Case Studies of CPE Professional Learning and Coaching in Local Communities

The Count Play Explore (CPE) initiative strives to engage professional learning (PL) facilitators, early childhood educators, families, and children from birth to third grade in the joy and wonder of mathematics. The initiative provides funding, resources, and PL to support facilitators in implementing PL and coaching in early math for early childhood educators in their local communities. WestEd serves as the internal evaluator for the CPE initiative. This brief provides evaluation findings from case studies of three CPE agencies' local implementation of early math PL and coaching.

For more information about facilitators', educators', and families' experiences of local CPE implementation, see the following CPE Evaluation Briefs:

- *Building Facilitators' Capacity to Promote Early Math in Local Communities*
- *CPE Professional Learning and Coaching in Local Communities*
- *Building Educator Capacity to Promote Children's Early Math Development*
- *Engaging Families to Support Children's Early STEAM Development*

The CPE initiative implemented a cascade model with 25 agencies across California, including school districts, county offices of education (COEs), and nonprofit organizations (see Exhibit 1). In this model, CPE partners provided early math PL and coaching to agency facilitators. Agency facilitators then provided PL and coaching to educators in their local communities. Most agencies also engaged families in early math experiences.

Exhibit 1. The CPE Cascade Model

The flexibility of the CPE cohort requirements allowed agencies to implement early math PL and coaching in various ways tailored to local contexts. Given the range of participating agencies, the evaluation team conducted three case studies to gain a deeper understanding of each agency's approach to early math PL and coaching. To ensure diversity across the case studies, these agencies were purposefully selected based on several criteria, including agency type, geographic location, ages of children served, and initial plans for local implementation.

This brief summarizes evaluation findings from the three case studies that address the following questions:

- What were the key characteristics and reach of the case study agencies' local CPE implementations?
- How did the case study agencies integrate CPE into their existing early math infrastructure?
- How did the case study agencies use CPE content and resources to support P–3 alignment and continuity in early math?
- How did the case study agencies promote equitable and inclusive early math opportunities for educators in their diverse communities?

Method

Three out of the 25 CPE agencies were chosen for case studies: one school district, one COE, and one nonprofit organization. The evaluation team met individually with the three agencies, each of which agreed to participate in the case study.

Case study data collection occurred between March and July 2024 and included multiple levels within each agency: administrative leaders, facilitators, and educators. The evaluation team primarily used qualitative methods, including interviews with agency leaders, focus groups with facilitators and educators, observations of PL sessions and learning settings, and a document review of PL session slide decks. The team also used quantitative methods, such as agencies' implementation logs and surveys, to further contextualize the qualitative findings.

The evaluation team used the data analytic software MaxQDA to conduct qualitative and mixed-methods analyses. The team developed a codebook that included code descriptions, examples, and decision rules based on transcripts and notes from interviews, focus groups, observations, and analysis memos from logs and surveys. The data were coded in MaxQDA and reviewed by multiple evaluators to ensure accuracy and reliability. The evaluation team met regularly to review coding discrepancies and identify patterns and themes. Preliminary coding results and themes were shared with agency participants for further data interpretation and member-checking. The following sections provide a summary of the overall takeaways based on the qualitative and mixed-methods analyses.

What were the key characteristics and reach of the case study agencies' local CPE implementations?

Exhibit 2 provides an overview of each agency's local CPE implementation. Overall, the three agencies implemented early math PL and coaching in ways that aligned with their respective systems and goals. Each agency's local implementation was led by a team of two to six facilitators and reached a wide range of educators across multiple sites and grade levels. Agencies' PL sessions were predominantly held in person and conducted in English. During PL sessions, facilitators covered multiple math topics and used CPE resources in different ways to engage educators in active, playful, and meaningful learning experiences. To supplement the PL sessions, facilitators offered individualized and group coaching, which provided additional opportunities for educators to further engage with the PL content.

