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Poonam Arya

Wayne State University, parya@wayne.edu

Kathryn L. Roberts

Wayne State University, eo9096@wayne.edu

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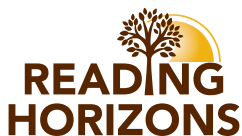


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Navigating the Chasms Between Real and Ideal Literacy Professional Development

Poonam Arya, Wayne State University

Kathryn L. Roberts, Wayne State University

Abstract

In this study, we examine the supportive and hindering factors that influenced 26 teachers' implementation of pedagogy learned through a research-based, resource-intensive literacy PD initiative (100+ hours). Through post-intervention interviews, we explore the space between learning and enactment of new practices for literacy teaching and learning. Specifically, we ask, What are teachers' perceptions of the contextual factors that support and hinder their moving from learning to implementation of literacy PD? Results indicate four primary supportive factors (PD facilitators, communities of practice, schools/administrators, and student affective responses) and three primary hindering factors (circumstantial factors, lack of resources, and mismatches between school or district demands). Identifying and considering these factors is an important step toward increasing implementation, which serves as a gatekeeper between teacher learning and student outcomes.

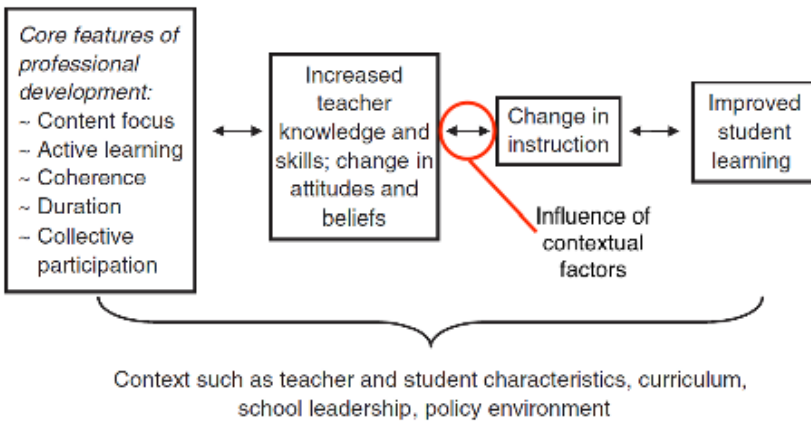
Keywords: professional development, in-service teacher, teacher education, interview research

Professional development (PD) is an important and required part of continued learning for teachers (Desimone, 2009). As such, it comes as no surprise that a considerable amount of time and resources have been spent studying factors that influence PD effectiveness. In the case of the PD program discussed in this article, the ultimate goal was to improve student literacy outcomes and the mechanism to do so was providing PD designed to increase the use of research-based literacy instruction. However, as conceptualized by Desimone (2009) and other scholars (e.g., Darling-Hammond et al., 2017; Fischer et al., 2018; Heller et al., 2012), PD does not consistently and directly affect student outcomes; effects are mediated by teacher learning and enactment. The logic is straightforward: Specific features of PD influence teacher learning; teacher learning influences teacher practice; teacher practice influences student learning. The process can also move in the other direction; for example, improved student learning can increase the probability of sustained changes in teacher practice. All of this takes place in particular contexts that exert influence at each point in the process, and attention to context is crucial to success.

Within Desimone’s (2009) model, we hypothesize that the inflection points for context reside primarily in the double-sided arrows between PD, learning, practice, and student outcomes (Figure 1). That is, holding PD experiences constant, differential effects on teacher learning and implementation of literacy practices are almost certainly due to contextual factors that support or hinder the leap from learning to enactment. Through teacher interviews conducted after the completion of a research-based, resource-intensive literacy PD initiative, we explore the supporting and hindering contextual factors that lie in the space between teacher learning and enactment. Specifically, we ask: What are teachers’ perceptions of the contextual factors that support and hinder their moving from learning to implementation of literacy PD?

