back and either presenting at a staff meeting or sharing with a co-teacher and maybe making copies of the handouts and sharing with everybody. And you know, hoping that you would maintain it. You know, like you came back with all these really great ideas, but if no one else [saw] the benefit, then it just kind of fizzled out. And it wouldn't really go anywhere.[22]

Time for teachers' professional responsibilities and professional growth is scarce across all education sectors.[23] In K–12, momentum has steadily built for common planning time and instructional leadership staff and supports, usually achieved through reconfiguring schedules and redeploying existing professional development budgets. The more-constrained structure and more-limited resources of early childhood settings pose additional challenges to moving away from traditional approaches. In early childhood settings in particular, isolation is the norm. Teachers rarely have protected time to plan together, reflect on assessment data, share practices, or determine needed improvements to teaching. Unfortunately, teachers usually lesson plan alone and often at home because of a lack of protected time for planning.

Not only does the traditional approach focus on the wrong topics, but it is also far too limited in its structure and complexity to ever successfully build toward deep or sustained learning and improvement of practice.

Data tends to be abundant in early educational settings (i.e., child-progress, child-health, attendance, family, classroom-environment and teaching data); yet it is extraordinarily rare for teachers to have the time to engage in dialogue about what the data means for children and families, let alone to reflect on needed practice changes and their own professional learning needs.[24] Collaboration across classrooms is difficult to arrange in early childhood settings because of the needs to maintain group size and ratio requirements and to keep young children with familiar adults. In community-based centers, staff are already spread across an 11-to-12-hour day, with different start and end times. One leader described the lack of time for teacher collaboration this way:

> Things are very unpredictable, and they have a lot going on. I mean really, when you look at their day, there's not a lot of down time. So, when the kids are napping, they get their break and then they use the other hour to do lesson planning. I know that they don't have much time in their day. We would have to figure something out. This probably also has to do with funding and having to have a particular number of days and hours in the classroom.

Supervisory systems in early childhood are also ineffective in fostering improvement in teaching and learning. Supervision traditionally focuses on monitoring, compliance, and performance feedback. Some efforts have been made to implement reflective supervision in early childhood programs, but leaders struggle to protect the time to implement it consistently and lack the skills to facilitate it with fidelity and effectiveness. In formal and informal supervision, they tend to rely on directives to communicate to teachers what they need to improve with little to no discussion about why the change is important or how to implement the change consistently amid the complexity of the everyday work. Leaders describe their approach to supervision and their desire to improve the supports they provide teachers to improve their work:

> And I think a lot of our supervision is very administrative focused; let's look at the numbers, let's look to see how things are going. We don't spend enough time really focused on how you are doing the work, or how you would like to develop in this work, what's really going well, what's not going well. I just think I could be a more supportive supervisor.

> Supervisors are not always able to provide the reflective support teachers need because the emphasis is on 'getting the work done.' … Learning how to promote a team focus, how to support a learning space for staff and how to balance all the competing needs would be beneficial for us, and ultimately to the families we serve.

Traditional Professional Development Does Not Support Practice Improvement

Problems include:

- Required attendance at external trainings
- Lack of supports to assist teachers with applying training information to practice
- Minimal time to reflect, examine real and relevant problems of practice
- Overly focused on procedures and compliance rather than excellence in teaching and learning
- Few opportunities to collaborate and learn from others' practice
- Lack of support from supervisors skilled in facilitating inquiry, reflection, and collaboration for learning and improvement

Traditional professional development is particularly misaligned to needs and capacities of the early childhood workforce. Education levels among early childhood educators are the lowest across all sectors of American schooling and are mirrored in the lowest compensation rates and highest poverty levels among the country's teachers. High levels of absenteeism, depression, burnout, and turnover are endemic to community-based early childhood education centers and are most pronounced in centers located in underserved and minority communities.[25] Given those challenges, these educators have a particular need for high levels of emotional and practice supports that are woven into their existing job routines rather than added onto or disconnected from them. Further, an approach to professional development that improves the culture and climate of the center overall has the potential to not only improve the instructional skills of teachers but also address their job satisfaction and potentially staunch their turnover.[26]

Job-Embedded Professional Learning: What It Is and Why It Works

A clear paradigm shift has occurred in our understanding of how professional learning and practice improvement is realized and sustained in educational settings. In contrast to traditional "one off" modes of professional development, the emerging paradigm is job-embedded professional learning.[27] JEPL is "learning that is grounded in day-to-day practice and is designed to enhance professional practice with the intent of improving children's learning and development. ...It consists of teams of professionals assessing and finding solutions for authentic and immediate problems of practice as part of a cycle of continuous improvement."[28] Job-embedded learning is linked to curricula and includes teachers examining student work and jointly planning, teaching and revising lessons based on data collected about student engagement and learning. We believe that routine, collaborative JEPL—championed, facilitated, and sustained by school leaders—is more effective than traditional, externally driven professional development in changing teacher practice and sustaining improvements.

Teaching requires this complex approach because teaching is itself complex work. Even with the best preparation and most rigorous pedagogy, teachers are asked to adjust to a multitude of variables—namely, the behavior and responsiveness of children—continuously and on the fly. Every day, every lesson, and every interaction is a new experiment in "particular students interacting with particular teachers over particular ideas in particular circumstances."[29] While teachers observe and reflect on what children are exploring, doing and saying, they have to continually respond in ways that keep them engaged and increase their understanding. They have to balance precision—focused on particular learning goals, curricula content and instructional strategies—with personalization—adapting to children's interests and needs on any given day.[30]

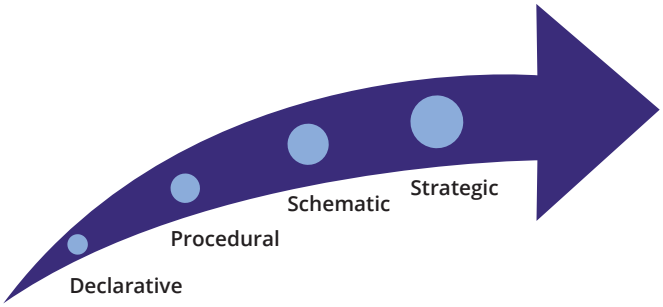
Effectiveness requires that they also at times extract themselves from the rapid-fire demands and reflect on bigger-picture questions and deeper analysis. They must collect and analyze evidence of the impact of their interactions and instructions, and use this information to improve their teaching and children's learning over time. Early childhood teachers must also learn to gain important information from families and partner with them to support children's learning at home and at school. Given these demands, the necessity of immersive daily learning and an unceasing focus on improvement becomes clear.