Exhibit 2. Overview of Agencies' CPE Local Implementation

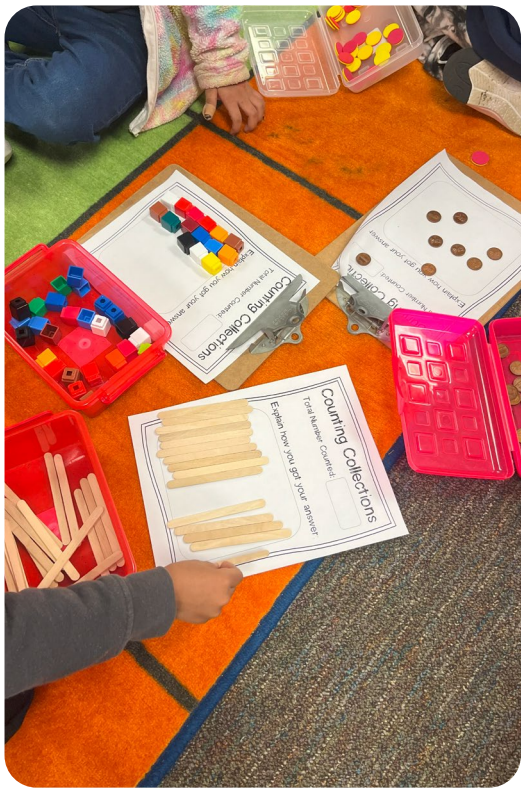
Implementation characteristics	Case Study 1: School district	Case Study 2: County office of education	Case Study 3: Nonprofit organization
Participants	 Facilitators: 2 district coaches, 2 external consultant-coaches  Educators: 7 TK teachers, 68 K–3 teachers, 23 TK/K instructional assistants  Children: 1,750 children (4–8 years)	 Facilitators: 2 early learning program managers, 1 TK–5 math program manager  Educators: 8 preK teachers, 8 TK teachers, 20 K–3 teachers  Children: 666 children (3–8 years)	 Facilitators: 5 ECE specialists, 1 ECE site supervisor  Educators: 48 FCC providers, 16 center-based teachers  Children: 528 children (birth–8 years)
PL sessions	13 sessions that were • Facilitated in person • Conducted in English • Lasted 2–7 hours • Split by grade level (TK/K, 1st, 2nd, 3rd, TK/K instructional assistants)	3 sessions that were • Facilitated in person • Conducted in English • Lasted 2.5 hours	6 sessions that were • Facilitated in person (4 sessions) and virtually (2 sessions) • Conducted in English and Spanish • Lasted 2–5 hours
PL content	Operations, counting, base 10	Counting, measurement, geometry, base 10, P–3 alignment	Counting, measurement, geometry, operations, base 10, math mindsets
Teaching practices highlighted in PL	Asking open-ended questions, using math language, inviting children to create math stories	Using M[5] math teaching practices,* learning through play, professional noticing	Learning through play, integrating math into everyday routines and with other content areas
CPE content and resources used in PL	Professional noticing strategies	Adult learning activities, CPE website, Early Math Project website, M[5] practices handout, slide decks	Activities for children, adult learning activities, CPE website, Early Math Project website, "I'm Ready" videos, slide decks
Coaching sessions	• 56 sessions • 100% were in English • 100% were in person • 39% were 1:1 • Average duration: 70 minutes	• 83 sessions • 99% were in English • 45% in person • 77% were 1:1 • Average duration: 60 minutes	• 81 sessions • 48% were in English and 72% in Spanish • 60% were in person • 53% were 1:1 • Average duration: 66 minutes
Coaching strategies**	Reflective conversations (95% of sessions), modeling teaching practices (88%), constructive feedback (52%)	Provision of resources/materials (100% of sessions), reflective conversations (83%), goal setting/action planning (57%)	Provision of resources/materials (100% of sessions), modeling teaching practices (84%), goal setting/action planning (56%)

* M[5] refers to a set of early math teaching practices promoted by CPE (mutual learning, meaningful investigations, materials and learning environment, math vocabulary and discourse, and multiple representations). ** These reflect the three most common strategies each agency reported using. TK: transitional kindergarten; ECE: early childhood education; FCC: family child care.

Case Study 1: School District

This school district in central California serves a small number of elementary schools and has participated in various statewide math initiatives for over a decade. The agency engaged four facilitators: two district coaches and two consultants from the district's partnership with the local COE. The district's implementation goals were to support teachers in transitional kindergarten (TK) through third grade with learning experiences that build on children's math ideas during number sense routines, Counting Collections, and math stories.