Figure 1

Desimone’s (2009, p. 185) Proposed Framework for Studying the Effects of Professional Development on Students and Teachers (Annotation Added)



Conceptual Framework

This article is part of a larger study in which we examined both learning from and enactment of literacy professional development. As demonstrated by research in various content areas, including literacy, we posit that learning from PD is necessary but not sufficient for enacting new pedagogical content knowledge (e.g., Glover et al., 2016; Gropen et al., 2017; McCaughtry et al., 2006). Therefore, enactment is contingent upon the PD being designed and carried out in ways that best facilitate learning, but is also heavily influenced by other factors. Enactment is subjective, state or context dependent, and multifactorial (e.g., Bandura, 1986; Fischer et al., 2018; Thoonen et al., 2011). Passive and active decisions about enactment are influenced by factors such as personality, abilities, professional and personal goals, attitudes, and past experiences. Even within the same individual, these influences vary and interact differently over time and under different circumstances (e.g., enactment may be higher or lower when a teacher is being evaluated, is in their final year of teaching, or is approaching testing season). Finally, enactment can be influenced by numerous contextual factors such as perceived progress, instructional leadership support, district/building initiatives and policies, and student learning gains, all of which are subject

to fluctuation (e.g., Blumenfeld et al., 2000; Cheah et al., 2019; McCarthy & Woodward, 2018; Nguyen et al., 2020).

Though this framework is relevant to all PD, it should be of particular interest to literacy educators as literacy permeates the curriculum at all levels and impacts all other subject areas, making the success of literacy PD particularly high stakes for students. While it is important to design PD based on research on literacy pedagogy and principals of adult learning, PD initiatives run the risk of not meeting their full potential if contextual supports and barriers are not also considered. With this framing, in the review of the literature that follows, we begin by discussing the extant research on effective professional development within and beyond the field of literacy education as a foundation for teacher learning and enactment of new pedagogical content knowledge. We then shift our attention to the research on other mediating factors that influence enactment.

Critical Features of Effective Professional Development

Enactment is predicated on learning, which is in turn predicated on strong PD design. There is ample research describing widely accepted and supported features of effective PD, both specific to literacy and across content areas (e.g., Borko et al., 2010; Darling Hammond et al., 2017; Desimone et al., 2002; Garet et al., 2001; Hawley & Valli, 2007). PD has been shown to be most effective when there is sustained focus on strategies related to a particular curricular area (e.g., Cohen & Hill, 2000), especially one that is significant to the participating teachers (Glover et al., 2016; Muller & Papenkort, 2013, as cited in Kalinowski et al., 2019). Ideally, PD should also involve teachers in all stages: planning (inclusive of selecting focus), development, and implementation (e.g., Hawley & Valli, 2007). Paying attention to teachers' input about what they want to learn, their individual learning styles and preferences, and the pace of the learning positively impacts teachers' commitment to PD and motivation to learn, in general (e.g., Gutierrez & Kim, 2017; Hawley & Valli, 2007; Hunzicker, 2010) and specifically within literacy PD (Lieberman & Pointer Mace, 2008; Mraz et al., 2014).

PD should also be sustained long enough for teachers to learn deeply about the topic; one-shot PD days are unlikely to be as impactful (e.g., Bailey, 2010; Ball & Cohen, 1999; Cohen & Hill, 2000; Darling-Hammond et al., 2017; Feiman-Nemser, 2001; Glover et al., 2016). In order to improve instruction, teachers must have time to move iteratively through the process of learning, practicing, receiving feedback, and asking questions (Ball & Cohen, 1999; Darling-Hammond et al., 2017; Desimone, 2011; Minor et al., 2016). While this is true for all content areas, there is strong research supporting it in literacy, specifically (e.g., Lieberman & Pointer Mace, 2008; Weber-Mayrer et al., 2018). Even when experiences are sustained and robust, many teachers face the problem of enactment (M. M. Kennedy, 1999, 2016), in which they learn and are supportive of an idea yet enact a prior approach out of habit.

This ties to the next element of effective PD: Content must be relevant to participants' students (i.e., driven by student data) and daily classrooms practices as well as, ideally, embedded in the school day and teachers' own classrooms (e.g., Broemmel et al., 2022; Campbell et al., 2016; Darling-Hammond et al., 2017; Dennis & Hemmings, 2019; Hawley & Valli, 2007; Putnam & Borko, 2000). When literacy PD is job embedded and provides guided application of literacy PD strategies in teachers' own classroom instruction, it is per-

ceived as more successful by participants (Broemmel et al., 2022). Further, learning is best supported in communities of practice, at either the building or district level (e.g., Borko, 2004; Putnam & Borko, 2000). Forming collaborative partnerships supports teachers to take risks, correct misconceptions, critically reflect on and solve problems of practice, begin to implement new instructional practices, and build collective knowledge that goes beyond individual experience (Bates & Morgan, 2018; Broemmel et al., 2022; Darling-Hammond et al., 2017; Lieberman & Pointer Mace, 2008; McComb & Eather, 2017).