Job-embedded professional learning is "learning that is grounded in day-to-day practice and is designed to enhance professional practice with the intent of improving children's learning and development. ... It consists of teams of professionals assessing and finding solutions for authentic and immediate problems of practice as part of a cycle of continuous improvement."

In light of the complexity of teaching, JEPL is necessary to deepen teachers' knowledge and ensure their understanding of practice is coherent, comprehensive, and accurate.[31] Training can build teachers' declarative and procedural knowledge (see Figure 2), the knowledge of "what" and the knowledge of "how." These types of knowledge provide the foundation for a profession, but they are not sufficient for effective teaching. To make sense of complex teaching and learning interactions, teachers must have schematic knowledge that builds on and connects declarative and procedural knowledge to the "why" so they can act with purpose and intention. To ultimately be effective, teachers must advance to strategic knowledge—knowing "when" and "where" to apply knowledge and how to assess if that application is working. With strategic knowledge, teachers can evaluate evidence

and articulate improvements to interactions and instruction to advance children's learning. They can also make on-the-spot decisions as they implement their plans to refine their interactions and instruction in dynamic and changing circumstances.

FIGURE 2
Knowledge Development



Advancing teachers' schematic and strategic knowledge is not an additive process; it doesn't mean simply acquiring new information. Piling on more "what" and "how" doesn't help move to "why" or beyond. This deeper learning requires shifting perceptions and confronting preconceived notions of how learning unfolds and how teaching prompts learning. Teachers often have incomplete, incoherent, and even inaccurate understandings of teaching and learning that guide their practice. Because these understandings also filter their uptake of new information, they can be impervious to training. Uncovering these understandings requires deconstructing practice, as well as reflection, analysis of data, and discussion with colleagues in a professional community. Over time, new understandings may be reconstructed and co-constructed around best practices.[32] These new understandings then more effectively scaffold reflection and guide decision-making in the complex daily work of teaching.

Multiple Contexts for Professional Learning Are Necessary

Multiple contexts for learning (see Figure 3)—encountering concepts from multiples angles and in varied learning settings—embedded in the program and the daily work are required to advance professional knowledge, skills, and dispositions; to support both learning and change in daily practice; and to facilitate this learning and improvement continuously

FIGURE 3
Multiple Contexts for Professional Learning

Knowledge Development: Training is not obsolete. Training and other knowledge development contexts, such as courses, conferences, workshops, webinars, and shared readings introduce an area of practice: what it is, how to do it, and why it is important. In order to implement best practices, teachers must understand what they are and be able to visualize them. They must understand the links between best practices and how children learn and develop. Developing knowledge about what a practice is and why it is important is also critical to motivating professionals to change.

Transfer-to-Practice Supports: Early childhood education professionals also need systematic supports to apply new and nuanced knowledge and skills in their daily work. Job aids and protocols systematize how a professional approaches tasks that are associated with planning and implementing core practices. Job

aids and protocols can reduce confusion and raise confidence when professionals are learning to apply new thinking and implement different practices. Assistance strategies—including mentoring, coaching, consultation, and technical assistance—can help troubleshoot issues that arise with professionals' changing their practice and help navigate how the new practices need to be applied differently for specific groups and individuals in their classroom and center. Importantly, while these supports assist professionals with overcoming obstacles to application, they also strengthen motivation for and belief in their ability to change and improve practices. Further, such supports can be personalized to meet the developmental and motivational needs of each professional.

Collaboration Routines: Teacher collaboration is a powerful engine for change. When teachers are isolated, they either deal with the complexities and stressors of teaching by becoming "stuck in their ways" or they burn out.[33] Collaboration routines, such as peer learning groups and team lesson planning, break this isolation and both support and challenge professionals' thinking, beliefs, and practices. These routines allow teachers to come out of the action, slow the work down and, with the support of peers, review data, reflect on the impacts of their practice, and design instructional innovations.

In this supportive context, data helps teachers and leaders uncover their practice strengths, better understand challenges, set goals to focus learning and improvement efforts, and track their progress. This process of collaborative, data-driven inquiry supports teachers to deepen their understanding of what the data means, increases individual ownership of improvement goals and plans, and shapes greater collective responsibility for improvement of teaching and the outcomes for children and families. With a collaborative, supportive group of peers, data that had previously been perceived as a punitive means of highlighting weaknesses morphs into a useful tool for joint problem solving. Over time, these routines strengthen professional dispositions for collaboration and excellence, and create a professional culture within which teachers' value reflecting, examining practice, and continuously improving teaching and learning together.

Reflective Supervisory Dialogue and Feedback: Supervision that provides support, fosters reflection, and focuses on a person's learning—versus evaluation and compliance only—transforms into a context for professional development. When supervisors observe teachers in the classroom and then include reflective dialogue with their feedback, teachers have the opportunity to analyze their work, recognize their strengths and discuss their challenges. Through active listening and inquiry, supervisors gain understanding of the teacher's perspectives and needs. Together, they decide on next steps for learning and improvement. This type of supervisory relationship for learning parallels the relationship for learning that teachers must develop with children and families. It models how to reciprocate, adapt, listen, and approach joint problem solving. Therefore, effects of this approach reverberate from the leader outward, enhancing not only the leader's relationship with the teacher but also the teacher's relationships with peers, children and families.

Not All Job-Embedded Professional Development Is Created Equal

Research supports the idea that these contexts for professional learning are necessary for continuous professional learning and improvement. For example, studies have shown coaching can result in improvements in instruction in early childhood.[34] And a growing body of research in K–12 shows that collaborative, JEPL such as peer learning groups and lesson study support improvements in teaching and learning.[35] Positive outcomes for teachers include decreased isolation, higher morale, greater job satisfaction, lower absenteeism, greater retention rates and enthusiasm.[36] Positive outcomes for students include decreases in dropout rates and absenteeism, academic gains in major subjects, and smaller achievement gaps.[37] These studies offer great promise for the improvement of teaching and learning in early childhood through job-embedded opportunities.