As part of CPE, the district offered 13 early math PL sessions. Eight of these sessions were conducted as full-day Lesson Labs, where educators gathered in the morning to learn about an activity, implemented their learning in classrooms with children, and reconvened in the afternoon to debrief and reflect. All 75 TK–3 educators were invited to participate in one of two Lesson Labs for each grade level. Across the eight Lesson Labs, 64 of the 75 educators participated (85%). In addition, facilitators led three sessions for TK and kindergarten instructional assistants and two opt-in sessions for first and second grade educators, with 22 of 35 educators (63%) attending.



The district's PL approach relied heavily on existing resources, with limited direct use of CPE's PL materials. The PL sessions included opportunities for active learning, peer collaboration, and modeling of inquiry-based teaching strategies, such as asking open-ended questions and encouraging children to share their math thinking.

To complement the PL sessions, the facilitators offered flexible and individualized coaching for educators in the form of demonstration lessons, in-classroom support, and one-on-one meetings. During coaching sessions, coaches focused on building relationships with educators and shared curricula and CPE resources (e.g., shape viewfinder) to enhance educators' teaching practices.

> "Something that I do differently now that I've participated in coaching sessions is to be more intentional with the questions I ask my students. … I want them to become problem solvers and have that productive struggle."
>
> *—District Third Grade Educator, Survey Response, May 2024*

Overall, the district's local CPE implementation had a positive impact on educators' early math mindsets, knowledge, and teaching practices. In focus groups, educators expressed increased confidence in teaching early math, highlighting a transition toward more student-centered learning. They also noted that children displayed greater persistence and engagement in math activities, more frequent and confident use of math language, and enhanced number sense and counting skills. These observations aligned with data from facilitators and leaders, including a summary of the district's TK–2 math assessment data from recent years, showing improved performance in children's number sense and counting tasks. All together, these insights illustrate how an agency such as a school district experienced successful local CPE implementation with its early educators.

Case Study 2: County Office of Education

This COE in northern California provides support services and oversight to over 20 school districts. The team of facilitators consisted of one program manager from the continuous improvement team with math experience in TK through fifth grade and two early learning program managers.

From the COE's participation in the Early Educator Teacher Development grant, the agency had an established P–3 alignment network, including educators and administrators from approximately 60 percent of those districts. CPE efforts were integrated into these existing P–3 efforts within three selected highest needs districts. These districts were selected to participate in CPE as part of a system for continuous improvement designed to focus support on vulnerable student populations.

The team of facilitators implemented three PL sessions and follow-up coaching with a cohort of educators in preschool through third grade. Educators received a stipend for their participation, and 100 percent of participants attended all three PL sessions. The agency's goals were to develop early childhood educators' confidence in teaching math in developmentally appropriate ways and to build their capacity and knowledge in math learning progressions, content, and instructional practices.

Each PL session followed the same structure: deepening content knowledge, developing instructional practice, and supporting personal development. Across the three PL sessions, facilitators covered multiple math topics: number and counting, geometry and spatial thinking, measurement, and a framework to support early math teaching practices (M^5 Early Math Approach). The team of facilitators used CPE slide decks, adult learning activities, and CPE handouts in their sessions, selecting specific slide decks and resources that aligned with their goals. The sessions were

hands-on and interactive and provided time for educators to self-reflect and collaborate with one another.

In addition to the PL sessions, facilitators provided one-on-one coaching to all participating educators. Educators began by making a goal and plan of action. Facilitators then observed each educator in their learning environment. The educators next reflected on the observation and debriefed with their coach, receiving feedback and suggestions for reaching their goals. After a round of one-on-one coaching, facilitators offered group coaching to the cohort. Educators reported a better understanding of developmental progressions of children's math learning after collaborating with other teachers from different grade levels and sites.