Expert support is equally as important as peer collaboration and support. When PD facilitators (e.g., university faculty, literacy coaches, mentor teachers) serving in the roles of experts use active learning strategies to engage teachers, model instructional practices, collaboratively review student work samples, conduct coaching and debriefing sessions that support teachers' planning for subsequent instruction, and provide individualized feedback based on teachers' context or needs, they support teacher learning and instructional decision-making skills (Bates & Morgan, 2018; Darling-Hammond et al., 2017; Darling-Hammond & McLaughlin, 1995; Knapp, 2003; Tate, 2009). Building in time for teachers to receive input and constructive feedback is critical not only for deepening teacher knowledge and understanding, but also for ensuring improvement in teaching practices and student outcomes across content areas (Cranton & King, 2003; Darling-Hammond et al., 2017; Peterson et al., 2009; Schön, 1987) and specific to literacy teaching and learning (Broemmel et al., 2022; Christ et al., 2016).

Even when each of these elements is carefully considered and included in a PD program, it might not be enough to achieve desired outcomes (Piasta et al., 2020). As noted by Desimone (2009; see Figure 1), contextual factors (e.g., student characteristics, curriculum, school leadership, policy environment) influence how each element of the path model affects the ones directly before and after it. For example, the degree to which an administrator views their role as that of an instructional leader would likely affect teacher participation, teacher attitudes and beliefs, and perceived latitude and support to enact new instructional practices. PD can and should be designed using research-based practices, but other influential factors are beyond the scope of design.

Enactment of New Learning

When teachers place high value on literacy teaching and learning, their perceptions of the value of PD are "affected by their commitment to content instruction, time constraints, the organization of the professional development, and... forced compliance with district mandate" (Smith & Robinson, 2020, p. 55). Even when teachers have strong pedagogical knowledge and perceive that they have learned from PD, that may not be enough to spur enactment of that learning. Glover and colleagues (2016), based on their survey of 595 urban and rural elementary teachers, concluded that design features (most prominently content focus, practice with feedback in PD sessions, and contact hours) influence three moderating variables at statistically significant levels: perceived utility of the PD, perceived knowledge enhancement, and knowledge. These, in turn, influence reported enactment. Gutierrez and Kim (2017) found that a major motivator for elementary science teachers to enact new practices learned from PD was experiencing the utility of the process in their everyday teaching. As one teacher put it, "I just realized that we can use the students' responses... to improve our next lesson plans" (p. 451-265). Similarly, in their study of early literacy PD, E. Kennedy and Sheil (2010) concluded that, when teachers wit-

nessed their students' success as their teaching practices changed, it further enhanced their self-efficacy, their expectations for students, and their desire to continue learning, enacting, and improving their practice.

Other mediating variables may include teachers' positions in the school and their perceptions of children's classroom behavior. In a study of the effects of PD on literacy instruction using data from 1,945 classrooms in 112 schools, Correnti (2007) found that teachers who self-identified their positions as special education teachers reported lower rates of implementing PD learning related to reading and writing of complex texts. Correnti also found that teachers who self-reported higher instances of problematic student behaviors implemented statistically significantly fewer comprehension and writing strategies learned in PD. This is not surprising as teachers' perceptions of self-efficacy are associated with quality of literacy instruction and student outcomes (e.g., Guo et al., 2010; Justice et al., 2008). Relatedly, in a study designed to examine the impact of a PD program on teacher perceptions and experiences, methods of instruction, and student achievement, teachers reported a need for additional support on how to promote students' on-task behavior as that would minimize interruptions, improve engagement, and allow them to better implement literacy practices learned during PD (Gupta & Lee, 2020). Hirsch and colleagues (2020), in their study of special education teachers, reported that teachers' sense of efficacy did not increase despite teachers making significant gains in their perceived knowledge of, confidence in, and use of functional assessment-based interventions. According to the authors, one of the possible factors negatively influencing teachers' efficacy could have been teachers' lack of ability to impact factors outside of their control, such as students' disruptive behavior in the classroom. This corresponds with research indicating teachers who have higher self-efficacy for classroom management are better able to implement practices that positively impact students' literacy skills (Varghese et al., 2016).

