

A collaborative approach to professional development on inclusive practices aligned to preschool mandates

Practices aligned to preschool mandates

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Received 2 August 2023
Revised 8 December 2023
16 February 2024
Accepted 27 March 2024

Abstract

Purpose – Professional development (PD) is an essential component of continuing learning for in-service teachers. This paper discusses a school-based example of using the best practice of coaching in early childhood education supported by a professional development school partnership. We explain how a teacher identified need led to a collaborative, multistep approach to meeting that need in connection to State mandates.

Design/methodology/approach – In this research, we used a case study methodological approach with a team of preschool teachers at one school. The model combines use of PD sessions, classroom coaching, classroom observation and reflection.

Findings – Teachers' feedback indicates that using the strategy positively impacted most of the participants' ability to support communication, community-building and inclusive practices in their classrooms. The data that emerged in the following year evidenced increased use of visual supports in classrooms, use in connection with literacy goals and interest in creating new uses in the school.

Originality/value – This article contributes an action-oriented school-based example of bridging research to practice to support teachers' needs through PD and coaching in a PDS. The design and practical implications may interest preschool educators, instructional coaches, administrators, professional development schools and others involved with monitoring teacher development initiatives.

Keywords Instructional coaching, Professional development (PD), Inclusive practices, Preschool (Pre-K), Professional development schools (PDS)

Paper type Research paper

Introduction and problem statement

Professional development (PD) is an essential component of continuing learning for in-service teachers. Federal education policy, and initiatives like The Preschool Development Grant Birth to Five (PDG B-5) program, provide funding for states to strategically align early childhood and K-12 programming toward the expectation that all children and families have equitable access to high-quality programs that reduce the opportunity gap (Ladson-Billings, 2006).

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NAPDS Essentials Addressed: Essential 1: A Comprehensive Mission Essential 3: Professional Learning and Leading Essential 9: Resources and Recognition



Professional development hours are mandated and monitored by states via quality rating improvement programs in a range of topical areas. Within NAPDS's (2021) professional development school (PDS) model, PD needs are addressed collaboratively between university and school partners. This article discusses a school-based example of using the best practice of instructional coaching in early childhood education supported by a professional development school partnership. More specifically, we explain how a school-based need led to a collaborative approach to PD delivery, instructional coaching, classroom observation, teacher and facilitator reflection, and the outcomes of that effort.

Traditional practices for teacher PD present known limitations due to lack of engagement, applicability, and support for implementation (Darling-Hammond *et al.*, 2017). These limitations continue even as education policy requires that teacher "PD be sustained, collaborative and practice-based" in order to qualify for federal funding (Sims & Fletcher-Wood, 2020, p. 51). Often, teachers do not have sufficient time to: (1) engage in PD aligned to their professional needs or priorities; (2) practice using the skills or strategies learned; (3) receive in-classroom implementation support; and (4) reflect on their evolving practice through on-going feedback and coaching. These lacking opportunities create a disconnect between commonly used PD approaches and teachers' professional needs and best practices. Preschool instructional coaching is increasingly recommended as a high-quality approach to teacher professional development (Ansati & Pianta, 2018; Desimone & Pak, 2017; Elek & Page, 2019; Fox *et al.*, 2015; Rudd *et al.*, 2009; Snyder *et al.*, 2015), and as of 2016 is mandated by some States for Head Start programs (Desimone & Pak, 2017; O'Keefe, 2017; Sims & Fletcher-Wood, 2020).

However, simply establishing coaching positions where coaches provide PD is not sufficient, and researchers have criticized the efficacy of preschool instructional coaching when it is not grounded in a research-based approach (Desimone & Pak, 2017; Sims & Fletcher-Wood, 2020). Desimone and Pak (2017) indicate five key features that are needed for instructional coaching within a research-based framework for PD (1) content focus; (2) active learning; (3) coherence; (4) sustained duration; and (5) collective participation. This paper addresses Elek & Page's (2019) call for more research-based examples of early childhood coaching that explain why the intervention worked in what context. The collaborative model described in this article allowed for collectively addressing the needs of a preschool team and differentiating for the specific needs of teachers involved in this case study at a PDS.

Purpose of the study

The purpose of this work was developed in response to an immediate need identified by preschool teachers at this PDS. Specifically, teachers wanted more concrete strategies for addressing students' communication needs to support academic, social, emotional, and behavioral growth. As such, this localized inquiry is framed as a case study about the implementation and usefulness of a specific PD approach. The following research questions guided this inquiry:

- RQ1.* How do teachers' perceptions and identified needs inform the design of a professional development and coaching model?
- RQ2.* How does a combined approach to professional development (direct instruction and ongoing instructional coaching) promote implementation of early childhood initiatives?

Theoretical framework

Because this work is occurring with in-service educational professionals, the methods and practices known to be effective for adult education or "andragogy" informed the approach.

Knowles and Associates (1984) conceptualization of adult learning theory describes six distinct characteristics of adult learners that inform four principles for designing adult learning experiences. These elements include: (1) involving adults in the planning and evaluation of their instruction; (2) recognizing experiences as the basis for learning activities; (3) building tangible knowledge that has immediate relevance and applicability to their lives; and (4) focusing on problem-centeredness and problem-solving, rather than subject centered learning (Knowles and Associates, 1984).