However, not all JEPL is created equal. While some studies show positive impacts of JEPL on teaching and learning, other studies show no significant effects.[38] In a study conducted by the Bill & Melinda Gates

Foundation in 2014, K–12 teachers were on average "not satisfied" with any JEPL formats they participated in, including observation, coaching, and professional learning communities.[39] They were least satisfied with professional learning communities because they reported the meetings were often poorly planned and executed.

Quality, as always, is a critical factor.

Whether the professional development provider is external or a program-based leader, high-quality implementation of JEPL requires that:

- Adult learning principles are applied to the design and delivery of training or other opportunities to build knowledge and understanding
- Transfer-to-practice supports are implemented with high levels of fidelity to the particular model of coaching, mentoring or consultation
- Collaboration opportunities are planned intentionally and facilitated to support group learning and inquiry processes

Unfortunately, studies of workforce development indicate that early childhood teachers and leaders are least likely to receive effectively designed and delivered professional development.[40] Most instructional leaders and professional development providers in early childhood education do not yet have the competencies to effectively facilitate adult learning in these multiple job-embedded contexts. Indeed, most in early childhood are not yet aware these competencies are needed.

Even when a single learning context or strategy is implemented well, no one strategy alone is sufficient. For instance, training may be needed first to build foundational knowledge because when all teachers in a group have low levels of knowledge and experience, peer learning is less likely to occur. Similarly, coaching is less likely to be effective when a person is lacking foundational knowledge or basic pedagogy. Also, improvements in instruction from coaching are not likely to be sustained without ongoing instructional guidance and support from a robust community of practice.

Given that multiple contexts for learning are necessary, attention must be paid to the coherency of the content and to the practice improvements being explored across each professional learning opportunity. For example, coaches are often external providers, and the coaching is time limited. In these cases, there can be a lack of coherence or even conflict among the recommendations teachers' receive from coaching, supervision, performance appraisal, and other district/grantee professional development opportunities. This lack of coherency reduces the effectiveness of each.[41]

Given the scarcity of resources—financial, human and time—systems leaders should invest in collaborative job-embedded routines like team lesson planning and peer learning groups as universal and sustained supports for professional learning and continuous improvement. Coaching then would be considered a targeted support.

For instance, using coaching with novice teachers, teachers for whom the universal supports have been less impactful, those implementing a new curriculum or intervention, and as an intensified support for teachers in schools and centers serving higher percentages of children and families from high-need communities. Because instructional improvement flows from teachers having routine and multiple types of learning opportunities, policymakers and systems leaders should ensure a comprehensive and flexible system is in place to meet the different and changing professional learning needs of teachers and leaders.

Designing Effective Job-Embedded Professional Learning

To realize the full potential of JEPL, we designed and implemented a PDI that distilled seven key ingredients from the research base into a framework to support leaders with installing and facilitating JEPL effectively. These ingredients are aligned with the new national professional learning definition and standards advanced by Learning Forward, the leading professional learning association in the field of education.[42] We integrated each ingredient into the learning cycles for teachers and leaders. We explicitly taught these key ingredients to leaders and supported them in incorporating them into their system to provide instructional guidance and JEPL to staff. We also supported leaders, especially in the final year, to strengthen their facilitation skills using these ingredients.

Key Ingredients for Effective Job-Embedded Professional Learning

1. **Championed, facilitated, and sustained by school- and center-based instructional leaders** for relevant, coherent, and continuous professional learning and improvement

2. **Collaborative and within community**, so that learning and decision-making together galvanize collective responsibility, catalyze learning through multiple perspectives, and support change

3. **Routine**, so that professional learning opportunities occur frequently—weekly and monthly—as sustained supports for improving teaching and learning

4. **Relationship-based and strengths-based** to build respect, trust, and openness to sharing and examining practice

5. **Inquiry-based** to facilitate construction of knowledge, support problem solving, and evoke motivation and confidence to apply learning and make changes to practice

6. **Structured by:**
   - **Clear measurable goals** informed by collective analysis of data that determines a clear focus for the group and ability to monitor their own progress toward improvement goals
   - **Evidence-based practice frameworks** to create a shared lens, language, and understanding of effective practice, performance expectations, and learning outcomes (e.g., early learning and development standards, curriculum goals, CLASS, five essential supports)[43]
   - **Real and relevant examples** of teaching and learning prepared and presented for the group to analyze and address authentic problems of everyday practice
   - **Norms and protocols** to ensure respectful sharing and examining of practice, focused discussions, and the identification of specific practice improvement steps

7. **Evaluated, iterated and continuously improved** to ensure that teachers are growing in their knowledge, practices, and dispositions and are positively impacting children's learning.

1. Championed, facilitated, and sustained by school- and center-based instructional leaders for relevant, coherent, and continuous professional learning and improvement

One of our overarching goals was for administrators and supervisors to recognize the importance of their leadership in facilitating, supporting, and sustaining JEPL in their programs. School leaders are responsible for establishing a collective vision for child-centered learning environments, ambitious pedagogical practice and child outcomes, and for galvanizing staff activity toward that vision through continuous professional learning and improvement efforts. Leaders have the capacity to ensure these efforts are informed by data and are coherent, coordinated, and integrated. Most importantly, school-based leaders can provide sustained supports, in contrast to external providers whose professional development is usually time limited. Our approach engaged both early childhood teachers and leaders in learning cycles over the course of the project. Leaders were also included in the teacher learning cycles with the goal they would learn to facilitate and sustain the routines for teacher learning.

2. Collaborative and within community, so that learning and decision-making together galvanize collective responsibility, catalyze learning through multiple perspectives, and support change

While there are many forms of JEPL, group-based collaborative formats are essential, universal supports in a system of professional learning. We not only trained teachers and leaders on the importance of collaboration and of building a professional learning community, but we also provided all professional learning in teams so they could experience the power of collaboration for themselves. We believed team participation would increase the likelihood that learning would be transferred to practice, create greater momentum for change in centers, and strengthen collaboration for continuous improvement in the future. We supported the centers with installing and implementing routines of collaboration throughout the initiative with the goal that they would sustain the routines on their own. We also provided tools to support leaders in collaborating with staff to analyze data, set goals, make plans, and work together toward improvement.