Instructional leadership also strongly influences teachers' motivation and abilities to enact new practices. Principals' instructional leadership and trusting relationships with teachers are indirectly associated with PD implementation and student learning (Supovitz et al., 2010). Waters and colleagues (2003) found that principal leadership in the form of securing resources, involvement in the design and implementation of curriculum and instruction, establishing and maintaining clear focus on specific goals, and recognizing and awarding accomplishments at the individual and school levels was statistically significantly related to student learning, presumably mediated by enactment of teaching practices. Importantly, the same study found significant effects for principals inspiring and leading teachers toward innovative teaching, ensuring that teachers were aware of the most current theories and practices, and demonstrating flexibility in the form of receptiveness to emerging contextual factors and openness to dissent. Similarly, in their study of 96 fourth- and fifth-grade teachers participating in a randomized controlled trial of a literacy coaching intervention, Matsumura and colleagues (2010) found that principal leadership was the resource that most accurately predicted level of teacher participation in coaching activities and perceived usefulness of the PD.

Enactment is also supported by alignment of research-based practices and resources to support those practices. PD facilitators must keep in mind that there are often gaps between recommended practices and school infrastructures to support them. When PD facilitators do not take into consideration constraints such as scheduling, physical resources, and other building or district initiatives and mandates, it can lead to frustration

and resistance as teachers feel unable to enact new practices (e.g., Blumenfeld et al., 2000; Smith & Robinson; 2020) and make fidelity to treatment impossible. Change is unlikely to result from PD unless both (a) districts are willing to explore ways to narrow these gaps and (b) PD facilitators are willing to adapt and compromise practices to better fit the context and available resources. One example of this comes from Jeanpierre and colleagues' (2005) study of middle school science teachers. They found that one barrier to implementation of inquiry-based instruction was time—the time required and the time allotted for classes and different aspects of the curriculum. Another was access to materials; even when it was possible to obtain materials, if the process was difficult and time-consuming, teachers were less likely to engage. Similarly, McCaughtry and colleagues (2006), in their study of physical education teachers, found that teachers were better able to teach more content, maximize student learning opportunities, address the needs of diverse learners at varied developmental levels, and improve classroom safety when teachers were provided with all physical resources introduced and modeled in PD sessions and did not have to improvise.

In summary, research to date has outlined the critical features of professional development in terms of teacher learning. There is also research that illuminates the role of individual factors (e.g., administration, student behaviors, teaching position) on implementation outcomes. However, teachers who are asked to implement learning from professional development do not experience these factors separately, but rather in unique and context-bound combinations. In this study, we share the perceptions of 26 teachers who participated in the same professional development, but each in unique contexts that were influenced by, among other things, differing administration, resources, and positions.

Materials and Methods

Context

This study is part of a larger project in which two cohorts of K–5 educators (24 in Year 1 and 26 in Year 2; 9 participated and are counted in both years) were provided PD related to reading and writing workshops. Participants self-selected to participate in the PD, which took place both during and outside of school hours. They were compensated for all hours outside of the regular school day. The PD included, but was not limited to the following:

- linking literacy assessment and instruction
- literacy strategy instruction
- explicitly teaching to objectives
- understanding and enacting state literacy standards
- instructional techniques related to reading and writing workshop models (e.g., readers' theater, repeated reading, text structure mapping, use of mentor texts, strategy-based guided reading, shared and interactive reading and writing, supporting independent reading)
- conceptual and pedagogical understandings of various literacy constructs (e.g., phonemic awareness, letter-sound correspondence, spelling, comprehension, vocabulary, fluency, writing)

These topics were selected based on surveys completed by the teachers of their perceived needs and the importance of various topics. The PD was then adjusted after each session based on observation (of lessons and PD) and analysis of exit slips through which participants shared what they had learned, what they were implementing from previous sessions, and specific aspects of the PD session learning on which they desired more information.

