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PRINCIPAL MEDIATION OF PRE-K TO 3 COHERENCE: CROSS- CASE INSIGHTS FROM TWO DISTRICTS

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Brief: Principal Mediation of Pre-K to 3 Coherence: Cross-Case Insights from Two Districts

Instructional coherence across Pre-K to 3rd grade is a pressing challenge for school districts seeking to maintain the benefits of preschool and improve teaching and learning. To address this challenge, some districts have implemented Pre-K to 3 initiatives designed to bridge instructional gaps between Pre-K and elementary school, creating a more seamless, effective learning experience for students. As publicly-funded preschool programs expand and more elementary schools integrate younger students (Fuller et al., 2018; National Center for Education Statistics, 2023), principals are increasingly responsible for overseeing early childhood learning environments (Cunningham et al., 2023). Elementary school principals thus play a pivotal role in instructional improvement and coherence, acting as intermediaries between district-level policies and school-level implementation (Grissom et al., 2021).

However, many principals lack formal training in early childhood and tend to view Pre-K as a separate entity, assuming the role of manager rather than instructional leader (Garrity et al., 2022; Koppich & Stipek, 2020; Mead, 2011). Additionally, principals face structural barriers, such as siloed district Pre-K departments (Author, 2023; Kauerz, 2018), conflicting credentialing requirements and instructional norms in Pre-K and elementary school (Claessens et al., 2014; Justice et al., 2022), and accountability pressures that prioritize third grade outcomes (Brown, 2009; Mead, 2011). Districts employ different strategies in the face of these challenges, and what districts do affects how effectively principals are able to foster Pre-k to 3 coherence at the school site.

The Study

This study observes four principals in two different districts involved in a district initiative supported by [California Education Partners](#), a not-for-profit organization that partners with districts in their efforts to improve the quality and continuity of P-3 math. The initiative was aimed at strengthening and making more coherent mathematics instruction across the Pre-K to 3 continuum. Specifically, the study investigates how the principals responded to districtwide efforts to build systems that promote Pre-K to 3 coherence and effective math instruction at their school sites.

The two districts that participated in this study, Cedarville and Diamond School Districts¹ were similar in size (between 10- and 16,000 students) with a majority of students eligible for free and reduced lunch, but they had different strategies for engaging principals and schools in the initiative.

Findings

We found that the principals played different roles in the two districts. In **Cedarville**, district efforts to improvement mathematics was guided by a clear instructional framework that emphasized conceptual mathematics, problem-solving, and student discourse in the early grades. In keeping with their math vision, Cedarville adopted Counting Collections (an instructional activity encouraged by Ed Partners) as a signature practice in Pre-K to 3 and used a curriculum that provided opportunities for student exploration and discourse. This framework was reinforced through consistent messaging, robust professional learning systems for teachers and leaders, and regular monitoring and instructional oversight. For example, district leaders facilitated monthly professional learning opportunities for Pre-K to 3 teachers and district staff. Cedarville principals were convened monthly to discuss early mathematics and perform quarterly walkthroughs across Pre-K to 3 grades to calibrate their instructional expectations. District leaders even monitored instructional practice by asking principals to upload photographs documenting relevant activities to shared online folders.

¹ All district and school names are pseudonyms.

In turn, Cedarville principals actively endorsed district initiatives, reinforcing and embedding them into school-level routines. The two Cedarville schools studied implemented district policies and practices in similar ways. Elderberry and Sunset Ridge’s teachers received professional development through individualized coaching cycles and “vertical articulations” that brought together teachers across grades. In both schools, principals, assistant principals, and academic coaches did walkthroughs to monitor and provide feedback on teachers’ use of Counting Collections. Both of the schools’ principals attended Ed Partners’ professional learning opportunities for school leaders and participated in regular meetings with the associate superintendent who oversaw and promoted Pre-K to 3 coherence.

To endorse the practices consistent with the district vision, Marley, the principal of Elderberry, paid for substitutes so that teachers could participate in Ed Partners’ professional learning opportunities. She provided resources, manipulatives, and gave feedback that encouraged teachers to prioritize listening to students’ explanations before intervening with instruction. Marley also modeled these instructional practices in classrooms, coached teachers, and facilitated school-wide vertical articulations that emphasized these strategies.