3. Routine, so that professional learning opportunities occur frequently—weekly and monthly—as sustained supports for improving teaching and learning

For JEPL to be effective, it must be routine, meaning it must occur with frequency, and it must be sustained as part of a cycle of continuous learning and improvement. We had to make clear to leaders that the weekly and monthly meetings and professional learning activities that we were scheduling were not just for the sake of our time-limited project; our initiative was not one that would come and go like others before. Rather, one of the main goals of the Ounce PDI was for centers to establish and maintain routine, protected times for collaborative learning and improvement. Because prioritizing time to meet is very challenging in early education settings, figuring out how to schedule these meetings, protect the time and provide coverage was a critical part of our work together. We sought to build on protected time and supports for coverage that they had already. We provided some temporary supports such as substitutes and stipends but worked to phase these out in the last year of the PDI as we shifted toward a schedule and a coverage plan that was sustainable for each program.

4. Relationship-based and strengths-based to build respect, trust, and openness to sharing and examining practice

Just like children, adults need a positive climate and trusting relationships with their coworkers and their leaders in order to share their practices and learn from each other. To build trusting relationships for learning, JEPL must be strengths-based, with an emphasis on becoming ever better, not focused on deficits. This creates an openness to learning from data versus defensiveness and allows teachers to respectfully share and consider different perspectives. It also supports teachers in trying new things, risking failure, and learning from all of it together. Leaders in our cohort understood well the principles of relationship- and strengths-based practice in working with children and families but had not before considered applying these principles to work with teachers. Throughout our intervention, we emphasized the parallel process in supporting the learning and improvement of all human beings. We modeled and facilitated these

types of interactions while working together toward improvement. We also provided protocols to structure strengths-based review of data and strengths-based feedback from supervisors and peers.

5. Inquiry-based to facilitate construction of knowledge, support problem solving, and evoke motivation and confidence to apply learning and make changes to practice

We strove throughout the intervention for leaders to learn the importance of inquiry to professional learning and to develop and strengthen their skills in facilitating inquiry during every interaction with staff. Parallel to effective teaching, we taught and coached leaders to apply CLASS instructional supports to their work with teachers (ask open-ended questions to elicit different perspectives, prompt thinking, make connections, promote problem solving). We developed protocols for use during collaborative routines that supported inquiry-based group facilitation and interaction.

6. Structured by clear goals, practice frameworks, real and relevant examples, and norms and protocols

Collaborative JEPL routines must be structured to be effective. Structure helps ensure focus and productivity. Structure allows for discussion of multiple views while keeping the discussion grounded in a solid evidence base. It also provides safety by fostering predictable and respectful interactions. We achieved this by structuring both the "what" and the "how" of collaborative professional learning routines in several ways.

> **Clear goals—**Overarching project goals for teachers and leaders were established in the beginning to focus the content of all learning contexts. We then conducted data dialogues to set specific professional learning goals for teams and groups. The goals then provided a clear focus for the collaboration and were used to monitor progress.

> **Practice frameworks—**Evidence-based practice frameworks create a shared language of professional terminology and a shared understanding about best practices. This helps organize professionals' thinking and allows for efficient communication. Practice frameworks also ensure discussion is grounded in a research base, not opinion, and advance the discussion to questions of implementation more quickly. Practice frameworks not only structured the content of the trainings, but the curricula books and standards manuals were physically present and constantly referenced throughout each of the professional learning contexts. The goal was for teachers and leaders to learn to use these references and resources and not rely on the outside expertise of the coach.

> **Real and relevant examples of teaching and learning—**Real examples are actually what make the routines "job-embedded" and immediately relevant versus hypothetical examples that may be discussed in training. They also ensure specificity and depth in discussions of practice. Examples are inherent to some group formats, like data dialogue and lesson study. In other peer-learning group formats, it is important that teachers, or at least one volunteer presenter, come prepared to share specific evidence of practice and/or a specific dilemma that the group can examine and discuss together. For example, early in the PDI, teachers shared and discussed video evidence of children's learning and development. In the final year, once trust was established, teachers shared videos of themselves in practice and invited feedback from their peers. In parallel, leaders also shared audio or video of themselves leading teachers' collaborative, professional learning routines to gain feedback from their peers to improve their facilitation skills. Importantly, this feedback was also structured, by protocols

> **Norms and protocols—**These tools structure the process of collaborative JEPL routines and help ensure meetings stay focused on the professional learning objectives and the conversations stay respectful and productive. Norms are ground rules or expectations about how the members of the group will work together to accomplish its goals.

It's important for teams of teachers and leaders to establish, review and refine their own norms to address issues like confidentiality, time, listening, and participation. With leaders new to facilitating professional learning routines in their programs, it's critical that norms be developed to address and establish boundaries between the professional learning group routines and supervision.

Protocols are structured processes or step-by-step guidelines that professional learning groups may follow during discussions. We found that protocols can be incredibly helpful job aids for teachers and leaders in data dialogues, team lesson-planning meetings, and reflective practice groups. Protocols ensure conversations remain focused and productive, and advance to greater depth on a topic more efficiently. They promote trust, safety and equity by providing a predictable focus and sequence of questions, ensuring everyone has the opportunity to contribute, encouraging active respectful listening among all participants, and nurturing a culture of collegiality and mutual appreciation. They also advance learning and improvement by allowing difficult questions to be raised in constructive ways and by pressing thinking beyond unhelpful excuses or complaints about child behavior and families, instead promoting analysis, understanding and a focus on goals, solutions, innovations, and results.[44] We found protocols to be an important aid to effective facilitation, scaffolding leaders as they developed and strengthened their group-facilitation skills.

7. Evaluated, iterated, and continuously improved to ensure that teachers are growing in their knowledge, practices, and dispositions and are positively impacting children's learning.

Evaluation and iteration are critical to the success of collaborative JEPL routines. As the routines are repeated, the learning goals, content focus, and learning experiences must evolve based on the knowledge development and practice changes the participants are making (or not making). Iterations may also be made based on the development of the group and its collective capacity. To implement this ingredient, we tracked teachers' and leaders' knowledge development and practice change through multiple measures. We had a system and a support structure for analyzing this information and planning iterations for the subsequent learning cycles. We gave leaders similar job aids to structure their reflections on the effectiveness of the collaborative JEPL routines and to continue to plan iterations and improvements beyond the project.