Overall, the COE's local CPE implementation had a positive impact on educators' early math mindsets, knowledge, and teaching practices. As indicated by their survey responses, educators reported feeling more confident in their early math knowledge and empowered to use math more frequently in their daily routines. Educators also reported strengthening their practices to allow for more child-led exploration, active learning with manipulatives, and less direct instruction to encourage children's problem-solving. These findings were consistent with site visit observations, during which the evaluation team observed children playfully engaging in center activities and using math vocabulary to share their ideas. Like the first case study, this COE also served as a successful example of local CPE implementation with educators across multiple sites and age levels.

> "I think that it [CPE] reminded us as teachers that we can make math fun. … I think our kids really, really enjoyed that. And, I do think I have kids that are leaving with less math trauma and with more enjoyment out of math."
>
> *—COE Third Grade Educator, Focus Group, May 2024*

Case Study 3: Nonprofit Organization

This nonprofit organization in central California serves early childhood educators, families, and children from birth to age 8. The agency offers bilingual resources, training, and monthly coaching visits to support home-based and center-based early childcare providers in the county. The team of facilitators consisted of one lead early childhood education (ECE) site supervisor and five ECE specialists. Facilitators' implementation goals were to encourage positive math mindsets and increase math awareness among English- and Spanish-speaking educators and, in turn, support their implementation of play-based learning opportunities for their sites and children.

The nonprofit leveraged its Family Childcare Home Education Network (FCCHEN) and other agency-led programs, such as the child subsidy program, home visiting, and the Family Connections program, among others, to recruit family child care providers and center-based educators to

participate in CPE PL sessions. Facilitators used an internal survey of participating educators to inform their planning of PL content. The lead ECE site supervisor then selected CPE content for each PL session and translated it from English to Spanish for accessibility.

The facilitators offered six PL sessions, conducted in English and Spanish simultaneously. The sessions focused primarily on math mindsets and play-based learning. The ECE specialists further deepened the content topics during one-on-one coaching sessions, where they modeled and implemented activities with children alongside educators and were able to directly assess children's needs and engagement.

Evident from the data collected from educators and facilitators, the agency's local CPE implementation supported educators' deeper awareness of their own math experiences and how those experiences shaped their current math mindsets. As a result, educators expressed being more intentional about integrating playful math into daily routines and site practices. Educators also applied their strengthened knowledge and confidence to math concepts within their existing teaching practices. They reported increases in children's knowledge, interest, and engagement with math-related learning activities as positive impacts of their CPE participation. This agency served as a unique case study for understanding local CPE implementation with educators from diverse settings and backgrounds.

> "I've implemented some [math] activities like finding shapes in the food, around the house, the heights [and] measurements [of different objects]. And of course, I prepare activities so that they have fun and play with math."
>
> *—Nonprofit Family Child Care Provider, Focus Group, July 2024*

How did the case study agencies integrate CPE into their existing early math infrastructure?

All three agencies integrated CPE into their existing infrastructure for PL and coaching for educators. Consistent with earlier phases of CPE, the flexibility of the initiative's requirements allowed the case study agencies to integrate CPE PL and coaching within their existing infrastructure and systems. For more details on the first phase of CPE, see the *California Statewide Early Math Initiative: Evaluation Report of the Professional Learning and Coaching Model*.

For the school district (Case Study 1), local CPE implementation was a continuation of its ongoing efforts to support educators' math teaching practices. The district had recently adopted a new math curriculum and growth-based assessment for TK–3, so participating in CPE enabled the district to focus its efforts on the lower grades and support educators with these new developments. The district also had a clearly established vision and system for building agency capacity in early math (see Spotlight 1 for more details), which contributed to its overall success with local CPE implementation.

Spotlight 1: Strengthening Agency Capacity and Sustainable Infrastructure for TK–3 Math

Case Study 1 provided insights into the school district's strong infrastructure for early math. This infrastructure was grounded in the district's unified vision for math, which was acknowledged by all levels of the agency, including leaders, facilitators, and educators. To achieve this vision, the district established systems that enabled leaders, facilitators, and educators to communicate regularly about their early math efforts, ensuring alignment on goals and priorities for math teaching and learning.