Each cohort of educators participated in either one (single-cohort participants) or both (dual-cohort participants) of two rounds of PD, each of which spanned one full academic year. Educators were encouraged and expected to participate in a minimum of 90 hours per cohort year. Additional experiences (i.e., carefully curated and reviewed webinars and conference sessions aligned with PD outcomes) were added for teachers who were unable to attend scheduled sessions due to substitute teacher shortages, health issues, or other scheduling conflicts. (See the Limitations section for a discussion of this.) Cohort 1 participants completed between 79.75 and 117.75 hours (mean = 98.79); Cohort 2 between 43.00 and 90.50 hours (mean = 71.34); and dual-cohort participants between 126.50 and 201.50 hours (mean = 174.60). Structurally, the PD consisted of teachers interacting with each other and the researchers (in the role of PD facilitators) in lesson observations/model lessons during the school day and 2-hour PD sessions after school, each of which took place every 2 weeks. In addition, teachers attended full-day (6-hour) retreats. Teachers had opportunities to share knowledge and experiences with each other, observe model lessons taught in their own classrooms and classrooms of colleagues by both researchers and peers, co-plan for instruction with researchers and peers, reflect on videos of their own teaching and that of colleagues, and participate in self-selected book clubs. (See Figure 2 for book club options.)

Figure 2

Book Club Options

- Anderson, C. (2000). *How's it going? A practical guide to conferring with student writers*. Heinemann.
- Bigelman, L. G., & Peterson, D. S. (2016). *No more reading instruction without differentiation*. Heinemann.
- Fletcher, R. (2013). *What a writer needs* (2nd ed.). Heinemann.
- Fletcher, R., & Portalupi, J. (2001). *Writing workshop: The essential guide*. Heinemann.
- Miller, D. (2013). *Reading with meaning: Teaching comprehension in the primary grades* (2nd ed.). Stenhouse.
- Morrow, L. M., Shanahan, T., Wixson, K. K. (Eds.). (2013). *Teaching with the Common Core State Standards for English language arts: Pre-K-K*. Guilford Press.
- Morrow, L. M., Wixson, K. K., & Shanahan, T. (Eds.). (2013). *Teaching with the Common*

Core State Standards for English language arts: Grades 3–5. Guilford.

Muhtaris, K., & Ziemke, K. (2015). *Amplify: Digital teaching and learning in the K–6 classroom*. Heinemann.

Novak, K. (2014). *UDL now! A teacher's Monday-morning guide to implementing Common Core State Standards using Universal Design for Learning*. CAST.

Scharer, P. L., & Pinnell, G. S. (2008). *Guiding k–3 writers to independence: The new essentials*. Scholastic.

Taberski, S. (2011). *Comprehension from the ground up: Simplified, sensible reading instruction for the k–3 reading workshop*. Heinemann.

Vasquez, V. M., & Felderman, C. B. (2013). *Technology and critical literacy in early childhood*. Routledge.

As a whole, the PD was designed to reflect the critical features of professional development, as described in the literature review. Linkages between specific critical features and design elements of the PD that served as the context for this study can be found in Table 1. We designed and implemented the PD and conducted the research presented in this study.

Participants

Interview data were collected and analyzed from 26 special and general education elementary (K–5) educators (out of a total sample of 41 in the larger study) from two large suburban school districts and one private charter school in the midwestern United States. The districts from which participants were drawn had to meet a grant-eligibility requirement of serving 10,000+ students living below the federal poverty line. The private charter school was also included as part of a grant stipulation that one or more nonpublic schools in the area be invited to participate. In Tybee School District (all district and educator names are pseudonyms), all six schools from which teachers were drawn had free and reduced-price lunch eligibility rates of 75% or higher. Three of the schools enrolled 50%–75% minoritized students, while the other three enrolled 25%–49%. In Crescent School District, one school had free and reduced-price lunch eligibility rates of 75% or higher, while the remaining three buildings were between 50% and 75%. All four schools in the Crescent School District had less than 25% minoritized students; however, it should be noted that the Crescent schools included a large population of students of Middle Eastern descent who are not captured by this percentage as it is not a separate federal reporting category. Paulson Charter School, from which one participant in the sample was drawn, was not required to report free and reduced-price lunch eligibility rates. The school enrolled a 100% minoritized student body. Participant names, PD hours, and districts can be found in Table 2.