Early Childhood Job-Embedded Professional Learning in Action: Team Lesson Planning

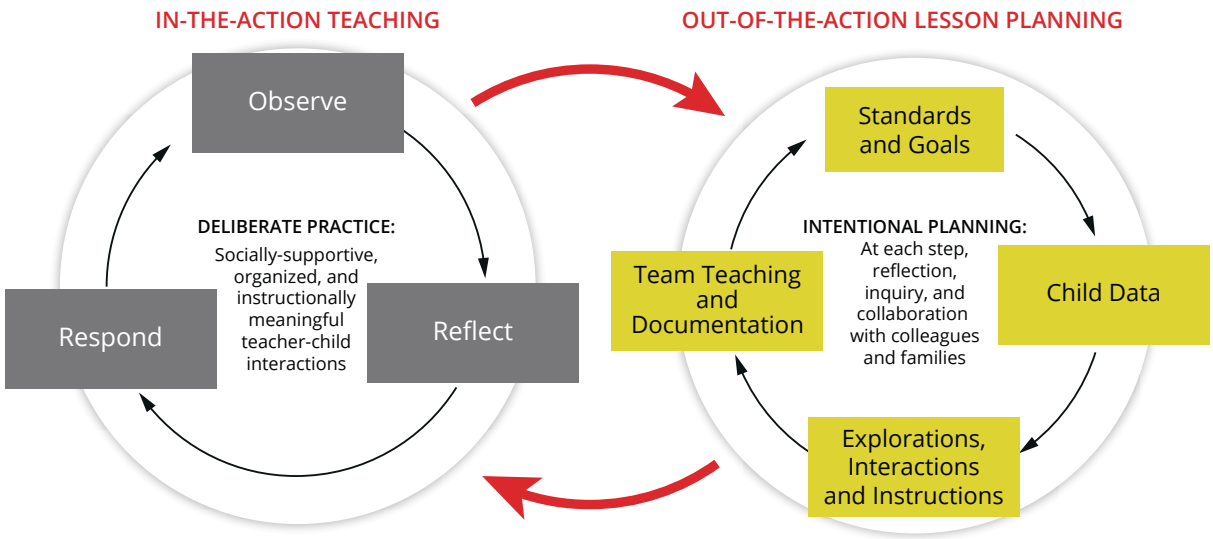
In the PDI, we applied the key ingredients with the aim of transforming the knowledge, skills and dispositions of teachers and leaders. The transformative nature of this work is best exemplified in two JEPL routines: weekly team lesson-planning meetings and monthly reflective practice groups. These routines help teachers become more aware of the contingencies between teaching and learning, and increase their motivation to improve.

Children's learning and kindergarten readiness depend on teachers' ability to plan intentionally for and deliberately implement engaging, developmentally ambitious interactions and instruction. We sought to transform early childhood teachers' lesson planning from a perfunctory process of selecting activities to occupy the day into a rigorous and thoughtful process of design and decision-making. Our goal was to shift to a process that uses learning standards, child progress, and teaching-practice data to intentionally plan not only environments and explorations but also interactions and instruction to more effectively promote the learning, development, and kindergarten readiness of each child. Lesson planning is a routine in almost every early childhood program. When educators apply the key ingredients to lesson planning, that can be transformed into a weekly opportunity for collaborative JEPL that continuously improves instruction.

We created the Focused Teaching Cycle (Figure 4) to help teachers structure, organize and connect important parts of their work, strengthening their general pedagogical practices. The "Out-of-the-Action" cycle guides teachers to design environments, interactions and instruction that are aligned to learning standards and curricula goals, informed by assessment data and parent input, and that detail the specific CLASS-based teaching practices to facilitate children's learning and development. The "In-the-Action" pattern of prompting observation, reflection,, and response helped raise teachers' attention to the learning unfolding in the moment and prompted them to think intentionally about their next CLASS-based interaction and instructional response while implementing the lesson plan as designed. These interactions then inform the next cycle of planning.

FIGURE 4

Focused Teaching Cycle



We introduced the Focused Teaching Cycle to teachers and leaders in training; then, to support the transfer of this knowledge into practice, we facilitated team lesson-planning meetings using a weekly team lesson planning protocol. This protocol served as a job aid to prompt the use of practice frameworks (like state early learning standards and the CLASS) to promote the analysis and use of data and to scaffold reflections, inquiry, and collaboration with colleagues and families to advance children's learning and development. During the project, coaches facilitated lesson planning using the protocol. This supported teachers to apply into their classroom practice all they were learning through training about high-quality interactions and instruction. The coaches worked with teachers and leaders to incorporate the Focused Teaching Cycle and lesson-planning protocol into the centers' instructional guidance and support system and into teachers' weekly lesson planning practice.

As one teacher described her planning process using the Focused Teaching Cycle:

> When planning for a group of children, we follow (Teaching Strategies) Creative Curriculum. … Some of the objectives are preselected based on the activities. But, when we plan for an individual child, we look at where they are developmentally. … We pull out the observations to discuss the level. Sometimes the families share something that they're working on at home or something that might be a concern and we'll try to build on what the family knows or asks. We also know to follow the child's lead, because even though you may have an activity planned, if the child takes you to a different level of thinking you just go and you get more involved in their thinking and take it from there and build on that moment.

Early Childhood Job-Embedded Professional Learning in Action: Reflective Practice Groups

When implemented with the key ingredients, reflective practice groups are powerful vehicles for both collective and individual learning and practice improvement, as well as organizational change. We formatted the reflective practice groups in different ways to support specific professional learning goals, but we consistently incorporated videos of practice and used practice frameworks and protocols to focus reflection and discussion. After a knowledge-development opportunity, teachers worked with coaches and supervisors to try out ideas and practices in their classroom. They used video to capture those real and relevant examples of practice in action. Then, at the reflective practice groups, they shared their practice and children's learning through their video.

When initiating reflective practice groups using video, we found it helpful to focus on examining evidence of children's learning and discussing implications for teaching. Starting with a focus on children in the videos rather than teachers reduced teachers' fears of exposure and allowed habits of practice sharing, reflection, inquiry, and collaboration to form. This structure deepened teachers' knowledge of child development and enhanced their fluency in interpreting children's learning so they could identify their next move as a teacher.

After teachers had experienced multiple reflective practice groups, we used the reflective practice group time for a data dialogue on classroom-observation data. We used a data-dialogue protocol with phases that sequenced deeper reflection and understanding. The first phase established positive intention and purpose for the dialogue. In that phase, we acknowledged how data may have previously been used in a way that felt punitive or triggered embarrassment. We asked teachers to reflect on what they might learn from the data. In the next phases, we supported their objective analysis of the data starting with the scores and then had them dig deeper into the indicators and circumstances to identify relative strengths and practice areas needing improvement. The last phase asked them to identify specific learning needs, any issues requiring special attention, and the professional learning contexts that would support them to improve their teaching.