> **"The district has a clearly articulated vision for math teaching and learning. It really becomes this guiding driving force that's helped to further the work and connect all of these efforts across grade levels."**
>
> ***—District Leader, Interview, March 2024***

District Leaders and Principals. Agency leaders participated in math PL alongside educators, which provided valuable insights into the kinds of activities educators use to support children's early math learning. District leaders and principals routinely conducted classroom observations (termed "learning walks") to understand and calibrate math instruction across TK–12 classrooms. Following these experiences, leaders met regularly to exchange reflections and enhance their understanding of children's math development and the teaching experiences of educators.

Facilitators. In their role as district math coaches, facilitators played a crucial role in strengthening agency capacity and contributing to a sustainable infrastructure for early math. For example, facilitators coordinated efforts between TK–4 and 5–8 math coaches, ensuring consistency across grade levels. Furthermore, facilitators supported educators in implementing the district's newly adopted math curriculum for TK–3, which strengthened alignment in the early grades. Facilitators, with the backing of district leadership, also introduced a new growth assessment for TK–3 students, designed to provide a clearer understanding of children's math strengths and areas for growth.

Educators. TK–3 educators were well aware of the district's early math vision and expressed appreciation for the district's sustained focus on select math areas each year. Educators were receptive to implementing the district's newly adopted curriculum and assessment tools, ensuring their teaching practices aligned with the district's overall math goals. Additionally, all TK–3 educators were invited to participate in the district's early math PL and coaching. Through these initiatives, educators built positive relationships with facilitators and felt comfortable sharing constructive feedback, which educators noted was received positively and implemented rather swiftly. Collectively, these efforts contributed to a more cohesive and enduring infrastructure for early math within the district.

Similarly, the COE and nonprofit organization aligned their local CPE implementations with other agency goals and initiatives. The COE (Case Study 2) integrated CPE into its P–3 alignment network meetings, which occurred three times a year. The agency engaged a cohort of P–3 educators to participate in its early math PL and coaching. In addition, the agency provided stipends and classroom materials to support educators' participation.

The nonprofit organization (Case Study 3) invited all educators in the county to participate in their local CPE implementation but focused its efforts on center-based educators and family child care providers from their FCCHEN. The agency offered regular PL sessions and monthly coaching visits by early childhood specialists, which served as an effective infrastructure for integrating CPE.

How did the case study agencies use CPE content and resources to support P–3 alignment and continuity in early math?

CPE agencies received funding and educational resources to support their local implementation of early math PL and coaching. These educational resources, which were developed by CPE partners with input from agency facilitators, included

- slide decks on various early math topics;
- research briefs;
- book guides, activities, and videos on the CPE website;
- activities for adults; and
- activities for children.

Whereas the COE and nonprofit organization heavily incorporated CPE slide decks and activities into their PL sessions, the school district relied less on CPE resources and activities as main sources of content for its PL sessions.

Agencies used CPE resources in different ways to support educators' P–3 alignment and continuity in early math. For example, the COE (Case Study 2) integrated multiple CPE resources in their PL sessions (see Spotlight 2 for more details). During the PL sessions with their cohort of P–3 educators, the COE prioritized activities related to P–3 alignment and continuity in early math. For example, educators used the Preschool Learning Foundations and Common Core Math frameworks to explore developmental progressions in early math. These activities helped educators build awareness of the standards and their knowledge of children's math development before and after the grade they currently teach.

Spotlight 2: Developing a Shared Understanding of Children's Math Development Across P–3

Case Study 2 offered insights into the COE's approach for promoting P–3 alignment and continuity in early math through their local CPE implementation.

> **"[Integrating CPE into our P–3 network] is an opportunity for teachers to come together and collaborate across the grades and get on the same page about a certain approach to teaching a specific content area."**
>
> ***—COE Facilitator, Focus Group, April 2024***

Use of Existing P–3 Infrastructure. Facilitators leveraged their P–3 alignment network to recruit and engage a cohort of P–3 educators from the three highest needs districts to participate in CPE PL sessions together. While the PL sessions enabled P–3 educators to collaborate across different grades and sites, the follow-up coaching sessions allowed facilitators to offer tailored grade- and site-specific support. Facilitators noted that this combination of broad and targeted support effectively promoted educators' understanding of children's math development from preschool through third grade.