Table 1

Integration of Professional Development (PD) Design Elements

Element	Research base	Enactment in PD
Sustained focus on particular content that is important to participants	Cohen & Hill (2000); Glover et al. (2016); Hawley & Valli (2000, 2007); Hunzicker (2010); Lieberman & Pointer Mace (2008); Mraz et al. (2014)	Content determined through pre-PD surveys; consistent focus on reading and writing workshop model of instruction
Sustained over time	Bailey (2010); Ball & Cohen (1999); Cohen & Hill (2000); Darling-Hammond et al. (2017); Desimone (2011); Feiman-Nemser (2001); Glover et al. (2016); Lieberman & Pointer Mace (2008); Minor et al. (2016); Weber-Mayrer et al. (2018)	90 hours per cohort; option to continue from Cohort 1 to Cohort 2
Relevant and embedded in daily practice	Broemmel et al. (2022); Campbell et al. (2016); Darling-Hammond et al. (2017); Dennis & Hemmings (2019); Putnam & Borko (2000)	Model lessons and observations in teacher's classrooms; planning workshops to apply new pedagogy to individual classroom settings
Supported by communities of practice	Christ et al. (2016); Baskerville & Goldblatt (2009); Bates & Morgan (2018); Borko (2004); Darling-Hammond et al. (2017); Lieberman & Pointer Mace (2008); McComb & Eather (2017); Penuel et al. (2007); Putnam & Borko (2000)	Ample time for co-planning and co-creation of materials; book clubs; lesson observations and debriefing with school and grade-level cohorts
Provision of expert support	Bates & Morgan (2018); Broemmel et al. (2022); Cranton & King (2003); Darling-Hammond et al. (2017); Peterson et al. (2009); Schön (1987); Tate (2009)	Facilitators teach content and pedagogy, model, debrief, co-plan, provide feedback, and support working through problems of practice
Modeling of effective practice	Darling-Hammond et al. (2017); Darling-Hammond & McLaughlin (1995); Jeanpierre et al. (2005); Knapp (2003); Schlager & Fusco (2003)	Iterative learning cycle: facilitators teach, model, debrief, co-plan; teachers learn, plan, practice/teach, ask questions, give and receive feedback

Table 2

Participant Names (Pseudonyms), Grades Taught, Cohort, Hours, and Districts

Pseudonym (grade)	Cohort	Total hours	District
Daphne (1)	1	109.5	Tybee
Destiny (K-1)	1	90.75	Paulson
Donna (2)	1	89.25	Tybee
Doug (resource)	1	79.75	Tybee
Kylie (resource)	1	117.75	Tybee
Lola (reading interventionist)	1	105.75	Tybee
Andrea (K)	2	43.00	Crescent
David (4)	2	76.25	Crescent
Kendra (K)	2	83.25	Crescent
Lauren (5)	2	66.75	Crescent
Pam (4)	2	76.75	Crescent
Susan (2)	2	78.25	Crescent
Tara (K)	2	43.25	Crescent
Charlotte (resource)	2	59.75	Tybee
Jamie (1)	2	89.25	Tybee
Jane (1)	2	90.50	Tybee
June (resource)	2	71.50	Tybee
Melissa (POHI* K-5)	2	74.50	Tybee
Summer (1-3 reading interventionist)	2	74.50	Tybee
Doris (2)	1 & 2	126.50	Tybee
Danielle (2)	1 & 2	193.75	Tybee
Emily (resource)	1 & 2	182.00	Tybee
Hailey (resource)	1 & 2	164.75	Tybee
Maren (3)	1 & 2	178.25	Tybee
Sharon (resource)	1 & 2	175.50	Tybee
Tanya (resource)	1 & 2	201.50	Tybee

Interview participants were purposively selected for maximum variation across districts, grade levels, and teaching assignments (general education, special education, and reading specialists). Participants ranged from educators in their first years of teaching to those nearing retirement (range 2–34 years' experience). Two participants identified as male and 24 as female. Fifteen were serving as general education teachers of record, two as reading specialists, and nine as special education teachers. Nineteen teachers included in the sample participated in 1 year of PD, seven in both. Building principals also were invited to participate and enrolled in the initiative but were ultimately unable to commit the time.

Data Collection

Teachers were interviewed in the spring of each year, near the end of each round of PD. A member of the research team used a semi-structured interview protocol to conduct interviews that were approximately 15–20 minutes in length, depending on the respondent. Teachers who participated in both cohorts participated in two interviews, one at the end of each year.

The full semi-structured interview protocol, developed by us, examined the PD holistically (e.g., structure of the PD, perceived usefulness of the PD, usefulness of specific content, degree of implementation for specific and general practices). There were three questions with related follow-up prompts that were designed specifically to focus on perceived factors that supported and hindered implementation:

- Which, if any, aspects of this professional development have you found most useful and been able to implement in your classroom?
- In thinking back on our various PD experiences (e.g., when we modeled lessons, observing each other, co-planning, book clubs, working as learners ourselves), which experiences did you find most and least valuable?
- What, if any, parts of the workshop model seemed challenging or to pose barriers to teaching and learning for you and your students this year?