Informed by this collective analysis of the data, the content of subsequent training was shaped to focus on classroom organization and instructional supports using the CLASS framework. Also, as the reflective practice group developed and trust was built, teachers were more willing to take the risk of sharing their attempts to apply what they learned in training about high-quality organizational and instructional supports and seek feedback from their peers within the structure of a discussion protocol.

One teacher described her experience with reflective practice groups this way:

> The video presentation when all the classrooms were together was the best, because you got the chance to see all the wonderful things other teachers [were] doing and where you could adopt some of their ideas or modify some of the things that they [were] doing for your own classroom.

Early Childhood Job-Embedded Professional Learning: Impacts on Leaders, Teachers, and Children

Impacts on Teacher Knowledge, Skills, and Dispositions

In our nearly three years of intensive work with programs to create systems that sustain collaborative professional learning and practice improvement, we saw notable growth in teachers' knowledge, skills, and dispositions, including:

- Improved lesson planning with the design of standards-aligned, data-informed ambitious interactions and instruction
- Improved quality of teacher-child interactions
- Increased emotional support from colleagues to continue striving for excellence
- Strengthened disposition for being a member of a professional learning community that examines practice and learns together
- Increased supportive relationships with leaders
- Increased readiness and commitment to make practice changes that improve children's learning

Key findings and notable reflections are summarized in Table 1.

TABLE 1
JEPL Impacts on Teacher Knowledge, Skills, and Dispositions

Outcome	Evidence	Reflections
Transitioned lesson planning practices to be standards-aligned, data-informed ambitious interactions and instruction	Lesson plans were substantially goal focused (versus activity focused), evidenced by (a) the use of child-progress data to individualize learning goals and (b) identification of specific teaching practices—what teachers would say and do within planned activities—to facilitate children's learning.	"Now we think of the goals first and then the children. So it was like flipping the way we would do a lesson plan. Now, it's what do I want the kids to get out of it? What concepts am I trying to teach them? How can I break it down to the different levels that are in the classroom in order for them to grasp what I'm trying to teach them?"
Improved quality of teacher-child interactions (as measured by the CLASS-Infant, CLASS-Toddler and CLASS-Pre-k)[45]	The percent of infant, toddler, and preschool classrooms at the end of the PDI providing mid-to-high levels of age-specific, high-impact, CLASS-based teacher-child interactions increased from 0% in year one to 67% in year two to 76% in year three.	"We have our vocabulary wall, not for students, but for the teachers and support staff. I think our language, our open-ended questions, are a lot richer now because of the planning we do."
Increased emotional support and encouragement from colleagues to continue to striving for excellence	Teachers described the significant emotional support and encouragement they gained from their colleagues and how that support helped them persist in striving for practice improvement. At the beginning of the PDI, 90% of teachers reported feeling isolated and without support to make changes in their practice. By the end of the PDI, 85% of teachers reported that they were part of a professional community that supported them in making practice changes.	"But it's like when they finally lay down [for a nap], it was like, 'Oh, my God, I just want to go home.' But now it's more like, 'Okay. What can we do tomorrow? What can we do to make it better?' Especially when you see some things are working. Then it's even easier to be like, 'Okay, we can do this." "We got each other's backs now.'"

TABLE 1 (continued) **JEPL Impacts on Teacher Knowledge, Skills, and Dispositions**

Outcome	Evidence	Reflections
Strengthened disposition for being a member of a professional learning community that examines practice and learns together	Teachers described how much they learned from their colleagues in the team lesson-planning meetings and during the reflective practice groups.	"The conversation, the interaction, just being able to bounce ideas off of each other. That really gave us a way to say, 'Oh, yeah, I could do that. Why didn't I think of that?' I think because we were so isolated and doing things kind of independently, that being able to come together and dedicate that little piece of time to just have those conversations. That's most valuable in terms of thinking of things that you wouldn't have thought of by yourself."
Increased support from leaders	Teachers reported how their leaders and supervisors now know more about what is happening in their classrooms, recognize their teaching challenges, and are more responsive to their needs as they work with children and families.	"You might feel like they're not on your side. … But I don't feel like that anymore. … They hear the troubles you have, and they've learned, or I should say, they've started to help more there. They are very much more attentive to what we need as far as working with the children and the families."
Increased readiness and commitment to make practice changes that improve children's learning	On the Stage of Change Scale for Early Education and Care 2.0, statistically significant increases pre- and post-PDI were observed in teachers' self-ratings regarding (1) being aware of the changes they need to make to their practice, (2) actively making those changes, (3) thinking about how to keep up changes they had made and (4) viewing themselves as a "true professional" because they often do make changes to practice.	"I can't go back to my old ways. Because of what I've learned, to be the professional that I am now, when it comes to working with families, children and co-workers. I now know things that I did not know before about being present and intentional in my work for the children and families."

Impacts on Leader Knowledge, Skills, and Dispositions

Because of our vision of program leaders as the essential drivers of continuous professional learning and improvement, we sought changes in their knowledge, skills, and dispositions. We were, after all, counting on them to sustain these JEPL supports for teachers once the intervention ended. Leaders in all four centers shifted understandings, mindsets, and practices toward a systems approach to instructional improvement and toward doing so by focusing on developing the skills of the educators in their centers through ongoing JEPL routines. They now protect time for teams of educators to engage in routine, structured practice examination, data inquiry, and lesson planning. They shifted supervisor roles and responsibilities to prioritize instructional leadership. They also improved their skills in facilitating adult learning with the support of protocols. Key findings and notable reflections are summarized in Table 2.