Use of CPE Resources. During the PL sessions, facilitators used multiple CPE resources, including slide decks, videos, and activities for children. CPE's M^5 Early Math Approach, for example, was consistently referenced across all three sessions. Educators selected strategies from this framework to develop an individual action plan and used the framework to reflect on their teaching practice during and between sessions.

Other CPE resources included hands-on, playful math activities to engage educators as active learners. For example, during the third PL session, facilitators set up various measurement games to support educators' playful exploration of measuring with standardized and nonstandardized units. These activities helped build educators' math content knowledge and offered examples of hands-on, playful math learning experiences that educators could incorporate into their own teaching practice.

The school district (Case Study 1) relied less heavily on CPE resources for its PL sessions and instead incorporated CPE activities during individual coaching sessions with educators. In addition, the district used CPE funding to support its implementation of newly adopted TK–3 curriculum and assessment tools. Using a common math curriculum and assessment across multiple grades allowed facilitators and educators to gain a more nuanced understanding of children's early math development. For example, all TK–2 educators implemented Counting Collections, an activity where children use different counting strategies to count a large collection of objects. Facilitators collaborated with educators to develop collections and handouts aligned with children's grade levels.

For the nonprofit organization (Case Study 3), P–3 alignment was not a direct focus of its local CPE implementation. However, providers acknowledged that they often care for multiple children of different age groups. Some providers requested coaching support from facilitators on how to adapt CPE activities for different ages and developmental abilities of children. In addition to CPE activities, the agency incorporated several CPE slide decks into its PL sessions to support providers' understanding of play-based learning and various math topics.

How did the case study agencies promote equitable and inclusive early math opportunities for educators in their diverse communities?

All three agencies shared ways they considered educators' and children's unique backgrounds, strengths, and needs when planning for and implementing their early math PL and coaching. For some agencies like the school district, CPE participation helped expand access to math-specific PL and coaching for educators who did not previously have access. For other agencies like the nonprofit and COE, CPE participation helped them use data-informed strategies to recruit educators serving highest needs communities and plan for local implementation in ways that promoted equitable and inclusive early math opportunities.

For the nonprofit organization (Case Study 3), promoting equitable and inclusive early math opportunities was a key priority in its local CPE implementation (see Spotlight 3 for more details). The agency administered multiple surveys to its providers and used the data to plan future PL sessions. This approach of data-informed decision-making helped facilitators tailor their local implementation based on their participants' strengths and interests. Additionally, all PL and coaching sessions were offered in English and Spanish to accommodate educators' preferences. During these sessions, facilitators and providers shared strategies related to supporting math learning in children's home languages and tailoring activities to meet the developmental needs of all children in their care.

Spotlight 3: Promoting Equitable and Inclusive Early Math Opportunities in Diverse Communities

Case Study 3 offered insights into the nonprofit organization's goals and priorities related to promoting equitable and inclusive early math opportunities for educators and children.

> **"The majority of our providers are Spanish-speaking providers … When we do have those trainings, and when we do have our coaching sessions or any DRDPs or any overall paperwork that we do, we also try to have it in Spanish for them. … If we have a training, we have it in both English and Spanish."**
>
> ***—Nonprofit Facilitator, Focus Group, April 2024***

Understanding Participants' Unique Strengths and Needs. From the outset, the agency prioritized learning about educators' unique backgrounds, strengths, and areas of need. For instance, facilitators administered a survey to educators before the first PL session to gather insights into educators' early math experiences and their attitudes toward math. Following the second PL session, another survey was used to gather participants' feedback on the session, which helped shape the third and final session. This approach ensured the sessions were responsive to educators' interests and feedback.

Language Accessibility. The agency conducted its PL sessions in both English and Spanish, aiming to support their diverse center-based educators and family child care providers. To plan for their multiple sessions, the agency adopted a cascade model, with a lead facilitator responsible for identifying relevant CPE resources, developing PL slide decks, and training a team of five early childhood education specialists. The specialists were equipped to facilitate PL and coaching sessions in English, Spanish, or both, according to educators' preferences. If a resource was unavailable in Spanish, the lead facilitator proactively contacted CPE coaches to find the Spanish resource or substitute it with a Spanish alternative.