If teachers mentioned supportive and inhibitory factors in other parts of the interview, those were also included in the analyses.

Data Analysis

All interviews were audio recorded, transcribed verbatim, and then broken into idea units by us. Idea units were defined as being bounded by a change in speaker or topic. Both of us analyzed the transcripts separately, using grounded theory (Corbin & Strauss, 2008) and constant comparative methods (Glaser, 1965) to identify categories and descriptive themes related to supportive and hindering factors for implementation. These themes were then discussed and collapsed through an inductive process, resulting in four broad categories of supportive and three broad categories of hindering factors (Table 3). All transcripts were then reviewed again, collaboratively, first to identify relevant idea units included in statements made in direct response to the interview questions about supporting

and hindering factors or in other areas of the interview and then to discuss and code those idea units using the seven broad category codes. All disagreements were resolved through discussion.

Table 3

Factors That Support and Hinder Implementation of Professional Development Learning

Factor	Cohort
Support from PD providers	Participant references particular types of supports from PD providers (e.g., modeling a lesson, debriefing experiences and collaborating on instructional adaptations).
Support from communities of practice	Participant references support from colleagues (e.g., feedback from video or in-person observations, co-planning, sharing of resources).
Support from school/administrator	Participant references support in the form of physical and other resources (e.g., iPads, scheduled co-planning time, schedules conducive to workshop model).
Support from student affective response	Participant references students' positive responses to new instructional techniques.
Hindrance due to mismatch between school/administrator demands and new practices	1 Participant references difficulties related to reconciling new practices and existing structures and expectations (e.g., curricular restrictions, technology restrictions, role definitions).
Hindrance due to lack of a particular resource	Participant references lack of resources needed to implement PD practices (e.g., technological, time, material).
Hindrance due to circumstantial factors	Participant references challenging circumstances (e.g., student skills/knowledge/behavior, number of students, interruptions).

Results

In the interviews, all teachers talked about how much they learned from the professional development series. However, they also shared a variety of reasons why that learning did or did not translate to practice.

Supporting Factors

Four supporting factors emerged as trends: PD facilitators, communities of practice, schools/administrators, and student affective responses. Each is described in turn below.

PD Facilitators

All 26 teachers reported that support from PD facilitators was valuable, particularly in the form of modeling and debriefing literacy lessons in their schools, grade levels, and classrooms and providing instructional resources (e.g., organizers for tracking data, assessment record sheets). Teachers were most receptive to, and many reported learning and implementing the most from, literacy lessons modeled in their own classrooms or in classrooms at the same grade level because they could “tweak it and make it our own” (Sharon, reading specialist). As Maren, a third-grade teacher, explained, “I loved the modeled lessons.... I was able to take what you guys modeled and use it in my classroom the very next time I had class.” Nearly all teachers specifically mentioned the value of seeing something done as a support to enact literacy pedagogy. At times, teachers observed model lessons taught a grade above or below the ones they were teaching. Many teachers found it more challenging to transfer learning to enactment when model lessons were taught at different grade levels, though they were able to work through those difficulties in facilitator-led debriefing sessions. Kendra, who taught kindergarten, said the following regarding the challenges of observing lessons taught in first-grade classrooms:

I openly say that one of the things I love about you both [PD facilitators] is that when I say, no, no, that doesn't work for kindergarten! You say, no, no, it does. It allows you to differentiate well in the PD...which means I don't get to write it off as useless for myself.

A challenge in taking PD to scale is balancing the need to be responsive to individual contexts with the resources that requires. Participant responses indicated observing lessons outside of, but adjacent to, their own classroom contexts as part of a small group was more challenging for some of them to translate to implementation than when lessons were modeled in their own classrooms. However, the challenge was not insurmountable. In most cases observing lessons at other grade levels resulted in participants gaining a better understanding of how to adapt practices to their own contexts.