TABLE 2
Impacts on Leader Knowledge, Skills, and Dispositions Regarding JEPL

Outcome	Evidence	Reflections
Transformed professional learning mindsets, systems and practices	Leaders grew in their understanding of the ongoing support teachers need from them in order to learn and improve.	"I have always supported staff development, you know, conferences or a training. But now I really understand that to make it stick, it has got to be these embedded routines."
Protected time for collaborative JEPL routines	Leaders succeeded in creating sustainable schedules for weekly team lesson-planning meetings and one monthly reflective practice group.	"I really began to understand that it is our responsibility that teachers are learning and growing, and that we have to lead that. We have to provide the structure for that in order for that to happen."
Shifted supervisor roles and repri-oritized time to provide sustained supports to improve teaching	Despite being challenged to ensure time was spent in classrooms and in facilitating weekly and monthly JEPL routines, direct supervisors found creative and strategic ways to redefine their roles and restructure their schedules.	"But once I was made aware of this expectation for my time—OK, 25% of my time, 10 hours a week—I knew I actually had to set up a system. The system became, I allotted time to be in the classrooms and in my role as the teacher leader, then I put on a 'red apron' as a signal to other staff to not interrupt."
	Center owners and directors supported direct supervisors in making this shift.	"[The director] has also made some changes in how she supports her team. … [S]he is making intentional efforts to support supervisors in building routines for observation and reflection. She has recognized that supporting routines of collaboration center-wide means supporting the routines of her supervisors."

TABLE 2 (continued) **Impacts on Leader Knowledge, Skills, and Dispositions Regarding JEPL**

Outcome	Evidence	Reflections
Improved skills in facilitating adult learning	Leaders learned to ask more open-ended questions to solicit teacher insights, to problem solve together, and to express confidence in the teachers' capabilities, instead of just giving information or directives.	"So oftentimes, I find myself saying, 'Now how can I support you?' Instead of just giving them the information, it's more back and forth. Whereas before it was like me giving them directives."
Increased optimism about their capacity to lead continuous improvement and achieve excellence	Leaders described their commitment to sustain supports for the continuous professional learning of themselves and their staff in order to meet emerging challenges and needs. On the Stage of Change Scale for Early Education and Care 2.0, statistically significant increases (pre- and post-PDI) were observed in the leaders' self-rating regarding (1) taking action around seeking information for professional learning, (2) feeling more confident that their actions would impact children's learning, (3) feeling more empowered to overcome challenges with supporting practice change and (4) feeling supported by more than one ally within their organization.	"I believe that every year brings its own challenges. To continue to grow as an individual within a learning institution, change is inevitable. We need to be willing to look within ourselves to be effective leaders, to have confidence in our teachers to develop the competencies to do the work and to be our community of learners."

Impacts on Children's Learning

We saw notable growth in the learning and development of children enrolled in the PDI centers and classrooms. As leaders developed a more inclusive, strengths-based approach to their relationships with teachers, the teachers then also interacted with children in a more positive and organized way. When we studied child-level impacts, we saw the indirect impact of leaders' developing a more emotionally supportive and collaborative environment for teachers. In particular, the PDI had positive impacts on closing the gap in social-emotional learning and development for those children with two years of exposure to the intervention. Given that two of our aims were to transform leaders' relationships with teachers and to advance teachers' pedagogical knowledge (including knowledge of social-emotional development), these results reflect the PDI's effectiveness in supporting instructional practice. The best learning occurs within a context of supportive relationships that make learning engaging, meaningful and challenging—something we found to be true for adult and child learners alike.

What We Learned About Helping Early Childhood Programs Create Sustained Supports for Improving Teaching and Learning

Job-embedded professional learning, contrasted with traditional professional development, has program-based administrators routinely engaging teachers in multiple contexts for their learning and practice improvement. Well-implemented JEPL includes contexts that build knowledge, systematically support teachers with transferring and applying knowledge into practice, and enable data use, reflection, and examination of practice together with peers. To perform complex work well, a professional must have an accurate, coherent, and comprehensive depth of understanding and integrated decision-making processes, both in the action (the doing) and out of the action (the planning and reflection). It is this depth of understanding and integrated decision-making that supports teachers with implementing complex, evidence-based practices with quality and fidelity, and with persisting in the face of practice issues or lack of impact.

We learned that the quality of implementation matters with JEPL; that is, how these opportunities are formatted, structured, and facilitated is the engine that makes it more effective than traditional professional development approaches. Well-implemented JEPL (1) develops professional competencies grounded in standards and conceptual frameworks, (2) supports decision-making in and out of the action with job aides and (3) structures use of data and inquiry-based reflection using protocols during collaborative discussions and feedback processes. Attention to these JEPL ingredients is what advances deep learning (contrasted with superficial learning that only advances declarative and procedural knowledge) and recalibrates reflection and decision-making to be informed by evidence-based practices, standards, and progress and performance data. Conceptual frameworks anchor and organize knowledge and make connections among best practices and processes. Job aides make explicit the range, sequence, and dependencies of decisions professionals need to make during particular work routines (e.g., lesson planning, setting school-improvement goals). And protocols structure collaborative learning processes to ensure discussion is aligned to practice frameworks and informed by child progress and practice data to identify needed improvements to practice.

We transformed perfunctory activities like weekly lesson planning and monthly classroom observation and performance feedback activities into extremely effective and affordable formats of JEPL.

For instance, we transformed team lesson planning to exemplify JEPL:

- lesson planning occurs routinely (at least weekly)
- decision-making can be structured by a job aide (Focused Teaching Cycle) and collaborative discussion by a protocol (weekly team lesson planning discussion protocol)
- teachers are grappling with real and relevant problems of practice, while instructional leaders facilitate problem-solving and improvement

Similarly, we transformed monthly classroom observations and feedback as well as supervision into professional learning opportunities. We did so again by structuring the activity to promote teacher-supervisor collaborative inquiry and data use, reflection on practice, and planning for improvement grounded in learning standards and evidence-based practice frameworks. This is the kind of professional learning that allows teachers to be continuously learning from their practice and about their practice in order to improve their practice and children's learning.

Recommendations: Toward a More Robust, Coherent and Sustainable Professional Development System

Based on our lessons learned, we offer the following recommendations for leaders in the field of early learning to implement an effective system of JEPL. These recommendations are applicable to leaders at the site or building level, at the program, district, or grantee level, as well as at the state or system level.

Implementation Recommendations

Implement JEPL in stages. Implementation science provides guidance for how to introduce and roll out new initiatives in stages, ensuring attention to context and supports needed to make them effective. Those stages are (1) exploration, (2) installation, (3) initial implementation, and (4) full implementation and sustainability. Each stage specifies tasks and strategies for leaders to attend to toward full implementation and sustainability.[46] While this implies not rushing to full implementation, it also means not losing sight of the iterative and evolving nature of any initiative. While striving to be responsive to changing circumstances, such as staff turnover or new accountability criteria, schools may find themselves re-exploring fundamental assumptions and then tweaking installation aspects.