This framework guided the design of a teacher PD approach that combined direct instruction and on-going instructional coaching to address teacher needs in alignment with early childhood education mandates. The process started with attention to best practices for effective teacher professional development, including valuing collegial strengths in the organizational context (Moore *et al.*, 2022), valuing teachers as professionals with a base of experience (Knowles and Associates, 1984), and in a Universal Design for Learning (UDL) approach proactively responded to needs and removed barriers within our control (Tobin & Behling, 2018). The UDL framework (Rose & Meyer, 2002; Meyer *et al.*, 2014) uses scientific understandings about how learning happens in the brain to guide the design of teaching and learning that is accessible to a diversity of learners (CAST, 2024). Educator resources to support UDL implementation are available through the Center for Applied Special Technology (CAST).

Relevant background

Teacher professional development

Both adult learning theory and best practices for teacher professional development indicate that to be effective, PD must be interactive, engaging, hands-on, and relevant to their immediate classroom practice (Darling-Hammond *et al.*, 2017; Desimone, 2011; Knowles and Associates, 1984; Matherson & Windle, 2017). Literature demonstrates that “one and done” or “sit and get” PD sessions are not effective (Wilkinson *et al.*, 2021). Rather, teachers’ engagement with PD learning should be sustained over time (Brugar & Roberts, 2017; Darling-Hammond *et al.*, 2017; Desimone, 2011; Guskey & Yoon, 2009; Matherson & Winde, 2017). Another cornerstone of effective teacher PD is the opportunity to transfer new learning to practice. Darling-Hammond *et al.* (2017) specify that teachers need opportunities to see new practices modeled by experts and have supported opportunities to practice using new strategies in their own classrooms. Systematic, reflective instructional coaching interventions can address these PD needs and lead to practice change.

Instructional coaching

Rush and Shelden (2020) articulate a well-established early childhood coaching model that has sparked approaches like the one used in this study. Skiffington *et al.* (2011) outline that coaching activities can help teachers analyze their teaching, apply what they learn from professional development experiences, assess their students’ needs and the impact of their teaching, and build teachers’ capacity to make student-informed and data driven decisions. There is not a singular model for instructional coaching, but successful examples of coaching in the literature include cohesion between elements of observation, feedback, goal setting, and reflection (Elek & Page, 2019). Sims and Fletcher-Wood (2020) add that “PD interventions based on instructional coaching – an observation, feedback, practice cycle in which individual teachers received guidance from an expert mentor– show consistently positive correlations with student achievement” (pp. 58–59). Guskey and Yoon’s (2009) finding about the need for teachers to have “significant amounts of structured and sustained follow-up after the main professional development activities” lends support to the approach discussed in this article (p. 497).

Empirical evidence about coaching is found in a growing number of studies focused on younger learners and literacy outcomes (Hsieh *et al.*, 2009; Pianta *et al.*, 2022; Sailors & Price, 2015; Skiffington *et al.*, 2011). For example, researchers have identified successful outcomes when pairing professional development to examine increased use of mathematical strategies (Rudd *et al.*, 2009), sustained use of embedded instruction of evidence-based practices in special education (Rekap & Balikci, 2023), and focused preschool teaching strategies to improve teacher-student interactions in multi-age classrooms (Ansati & Pianta, 2018). The use of naturalistic settings for embedded instruction is an important consideration for inclusive practices where the benefits of coaching and providing robust learning opportunities are intended for all students and attend to student diversity from the outset. As more preschools shift to classrooms that combine three- and four-year-old learners, Ansati and Pianta's (2018) single subject study underscores the importance of intentionally composing multi-age classrooms to create conditions for success.

Reflective practices

Reflection is an essential responsibility of all in the education profession. The increasing literature around teacher reflective practices indicates that such habits may help teachers find meaning in, and support the quality of, their daily practices (Isik-Ercan & Perkins, 2017). In many contexts, preschool instructional coaches use reflective cycles to develop reflection habits with teachers in structured ways. Given the nature of the coaching relationship, it stands to reason that “the amount and content of coaching should be aligned with educators’ characteristics, skills and contexts” with effective coaching allowing “educators’ opportunities to apply new skills, and support them to reflect on their practice and set self-directed goals” (Elek & Page, 2019, p. 567). Isik-Ercan and Perkins (2017) posit an updated conceptual framework for critical reflection that intentionally accounts for meaning making and action planning to systematically support pedagogical and dispositional growth of early childhood practitioners within diverse educational contexts. Building on the literature base, the authors argue that the process must include critical reflection such that the results do not end with pedagogical takeaways that do not lead to transformative inclusive practices and responses.

Another area of need related to reflective coaching practices is to ensure that teachers are aware of the mandates driving professional learning in their contexts, and that they meaningfully reflect on their progress with these mandates. Literature calls for teacher reflection in effective professional development, however teachers rarely have opportunities to self-reflect and self-assess their learning, and/or to provide feedback about the usefulness of PD training *following an implementation period* (Darling-Hammond *et al.*, 2017; Postholm, 2012). The role of the coach is one of “engaged and engaging facilitator of teachers’ learning” (Skiffington *et al.*, 2011, p. 12), thus, both teachers and coaches are knowledge holders in the partnership. Feedback should be multidirectional where both the coach and the teachers are continually reflecting, assessing, and adjusting based on new information with a supportive, contextualized structure in place.