Individualized, Data-Driven Supports. Facilitators also aimed to promote equitable and inclusive early math opportunities for children. They used data from children's Desired Results Developmental Profile (DRDP) scores to identify children's math strengths and areas of need. In addition, the specialists conducted regular coaching visits with educators to offer individualized coaching supports, such as observing teaching practices, coteaching playful math experiences, or supplying math materials. Specialists also supported educators to use creative, cost-effective strategies to integrate math into children's everyday routines, play, and learning environments.

The school district's (Case Study 1) local CPE implementation did not specifically target special student populations but rather focused on teaching strategies to engage all children. However, participants acknowledged the prevalence of multilingual learners in their classrooms. One participant noted that her site's annual focus was to enhance support for dual language learners, encouraging them to engage in math discourse in both Spanish and English. Another way the district supported inclusive early math opportunities was by expanding its PL offerings to TK and kindergarten instructional assistants, a population of educators who did not previously have access to math-specific PL. This inclusive approach was well-received by instructional assistants and their lead educators, who were also invited to attend these sessions.

> "I was able to attend that training with my instructional assistant (IA), and it was extremely informative. … When we left that training, my IA and myself, we started coming up with different projects and things we could do in the classroom and started implementing them. It gave her a lot of buy-in and confidence. And she's been here for 20 years."
>
> *—District TK Educator, Focus Group, May 2024*

The COE (Case Study 2) promoted equitable and inclusive early math opportunities through its initial recruitment process. The agency selected the three highest needs districts that qualified for differentiated assistance to participate in its early math PL and coaching. Educators reported that these districts served a large number of multilingual learners. Although the COE's local CPE implementation did not include any specific math supports in Spanish or other languages, some educators shared examples of teaching strategies used to support their multilingual learners, such as encouraging children to communicate in their home languages and providing adequate time for children to process and explain their thinking.

Key Insights and Implications

POSITIVE IMPACT ON EDUCATORS' MINDSETS, KNOWLEDGE, AND PRACTICES

The case studies revealed that CPE local implementation positively impacted educators' attitudes toward teaching math. Educators across the three agencies reported enhanced confidence in their math knowledge and their ability to facilitate engaging, child-centered learning experiences. Educators also shared improvements in their teaching practices, such as supporting children's math language; integrating math into daily routines as well as other content areas; and promoting active, playful math experiences. These positive changes not only enriched educators' instructional methods but also translated into noticeable shifts in children's engagement and understanding of math concepts.

FLEXIBLE INTEGRATION INTO EXISTING INFRASTRUCTURE AND GOALS

Integrating CPE into agencies' existing infrastructures enabled them to effectively leverage their established networks and resources. By aligning local CPE implementations with current goals and initiatives, facilitators could capitalize on their agency's strengths and tailor sessions to the specific needs of their educators and agency. This approach contributed to agencies' developing cohesive and collaborative systems involving multiple levels within the agency. In turn, agencies were able to build on their existing capacity and lay the foundation for sustainable infrastructure for early math.

VARIED USE OF CPE RESOURCES

The flexibility of CPE cohort requirements allowed agencies to use resources based on their unique goals, priorities, and contexts. Two agencies relied heavily on CPE materials in their PL sessions to support educators across various grade levels. One agency used CPE materials to supplement existing resources. Overall, data indicated that CPE slide decks and activities emphasizing a playful, child-centered approach to early math teaching and learning were particularly well-received by facilitators and educators in their local implementations.

REACH OF DIVERSE POPULATIONS, ESPECIALLY MULTILINGUAL LEARNERS

All three agencies demonstrated a commitment to promoting equitable and inclusive math opportunities for the diverse populations in their local communities. Agencies fostered accessible learning environments in different ways, such as using CPE funding to purchase manipulatives for their learning environments, offering suggestions for low-cost math activities using household and classroom materials, expanding access to math-specific PL and coaching supports, and offering sessions in both English and Spanish. Additionally, two agencies used data-informed decision-making to tailor PL sessions based on educators' strengths, needs, and feedback on session content. These strategies align with culturally responsive practices that engage adult learners in ways that respect their unique backgrounds and diverse contexts.

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