Engage teachers and all levels of leadership in each stage of implementation. Leaders and staff must collaborate in continuous improvement planning and activities. When collaborative JEPL is new to a program, leaders should engage teachers and other relevant staff in collaboratively exploring the ideas behind it and the fit for their program, rather than making a decision and worrying about gaining staff buy-in later. Teachers can help determine feasible and acceptable options for scheduling JEPL. Leaders at the district or grantee level are essential to support leaders to acquire or reallocate needed resources and to help remove system-level obstacles to implementation and improvement.

Explore the concepts, practices, and resources required to build readiness for implementation. Particularly when JEPL routines are new to a program, the exploration stage is important for leaders and teachers to gain an understanding of the concept, the practices and their value in addressing the challenges they face. They must learn about the resources required to implement the JEPL routines and assess their readiness before diving into full implementation. To move from exploration to installation, all leaders who are key to the implementation, sustainability and success of the professional learning routines, including those at the building level as well as those at the district or grantee level, must be supportive of moving forward with JEPL and willing to allocate the necessary resources for at least a pilot. At least a small group of teachers must be willing to try out the JEPL routines to proceed with creating a plan.

Devote sufficient time to figure out how to make JEPL possible and marshal resources to do so; seek implementation assistance if needed. The installation stage maybe the most challenging for early learning programs new to JEPL, as many leaders become overwhelmed trying to figure out how to make it possible in their program. Leadership teams may need outside expertise and assistance in figuring out these installation processes and solutions that will work in their system. Making JEPL possible requires protecting time and increasing instructional leadership capacity:

- **Create or repurpose routine protected time for teachers to meet for collaborative JEPL.** The goal is for teachers to meet at least weekly for team lesson planning and at least monthly for peer learning groups across classrooms. Different programs may employ different strategies to begin allocating and protecting time during

the workday for JEPL, including closing early monthly for professional development hours, employing full-time teachers who float to provide coverage to release teachers for collaboration during the workday and using substitutes. For school-based programs, it may be necessary to compensate staff for participating outside their regular work schedule, but we do not recommend exceeding an eight-hour workday. For principals in school districts, it may be possible to think creatively about the hours and days within the master schedule. For example, taking one administrative or workday reserved for the end of the year and dividing those hours across the school year to use for JEPL routines.

Allocate time for instructional leaders to organize and effectively facilitate JEPL. Programs may need to create new instructional leadership positions, or they may reallocate some administrative responsibilities of existing instructional leaders to increase the time they can devote to supporting teachers and facilitating JEPL. Alternatively, they may elevate a set of teacher leaders to facilitate JEPL but must ensure these teachers have the time, support, and additional compensation needed to take on such responsibilities. Lastly, a program may use external consultants or coaches to facilitate JEPL but must ensure regular, strong, systematic communication and coordination with site-based supervisors.

Start with a small group of early adopters. During the installation stage, we recommend leaders select a small group of early adopters to pilot the collaborative JEPL routines rather than trying to roll out this new form of professional development with entire programs at once. This allows leaders to build their competency and work out the kinks before full implementation. Leaders may be tempted to select the programs and teachers they think most need the professional development. However, we recommend leaders recruit volunteers who are most likely to become champions of JEPL to others.

Develop instructional leaders' skills in facilitating collaborative JEPL and create a sustainable system of support for leaders' effectiveness and improvement. Key to effective implementation of JEPL is skilled facilitation. Instructional leaders need training on the key ingredients of effective JEPL and strategies for effective facilitation. They need to learn about different formats and protocols for JEPL. Also, importantly, like teachers, they need support to transfer this knowledge into practice. So we highly recommend JEPL for leaders, too, including coaching, especially when they are new to facilitating JEPL, as well as peer learning groups and reflective supervision that use the key ingredients to support the ongoing learning and improvement of instructional leaders.

Systematically evaluate the implementation and the effectiveness of collaborative JEPL and iterate to improve. Leaders must establish a system for evaluation and improvement of the collaborative JEPL routines. This system is important in early stages to track adherence to the plan and catch basic implementation issues early (e.g., Did the routines happen at the intended frequency and duration? Did teachers and leaders attend?). The system should evaluate the quality of implementation of the routines (e.g., Are the key ingredients utilized? Do participants find the routines useful? Is there evidence they are applying what they learn?). The system should also track progress over time toward the goals of the routines (e.g., Are teaching and learning improving?). Programs should invest in good data systems to collect such information and connect professional development data to teaching, learning, and other data. Facilitators of the routines and other program leaders should meet regularly to review and analyze this data and plan iterations to test in ongoing improvement cycles. This system should support leaders in learning from failure and building on successes. In addition to practice improvement, leaders across levels should also discuss and make plans to address policy barriers to effective implementation of job-embedded learning and improvement of outcomes.

Policy Recommendations

Identify the importance of JEPL in any professional competencies. States that have defined the professional competencies of leaders and educators should make sure that those definitions reinforce JEPL rather than distract from it. And states with competency frameworks should ensure that related systems, like preparation and licensure, are aligned to these competencies as well.

Provide sufficient resources for JEPL. States provide funding for individual programs and for professional development systems; that funding needs to not only recognize the urgency and intensiveness of this work but also align those resources with the goals and outcomes outlined here. Policymakers and systems leaders should ensure a comprehensive and flexible system is in place to meet the different and changing professional learning needs of teachers and leaders. With limited funds, policymakers and systems leaders should invest in collaborative job-embedded routines like team lesson planning and peer learning groups as the universal and sustained supports for teachers' professional learning. Coaching would be considered a targeted or intensive support for some professionals, such as novice teachers or those struggling to improve, for those implementing new curricula or practices, or for those working with the most high-needs populations and communities. Adequate funds must also be included to monitor and support the effectiveness of the various professional development strategies.

Make sure that efforts to assess the quality of programs reinforce these JEPL practices rather than distract from them. If programs are being held accountable for practices in conflict with JEPL practices, or if program leaders are simply overwhelmed with requirements that drain the capacity that would otherwise be used for embedded professional learning, then JEPL won't happen. Program guidance and accountability requirements need to be updated to reflect new definitions, competencies, and expectations for program and school leaders and incentivize programs to have (1) clearly defined instructional leaders in place for all early childhood teachers and classrooms and (2) a system of JEPL in place to provide sustained supports for effective teaching and improvement.

Endnotes

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