Kane and Saclarides (2023) further identify a need for collaborative engagement that examines how instructional coaches develop their content-specific knowledge and supports them in developing effective coaching practices. Professional Development School models, such as the Professor-in-Residence model can offer on-site, contextualized opportunities for mentorship to coaches, research-based assistance with PD design and delivery, and shared research inquiry with coaches, teachers, and administrators. Such an approach may also address the need for “those responsible for planning and implementing professional development [to] learn how to critically assess and evaluate the effectiveness of what they do” (Guskey & Yoon, 2009, p. 495). Sims and Fletcher-Wood (2020) further implore researchers,

policy makers, and school leaders to more critically examine the accepted best practices in teacher development, and to make decisions that are focused on research-based outcomes that demonstrate causal effects between specific PD interventions and student learning outcomes. Teacher PD models that combine instruction and systematic coaching provide strong opportunities for continued research that can build the literature.

Methods

In effort to understand the impact of this specific PD approach with a team of preschool teachers, case study methodology was used with qualitative inquiry methods as Merriam (1998) defines for producing knowledge about educational practice. In this study, the case was delimited by location and time, and bounded through the school identified PD programming with focus on progress during the first school year in an iterative PD cycle. The study used a purposive sample of one grade level team of nine preschool teachers in one school. Given the small sample size and localized inquiry in a shared educational context, the team was considered as one unit for this analysis.

Site

School context. Young Pups is a public school that houses grades preschool through kindergarten. School enrollment in the 2022–2023 school year was about 240 students, with a diverse student population that is 33% White, 32% Black, 28% Hispanic, 5% Asian (National Center for Education Statistics, 2023a, b). The National Center for Education Statistics (2023a, b) identifies Young Pups as a large suburban school where nearly half of the student population is eligible for free or reduced lunch. At the time of implementation, Young Pups had eight preschool classrooms and all eight classroom teachers participated in the PD and coaching. Across the preschool grade level, there were about 30 preschool students identified with disabilities. Prior to the 2022–2023 school year, preschool classrooms at Young Pups were grouped into age specific classes for three-year and four-year-olds. This year all the preschool classrooms are multi-age classrooms with PK3 and PK4 students in each classroom. Preschool programming requirements at this school are driven by the State's Preschool Teaching and Learning Standards.

As a State-funded preschool program, Young Pups School has a full-time Preschool Instructional Coach (PIC) on staff in the building. Preschool instructional coaches are tasked with providing and maintaining high levels of quality preschool programming by helping and supporting preschool teachers. The primary roles of PICs are to visit classrooms and coach teachers using the reflective cycle, model developmentally appropriate classroom practices and lessons, facilitate professional learning community (PLC) meetings, and plan and implement workshops to strengthen areas identified as in need of improvement. PICs are also responsible for conducting and managing data associated with curriculum observation instruments, performance-based assessment results, and district evaluation data.

Young Pups is also an established professional development school. The PDS partnership between Young Pups and the State University began in 2017. The partnership between this professor-in-residence (PIR) and Young Pups began in 2021 through a selection process that was outlined by the local professional development school network. The PIR worked on-site one full day per week with a focus on school driven goals aimed at improving student learning, preparing educators through clinical practice, providing reciprocal professional development, and conducting shared inquiry (NAPDS, 2021). Both the preschool instructional coach (PIC) and PIR are members of the School-based Leadership Team and of the PDS Steering Committee.

In the school's annual goal plan, the principal assigned the PIC and PIR to shared action items. Structural support included designated weekly professional learning community (PLC) time for collaboration among teachers and for the PIC and the PIR to work with teachers regularly in a variety of immersive ways and capacities. The school's PLC approach to PD is consistent with Nelson's (2008) description of the practice where "teachers are forming groups with their colleagues, administrators are mandating teachers work in departmental or cross-grade teams, and professional development (PD) providers are providing support for teachers to come together to study their practice" (p. 549). There are many known benefits of using PLCs for early childhood educators, including but not limited to, fostering a sense of community, support and mentorship, sharing best practices, professional development, collective problem solving, engaging in reflective practice, data analysis, continuous quality improvement, enhanced school culture, and becoming innovators and leaders (*Ideas and Innovations in Early Childhood Education and Care, 2023*).

Participants. This project was conducted with a team of eight preschool classroom teachers, six general education teachers and two special education teachers across a range of teaching experience. Table 1 outlines each participant's years of teaching experience, years of preschool teaching experience, certified teaching position held, classroom characteristics, and self-identified demographic information for age range, gender, race and ethnicity, and disability. Among this group of teachers, most were veteran teachers with more than 10 years

	Total number of years of teaching experience	Years of preschool teaching experience	Position	Classroom characteristics	Demographic information for self-identified age, race/ Ethnicity, gender, and disability
1	31	24	General Education Teacher	Inclusive Co-taught Multi-age PK 3 & PK 4	Age Range 55–59 White Female
2	26	26	General Education Teacher	Inclusive Multi-age - PK3 & PK 4	Age Range 55–59 Black Female
3	13	13	General Education Teacher	Inclusive Multi-age - PK3 & PK 4	Age Range 35–39 White Female
4	3	2 ½	General Education Teacher	Multi-age- PK3 & PK4	Age Range 25–29 White Female
5	2	2	General Education Teacher	Multi-age PK3 & PK4	Age Range 25–29 White Female
6	30	12+	Special Education Teacher	Self-contained Class Multi-age PK3 & PK4	Age Range 50–54 White Female
7	32	32	Special Education Teacher	Inclusive Co-taught Multi-age PK 3 & PK 4	Age Range 55–59 White Female
8	5	5	General Education Teacher	Inclusive Co-taught Multi-age PK 3 & PK 4	Age Range 30–34 White Female
9	No response provided	No response provided	General Education Teacher	Inclusive Multi-age - PK3 & PK 4	No age response Black Female