Similarly, Daria, the principal of Sunset Ridge, was personally engaged in every instructional learning opportunity consistent with the district’s priorities, and endeavored to ensure that teachers participated as well. She also facilitated a Counting Collections book study, which provided teachers with structured opportunities to deepen their understanding of practices promoted by the district and made sure that teachers had access to resources to enact district policies (e.g., manipulatives). Daria also observed Counting Collections in classrooms, collected data, and provided targeted feedback, demonstrating hands-on leadership that reinforced the district’s approach

By contrast, **Diamond’s** systems to support instructional improvement in mathematics was more fragmented. Although the district promoted Pre-K to 3, they did not have a clear instructional framework. Unlike Cedarville, which had a singular approach to mathematics, Diamond’s lack of an instructional framework enabled two parallel mathematics approaches to operate simultaneously. Diamond promoted policies and practices that emphasized conceptual understanding and student discourse, consistent with the Ed Partners initiative in which the district participated. But they implemented a basic skills curriculum focused on procedural knowledge, rote memorization, and speed. Although “mathematical competence rests on developing both conceptual and procedural knowledge” (Rittle-Johnson et al., 2015, p. 594) and it is possible to have two co-existing approaches to mathematics that are complementary rather than competing, the district made little effort to integrate these approaches. This failure led to two different ways of doing mathematics that were reflected in their professional learning, assessments, and instructional oversight. While Diamond’s district math manager championed a conceptual approach by facilitating professional learning for teachers and monthly principal meetings to promote practices like Counting Collections, other district leaders emphasized algorithmic problem-solving, speed, and digital learning platforms. Similarly, although schools were encouraged to experiment with one-on-one assessments that emphasized conceptual understanding, the district only monitored student achievement data related to speed and fluency collected from digital learning platforms.

Unlike Cedarville principals, who consistently endorsed the district’s approach to mathematics, Diamond’s principals navigated a fragmented set of messages about mathematics. The mixed messages left school leaders to interpret district expectations independently. Rather than consistently reinforce district guidance, principals selectively endorsed, allowed, or ignored elements. This pattern produced greater inconsistency between the two Diamond schools and their district. As Kemen, principal of Summit Hills, explained, “there is no curriculum map that the district has given... so we’re developing kind of our own.”

At Summit Hills, Kemen endorsed a procedural approach to math fluency and basic skills development through frequent monitoring of data on digital learning platforms. At the same time, he allowed more conceptual math tasks, such as Counting Collections. He purchased Counting Collections materials and permitted coaching sessions from university partners associated with Ed Partners. Kemen rarely monitored Counting Collections, however. He noted that this lack of routine oversight led to teacher discretion and inconsistent implementation across the early grades. He also ignored the Learning from Children's Growth Assessment, which focused on conceptual understanding, and was recommended by the district. Overall, Kemen engaged more with the district's procedural approach to mathematics than their conceptual approach.

Ula, principal at Lavender school, articulated a preference for a conceptual approach. Ula named student engagement, exploration, and "making math fun" as her priorities for mathematics. Despite this preference, she did little to support the conceptual approach. Although Ula allowed Lavender teachers to attend professional learning and receive on-site coaching from Ed Partners on conceptual math tasks, she rarely monitored or assessed how these practices were integrated into daily instruction. Instead, Ula endorsed procedural approaches to mathematics through frequent monitoring of student achievement data on digital learning platforms.

Conclusion

In Cedarville, strong district systems of support guided by a unifying instructional vision for early mathematics and robust oversight enabled principals to lead Pre-K to 3 efforts with focus and depth that were well aligned with the district's efforts. In Diamond, fragmented systems enabled more variety in terms of how principals engaged with the district's Pre-K to 3 initiative. Mixed messages from the district meant that principals were therefore left to design their own school-based approach to instructional improvement.

This study illustrates how principals' engagement with district policies and practices to promote Pre-K to 3 varied in ways that reflected the nature of the district systems in which they were embedded. When district systems were guided by a clear instructional framework for early mathematics and reinforced by aligned supports, including robust administrative oversight, principals actively endorsed district policies and practices by reinforcing them with school-level supports. Contrastingly, when district systems were fragmented and lacked a clear pedagogical approach to early mathematics, principals engaged with their district's Pre-K to 3 initiative more selectively. The study demonstrates the importance of both district policies and principals' role in mediating those policies in efforts to improve instruction.