Table 1.
Participants

Source(s): Table created by authors

of teaching experience, while the other half of the team were in the early to mid-stages of their teaching career. Across the sample, teachers had spent most of their teaching years in a preschool setting, indicating that most of the teachers in this study had started and remained in preschool positions, rather than switching to or away from a preschool position during their educational career. Recognizing the importance of teacher diversity, we also asked teachers to voluntarily respond to open-ended questions about how they self-identified in terms of various demographic and identity markers. Teachers' responses demonstrate that though student populations are increasingly diverse—at our school more than two-thirds are students of color—our preschool teachers mirror the largely white, female teacher workforce statistics (National Center for Education Statistics, 2023a, b). Further, none of the participating teachers identified as having a disability, another increasing student population that is underrepresented in terms of teacher diversity (Damiani, 2022).

A combined model of PD and instructional coaching

The following interview quote by instructional coach, Eric Sandberg, captures the asset-based, solution-oriented, teacher responsive approach to coaching that was important in our work from the beginning: “Coaching is not about what’s wrong; it’s about what’s next” (Gonzalez, 2015, 2:47). Instructional coaching as a recommended practice is not specific to the preschool context. Our example occurred in the preschool context, but the combined model is applicable across P-12 and could be supported by content area coaches or curriculum specialists in other grade bands. Similarly, though the PIR position itself is unique, the roles relevant to this work may be able to be addressed through other specialist positions that are already established in P-12 education. Of specific importance, is to ensure that any model is teacher-centered and teacher responsive whereby teachers are included as stakeholders in the process who will guide the work moving forward. The coaching role and reflective cycle practices are intentionally non-evaluative which can support teachers' willingness to ask for help and take learning risks in the process. Similarly, the PIR role was non-evaluative for the teachers and the PIC which led to more openness and opportunities to work through problems of practice across all collaborative partners.

Figure 1 provides a visual representation of the PD model developed from this work.

Coaching is centered in this model because formal and informal instructional coaching activities were woven throughout all seven steps of the process. These activities occurred in planned capacities, such as when the PIC was doing a demonstration lesson, modeling use of specific strategy or intervention in the classroom, or following an established step in the State Department of Education's reflective cycle. Coaching also occurred emergently through teachable moments when the PIC was already in classrooms or when the PIC was called to a classroom to provide “on-the-fly” support for a teacher or a student in need. And coaching occurred through less formal actions such as preparing and providing resources and materials, answering teachers' questions, and by nature of the PICs presence as an integrated member of the school community. Across these different activities, coaching was authentic and embedded throughout the day. Interventions were responsive to teachers' needs and relevant to the school context. Data collection and formative assessment were ongoing, allowing for meaningful adjustments, as needed.

PD instruction design. The next sections contain detailed descriptions for (1) how teacher input was obtained; (2) how the evidence-based strategy was selected; (3) how the PD was developed; and (4) how classroom implementation and the reflection process were structured. These expanded explanations might be most useful for those specifically interested in replicating the design of the PD used in this approach.

Teacher input and needs identification. A priority of this PD effort was understanding teachers' needs from their perspective and responding to those needs in a contextually



Figure 1.
Cyclical process
representation

Source(s): Figure created by authors

relevant way. Instead of designing a single information-sharing PD session on a presenter selected topic, we used a needs assessment survey to identify the teachers' priorities for PD support. Unanimously, the preschool team indicated that visual supports for communication and behavior were needed. All the teachers reported worry about language development for students whose primary communication methods are not verbal, students who were showing signs of frustration wanting to communicate, younger students in their multi-age classrooms, and students who are new to the school and who are English language learners. In addition to the survey, teachers also approached the PIC directly requesting training, resources, and strategies to support communication.

Selecting an Evidence-based Strategy. Visual communication cues are an evidence-based strategy and expected best practice to use with preschool age learners (Hume, 2008). Classroom observations revealed that some teachers were using visuals in specific situations, but many teachers were not using them at all. Thus, the selected focus of our PD was how to use visual cue cards to increase communication and provide emotional support in diverse multi-age preschool classrooms. The PIC and the PIR co-created a PD session that provided teachers with an immediately useable evidence-based strategy that addressed requirements in preschool PD mandates. For example, professional development training on the use of visual communication support is required for preschool teachers in the Inclusive Classroom Profile (ICP) (Soukakou, 2016). The ICP is a structured observation rating scale that our early childhood program is using to help assess the quality of the inclusive daily classroom practices for students with disabilities.

Preparing and delivering the PD. The resulting PD sequence was co-designed and co-taught by the PIC and the PIR. The PD began with clear objectives and specific action items

expected of participants. Visual cue cards were previously provided to teachers without a specific PD and the initial needs assessment showed that teachers either had not used visual cue cards or were using them inconsistently. In some cases, the newer materials were stored in classrooms and teachers were using very outdated versions of cards that research shows students are less likely to connect with. To address these inconsistencies, the PD session was designed to include problem-solving discussion, direct instruction, and a “make and take” of materials so that each teacher had two sets of portable visual cue cards that were immediately ready for use in their classrooms.

The session content began by establishing a shared understanding about the purpose of the tool, identifying questions and answers that already existed among the teachers, and discussing examples for how to use visual cue cards to support instruction, classroom routines, behavior, and emotional expression. We introduced the use of visual cue cards as a proactive, research-based, and developmentally necessary Tier 1 support for all students—as all three- and four-year-old students are developing their language, communication, and social emotional learning skills. Establishing visual cue cards as a Tier 1 intervention normalizes their use as a foundational strategy within a multi-tiered support systems (MTSS) model creating an access point for all students that may support academic connections, expand communication, support social emotional learning needs, support behavior through non-verbal means, and provide predictability and routine for students.

As teachers were making classroom materials, they continued conversation about how they were going to use the visuals throughout the preschool day. Thus, the workshop time continued to be productive for idea-sharing and problem-solving between all preschool teachers on this team. In a school-based team approach, we consulted with the school psychologist to obtain these materials and provided them to the community parent involvement specialist, principal, district director of special education, and others in the building to support consistency. Both the Community Parent Involvement Specialist and a district administrator were also in attendance at this PD. This PD session ended with a review of district resources and offered the PIC as the go-to person that teachers were encouraged to follow-up with if they needed additional materials, had questions, or needed in-class support with implementation.

Classroom implementation and follow up. Teachers used visual cue cards in their classrooms for two weeks. Following the initial implementation period, the PIC observed in each classroom and conducted reflective conferences with each teacher or co-teaching team. The PIC completed the observer rating form and coaching continued after this initial implementation cycle. The findings were shared with all the preschool teachers and the data was used to inform next steps in the school-driven PD plan. The results were also shared with the School-based Leadership Team, which includes two preschool teachers, and the team further analyzed their progress with State mandates and the criteria of the Inclusive Preschool Classroom Profile.

Data collection. As depicted in [Figure 1](#), our on-going coaching model includes repeated cycles of (1) teacher needs assessment; (2) classroom observation (pre-PD); (3) PD co-planning and co-delivery by the PIC and PIR; (4) classroom implementation; (5) classroom observation (post-PD); (6) reflective conferences; and (7) results sharing with teachers. Coaching occurred formally and informally across all seven steps. Data collection occurred in four places in this seven-step cycle, namely during the teacher needs assessment, classroom observation before the PD, classroom observation following the PD, and during on-going reflective coaching conferences.

The research activities involved in the first PD cycle occurred in three stages over a two-month period as depicted in [Table 2](#) below.

Five types of data were collected in this study and used to triangulate the data: teacher needs questionnaire, teacher feedback form, observer form, classroom observation and coaching conference field notes, and structured observational tools.

Teacher needs questionnaire. In effort to understand teachers' ideas about areas of need and what kinds of professional development they wanted, a questionnaire was distributed asking teachers to score a list of PD topics in order of importance to them and to provide open-ended comments about their specific PD needs or interests. In response to this questionnaire, teachers also approached the PIC directly. The PIC then observed in each of the classrooms to determine what supports were available, in place, and to document gaps that could be addressed through coaching and implementation of best practices.

Teacher feedback form. The teacher form included a simple rating question on a three-point scale about the degree to which teachers felt that using visual cue cards impacted their ability to meet several specific itemized criteria on the ECERS-3 and the ICP, as well as a space for open-ended qualitative comments.

Observer form. The observer form aligned to the teacher feedback form with six additional itemized criteria from the ECERS-3 and the ICP. The observer version contains indicators that are not on the teacher form because teachers were not asked to rate in these areas. However, during the classroom observation, the PIC was able to gather additional information about how use of the visual cue card strategy impacted other areas of teacher expected performance and observe for implementation and application in these areas. Evidence was recorded as either observed or not observed.

Classroom observation and coaching conference field notes. Qualitative notes from the PIC's on-going classroom observations and coaching conferences provided additional data about implementation of practices, reflective questioning and discussions, and actions happening in classrooms as teachers continued their daily work beyond the initial implementation period. This source included items such as the reflective coaching cycle form, coaching log, and handwritten field notes. Classroom observations and coaching conferences occurred at a frequency of 1–3 meetings per month, but in some cases, more depending on the teachers' needs. These interactions were intentionally not recorded as coaching conferences are intended to be private to promote open and honest discussion between the coach and teacher.

Structured observational tools. Structured observational tools including the ECERS-3, ICP, Teaching Pyramid Observation Tool (TPOT), and the Creative Curriculum for Preschool, Fidelity Tool for Administrators provided further data about implementation of the targeted inclusive practice over the remainder of the first implementation cycle.

Data analysis

Data was analyzed using qualitative descriptive analysis (Miles *et al.*, 2014) as a means of synthesizing and interpreting descriptive data collected through questionnaires, observations, and individual conferences. Identifying patterns in the evidence of implementation across the data and throughout the cycle enabled us to identify key

Pre PD period	<ul style="list-style-type: none"> • Teacher needs questionnaire and classroom observation
PD period	<ul style="list-style-type: none"> • PD session delivery Mid-November 2022 • 1 hour during PLC time
Implementation period	<ul style="list-style-type: none"> • 2 week implementation period • Coaching
Post implementation period	<ul style="list-style-type: none"> • Data collection occurred over 1 month • Teacher self-rating forms sent after the 2 week implementation period • PIC had individual reflective conferences with each teacher • PIC completed the observer rating form • On-going coaching and classroom observation

Table 2.
Phases of the
professional
development activities

Source(s): Table created by authors

indicators of changing practices in the school. This analysis further helped us to ascertain teachers' positions about the usefulness of the PD provided and understand teachers' increasing preparedness to implement a specific best practice in classrooms.

Limitations

Consistent with case study research, the sample was purposive and necessarily small. We acknowledge that this intervention was designed for, and applied in a specific context, therefore the approach may need to be adjusted for relevance in other contexts.

Results and discussion

The results highlight numerical teacher feedback, observational data, and subsequent “on-the-ground” actions that exemplify how teachers took up use of the evidence-based practice provided and how the overall process became more teacher driven. Table 3 below shows participants' feedback about the degree to which they felt that the strategy and materials provided in the PD supported their ability to meet six criteria—five indicators from the ECERS-3 and one indicator from the ICP.

Table 4 below shows a broad overview of whether there was observable evidence to support teachers' using visuals in a range of preschool skills and activities expected across ECERS-3 and the ICP. Following classroom observations, the PIC debriefed these observations with each teacher in a reflective feedback session.

The PIC observed that the visual cue cards were in use in all of the preschool classrooms and that through using visual cue cards teachers demonstrated progress toward several of the State mandates including indicators related to the high leverage practices for establishing a consistent, organized, and respectful learning environment, supporting language development and communication, supporting emotional expression, facilitating interactions with others, and developing pre-academic and academic skills.

For all indicators, 75 to 100% of teacher participants either agreed or strongly agreed that visual cue cards have positively impacted their ability to meet the standards. Both formal and informal data show positive outcomes for student progress in language development, peer interaction and appropriate classroom behavior. In addition, teachers reported feeling more comfortable, prepared, and confident in implementing the targeted instructional strategies. Teachers asking questions, requesting more access to materials, and sharing ideas for expanding applications of the visuals showed that teachers found value and relevance in the strategies provided. Teachers wrote comments indicating that the visual cue card strategy was helpful with establishing and maintaining routines and expectations, encouraging communication and interaction between students [“student uses name tags to say friend's name”], and encouraging classroom community including students with various methods of communication. Teachers were also still considering some aspects of using this strategy,

PD Follow-up: teacher rating form n = 9

How would you rate the degree to which visual cue cards have impacted you in meeting the following

	Disagree	Agree	Strongly agree
ECERS-3: 12 Helping children expand vocabulary	1 (11.1%)	3 (33.3%)	5 (55.5%)
ECERS-3: 13 Encouraging children to use language	0 (0%)	5 (55.5%)	4 (44.4%)
ECERS-3: 31 Peer interaction	1 (11.1%)	5 (55.5%)	3 (33.3%)
ECERS-3: 32 Discipline	1 (11.1%)	4 (44.4%)	4 (44.4%)
ECERS-3: 33 Transitions and waiting times	2 (22.2%)	3 (33.3%)	4 (44.4%)
ICP 7: Support for communication	0 (0%)	4 (44.4%)	5 (55.5%)

Source(s): Table created by authors

Table 3. Results of teachers' ratings following PD and implementation period

PD follow-up- observer rating form n = 8

*The number of observations is one less than the number of participants because the co-teacher in the special education position was observed jointly in the general education classrooms where she co-taught

Evidence of implementing the following ECERS-3/ICP indicators	Observed	Not observed
ECERS-3: 12 helping children expand vocabulary		
5.2	6	1
5.3	7	0
ECERS-3: 18 art		
3.3	7	0
5.3	7	0
7.3	6	1
ECERS-3: 19 music and movement		
5.2	7	0
7.2	5	2
7.3	4	3
ICP 8: adaptations of group activities		
5.1	6	1
7.1	6	1
7.2	4	3
ICP 10: feedback		
5.1	7	0
5.4	6	1
7.3	4	3
ICP 12: monitoring children's learning		
5.2	6	1
5.3	7	0
7.1	4	3

Table 4.

Results of PIC's observer rating following PD and implementation period

Source(s): Table created by authors

such as the visual cue cards were working for most students, but not yet all, and some children were becoming distracted by the tool. These results have highlighted additional opportunities for studies with expanded measurable data across multiple iterations to document teacher growth and shifting practices in our context.

Reflecting on the collaboration up to this point, it became clear that progress was made, and that results were largely positive and encouraging. However, it was also evident that there was still opportunity for growth and a need for continued coaching. In Year 1 the teachers were invested, but they seemed most focused on immediate problem-solving related to their teaching needs and the needs of their students. If the effort had stopped at this point, as would be the case in traditional PD, sustained application would have been vulnerable to break down. Teachers' interest and their willingness to ask questions about how to refine and improve their current practices indicated their openness to continuing the work with a coach. The fact that the PIR role was non-evaluative also led to more participation from teachers and frequent opportunities to work through problems of practice across all collaborative partners.

With relationships in place, Year 2 provided an opportunity to build on the foundation created in Year 1. An advancement observed already in Year 2 is that rather than seeing this as a single strategy for a single purpose, teachers are using visuals in connection to various aspects of pre-school learning including literacy instruction, the classroom learning

environment, play-based stimuli, and individualized learner and communication supports. Teachers initially reported that use of visuals was successful because it allowed them to maximize instructional time by decreasing the need to address student behavior or improving communication with support staff. Now, in addition to those benefits, teachers have since identified new connections about the varied applications of this best practice, including explicitly using visual meaning in visual rich environments and authentic learning contexts. As a developmental prerequisite for reading and writing, this was extremely helpful for teachers who reported approaching this year's school professional development focus on high quality early literacy instruction with a shared foundation and experiences of success.

Another exciting and teacher-centered development of this approach is that teachers began to take more ownership of content and instructional practices. Preschool teachers serving as team leaders curated a resource bank of instructional and individualized support materials shared across classrooms. PLCs continued to be a vehicle for PD with a focus on "What's next?" and "How can we improve?" There was a gradual release of responsibility with the PIC being less of a presenter and more of a facilitator. Seeing teachers build capacity and take ownership had a positive impact for teachers and students and continued to drive instruction. This shared culture and ownership of the work allowed Year 2 to start off much further along. Not only were teachers using the evidence-based strategies presented with all students, but they were extending use by making modifications for individual students and situations and asking for more visuals. Teacher buy-in was evident and set a tone for new teachers, clinical interns, and support staff.

Evolving inclusive practices across the school and the district

The school where this work took place already valued inclusive practices. Being located so close to the university, and having a PIR, had helped to support and cultivate best practices in a research-based approach. However, even schools with inclusive school leaders benefit from a continued growth mindset. A significant outcome of this work shows the teachers seeing themselves as instructional leaders and taking a more active role in facilitating inclusive practices in their classrooms and supporting inclusive instruction among their team. This occurred as a natural evolution of a process where teachers felt their effort and contributions were noticed and valued.

Another important result of this work was that general education and special education teachers were collaborating more intentionally about instructional strategies to support all students. Where use of visual supports had previously only been established as a class wide support in self-contained classrooms, they were now being used with idea-sharing and problem-solving discussion between all preschool teachers. This collaboration continues to translate to observable outcomes in terms of access and sharing resources throughout the school building, and among members of the school community, including families. In the beginning of Year 2, district administration approached the PIC about expanding our professional development content into K-5. This further evidences our goal of creating learning opportunities for faculty and staff that are replicable, applicable and sustainable in effort to benefit all students.

Implications for practice

The rapidly changing landscape of education necessitates that schools and districts consider practical ways to innovate that comprehensively and sustainably build capacity. In public-school settings, there often seems to be infinite need and finite resources. Facilitating a professional development model that responds to both student and teacher profiles, is fiscally sound, is embedded into the daily schedule, and builds capacity across school staff is a way to

ensure one's efforts are making a difference. The approach explained in this article is intended to be illustrative, not prescriptive. We have shared the design and functions of our model that we observed to be helpful with successful implementation which may make them useable to others who are developing PD targeted to meet their school's needs. The remainder of this implications section is organized around three priorities: replication, application, and sustainability. All three of these elements are important considerations for how this work could be generalized for future use.

Replication

The results of this work provide evidence of a viable model for ensuring quality and consistency in early childhood coaching. Specifically, the instructional coaching model enacted through the role of a full-time PIC is a model that worked, and the PIC was able to address the needs of teachers collectively and individually across a grade level team. This model could not have been implemented as intended if the PIC were not regularly present and available in the school building. Using the reflective cycle to coach actively engages teachers in intentional, job-embedded professional learning designed to support implementing best practices with fidelity. This allows the practice-based intervention of coaching to be supportive, non-evaluative and specific.

Application

Schools are encouraged to consider the ways that they can utilize collaborative partnerships. In this case, pairing both a PIC and a PIR proved to be an innovative and effective way to leverage the professional development school model that was in place. Having two collaborative professionals who are part of the school community, available and well versed in both research-based practices and the school culture, and who can provide in-the-moment coaching, resources and materials specific to teachers' needs is a powerful way to make an impact on the quality of the school experience for all. Having familiar and non-evaluative professionals in these roles supports a community of trust which helps teachers feel more comfortable in asking for help, and more confident in trying new strategies. Recognizing that school resources and staffing structures vary, P-12 schools could consider applying this approach with curriculum coaches or other knowledgeable professionals who have the desire to collaborate and drive instruction.

Another imperative implication of this work is the opportunity for teachers to have more input and increasingly active roles in the continuing learning and PD process. By doing so, teachers can expand their skill set and turnkey those skills to their daily classroom practices. They are also better positioned to sustain efforts that are relevant and actionable in their school contexts, and even guide the work forward as teacher leaders (Ankrum, 2016).

Sustainability

On-going teacher engagement is necessary for sustainability. Schools may consider longer term or multi-year projects that allow for teaching and supported implementation in the first phase and teacher driven initiatives in later phases. Two observable examples of opportunities for sustainability that came out of this work follow. Firstly, since the initial training, the teachers have identified interest in applying for a grant that would provide full size bifold communication boards for the playground and outdoor classroom for all PK-K students. Secondly, a goal of embedded PD and coaching is sustained transfer of new skills or strategies to practice. Evidence of this transfer to practice and increased capacity-building was documented when paraprofessionals utilized the visuals in the lead teacher's absence demonstrating consistency across educational professionals and the students' educational experiences.

As an example of how we could extend our model in a research capacity, a more formalized collaborative inquiry approach (Donohoo, 2013; DeLuca *et al.*, 2017) could be used to systematically engage “teacher leaders [who] are an untapped resource in schools” (Ankrum, 2016, p. 158). In this model, school teams use shared expertise to design and address their professional development needs. The foundation for this practice is in place at our school with designated PLC time and teachers who serve as point persons for their team and the school related to their areas of professional experience, interest, and involvement in school/district committees, community connections. This potential next step is consistent with the literature that indicates that teacher professional development should be teacher-driven and collaborative in terms of the PD itself and how PD learning is implemented in their classroom practice (Brugar & Roberts, 2017; Darling-Hammond *et al.*, 2017). The coaching intervention could continue as guidance for what comes next and sustaining use of the reflective cycle with attention to documenting outcomes for students.

Finally, this article may be useful to PDS partners creating their own school-driven PD needs and approaches. PDS models contain a built-in framework for responding to school driven needs to provide a more comprehensive model of support for pre-service and in-service teachers, which includes a direct connection to university resources and expertise. This article contains an example of an intentional move away from “sit and get” PDs to an on-going program of support. This article may also be of specific interest to school and district administrators, instructional coaches, and those connected with progress monitoring and reporting of teacher development initiatives.

Sharing resources in boundary-spanning roles

Additionally, Young Pups school is a grant awardee of the State Inclusive Education Technical Assistance project that is intended to promote the inclusion of children with disabilities into PreK through 12th grade general-education public school classrooms. Through our shared responsibilities, the PIR and the PIC have established an on-going highly collaborative partnership that supports NAPDS Essential 8 for Boundary-Spanning Roles. The combination of our roles afforded us access and rapport in our school building, as well as access to university research and resources. Our work resulted in co-developed PD materials, co-facilitated PD sessions, and co-analyzed data that could be used to document progress with PD programming in our school. In doing so, our work transcended the individual institutional setting and purpose for which it was originally created.

The following text are two memos from the lead early childhood consultation specialist for the Systemic Change for the Inclusive Preschool Practices grant that were shared with the School Based Leadership Team on Basecamp, the team’s project platform:

Hi [PIC’s Name],

Thank you so much and whatever you are able to share will be greatly appreciated. I think what you created will be helpful to my teammates as they assist other districts. We love that you are following up and getting feedback from your staff and are not relying on a one and done PD approach. Also connecting it to the various tools that help us to implement high quality practices allows staff to understand what needs to be done to really make a difference with our youngest learners.

Hi [PIR’s Name],

Thank you so much for this information. I want to let you know I am sharing some of this with another district who is interested in using the ICP in conjunction with ECERS-3 to more fully assess their inclusion practices and how they are consistent with best practices and Preschool Guidelines. Thank you for the work you did in this area, and you should know it will serve as a learning tool for others. I am grateful for your dedication to the inclusion process for our youngest learners.

State partners expressed interest in the forms themselves, as well as guidance on how to use the PD with the supporting materials. These materials were shared with others in the State Network as a model for providing and assessing PD that made PD expectations and evaluation criteria transparent to teachers and involved them in reflective practice as part of the progress-monitoring process. The request to share our PD materials was the impetus for writing this article as we wanted to share this information with the PDS community more broadly should this approach be useful to others.

Conclusion

As we think about the lessons learned in this research and the on-going efforts in our school, we close with the following takeaways. This paper expresses how a school-university partnership addressed curriculum mandates using teacher-centered instructional coaching support. While collaborative approaches to professional development are not new to early childhood, the systematic approach to developing and examining PD in an on-going way could be helpful to readers who need to understand how to contextualize, support, and onboard new teachers in an effective way.

The combined collaborative approach proved to be mutually beneficial to all school-university partners involved. Stakeholders including administrators, teachers, the preschool instructional coach, and the professor-in-residence have all reported that the partnership was beneficial to their professional growth and to the ongoing efforts at Young Pups. As a result of this project, shared relationships and a research agenda formed that extend well beyond any individual roles. An existing PDS Network brought us to the location, but the development of this model and the sustaining results of these efforts are very much now a fabric of the existing school culture. In addition to the specific PD outcomes and the benefits discussed throughout this article, Young Pups also benefited from improved staff morale and a renewed sense of purpose in PDS work. Following Covid, and with a new PIR joining the school, developing relationships and improving morale in the building was the utmost priority. In the last three years, the focus of our partnership has evolved to allow us to address goals selected by Young Pups with the benefit of university resources and the on-site expertise and mentoring of a PIR. Even as structures, resources, and staffing are shifting, our collaborative partnership continues to grow.

Expanding the lens of this work, the field is currently seeing increased funding for early childhood programming, as well as an intensification of the teacher shortage. The instructional coaching model can fill a valuable role in increasing capacity in early childhood education. Meeting teachers where they are and coaching teachers on best practice instruction may significantly influence the quality of services young children and families receive (Taylor *et al.*, 2022). If the current trends continue, more schools will need to hire teachers with less experience in the field, recent graduates who are transitioning from preservice to in-service teaching, and alternate route certification recipients. Providing on-site support that is easily accessible, relevant and non-threatening will be a key component to student and teacher success.

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