Communities of Practice

Twenty-one teachers (15 of 19 single-cohort participants, 6 of 7 dual-cohort participants) reported that working in a community of practice, particularly co-planning, was beneficial. Some teachers, such as Lauren, a fifth-grade teacher, addressed the role of peers in enactment directly:

Working together, being able to have a colleague [was really helpful]. We need to do these lessons and writing these lessons together that we can use. We are going to write this lesson on this and then go back and teach it and talk about what worked and didn't work well. That was really good.

Other teachers referred to communities of practice as beneficial and implied their utility in enactment. For example, several teachers valued “bouncing ideas off other people,” whether it was with teachers from their own building or across the districts, as it allowed them to get ideas that were beyond their individual knowledge and experiences. For example, June, a special education teacher, shared that she liked working with a group from her

building because they were able to “collaborate together, talk about what we were going to do, how we were going to do it and that worked out really, really well.” Charlotte, a special education teacher, appreciated collaborating beyond her own building: “Hearing what other people are doing and be able to share with other teachers in other buildings and other districts was helpful. It’s always enlightening even beyond what you guys [PD facilitators] were teaching us and showing us.” What stands out in these quotes is the importance of developing collective literacy knowledge as a critical support for teachers to implement PD learning. Relatedly, teachers mentioned feedback from colleagues as a support for learning and implementation. Kylie, a second-grade teacher, stated, “The most valuable [part of the PD] was feedback from my colleagues about what they might do in their classrooms or what they observed [in my literacy teaching] that I didn’t have eyes to see while I was teaching.” Summer, a special education teacher, shared, “Watching the videos [of my literacy teaching] with groups is helpful and especially getting the feedback... You pick out something in the background that maybe wasn’t related [to the focus of the discussion].”

Peer interactions were included intentionally as a feature of this PD initiative, both to facilitate in-the-moment learning and to establish support systems that could exist when we were not present. Teachers viewed these opportunities as invaluable windows into classrooms that they would not otherwise be able to visit or learn from.

Schools/Administrators

Material and personnel support provided by schools and administrators at the building level was also mentioned by nine teachers (4 of 19 single-cohort participants, 5 of 7 dual-cohort participants). Usually, the support was in the form of resources, specifically technology. For example, Kylie, a second-grade teacher, reported, “We have an iPad cart and I’ve been able to use it for different literacy activities.” Daphne, a first-grade teacher, echoed this: “I was given five iPads for use in my room... and every Thursday, I was able to get six iPads from the cart, so I would incorporate those [literacy apps shared in PD].” In addition to technology, having human resources such as an aide or a paraprofessional push in for part of the instruction was supportive. Hailey, a special education teacher, talked about being able to implement PD learning to better support her students when an “aide [can] sit with them [the students] and help them [with the concept].” Another teacher felt supported to enact new literacy instructional practices because her school provided additional support for English language learner students in her class.

Finally, a couple of teachers shared that they were best able to implement literacy practices shared in the PD when the practices were aligned with school goals. As Kendra, a kindergarten teacher, explained, she was able to “use workshop [writing workshop] from the very beginning of the school year to the very end of the year for writing because that is our school model.” Similarly, Andrea, a kindergarten teacher, attributed her willingness to implement the writing workshop model in part to her principal giving her permission to do so:

I said, “Can I try the workshop way?” And they [students] are still doing those choices [during Daily Five instruction], but they’re doing it all on their own. [The principal] said, “Yes, go ahead try it for the end of the year if you really, really like it.” Then she wants me to kind of justify that in the fall and see where it goes.

These examples demonstrate the importance of viewing PD as part of a larger system. While PD learning can be facilitated by research-based practices, implementation requires building-based supports, which are influenced heavily by administrators.

Student Affective Responses

The final facilitating factor that was noted by 21 teachers (16 of 19 single-cohort participants, 5 of 7 dual-cohort participants), though often implicitly, was positive student responses. Though no teacher directly named this as something that encouraged them to implement new literacy practices, several teachers expressed enthusiasm and excitement when talking about how their students engaged with or enjoyed lessons. In talking about how often she had incorporated PD learning into her classroom teaching, Maren, a third-grade teacher, explained,

A ton. Every time I leave here, I go back and they're like, "What did you learn?! What did you learn this time?!" So, they're sad when I leave, but they know when I come back, they're going to do something awesome.

She went on to say that the changes in her literacy instruction had led to students regularly requesting to confer with her about their reading and writing (both instructed PD practices) during recess. As she explained, "I had students passing me notes saying, 'I love conferencing with you' [and] 'I love spending time with you.' ... [Students have] responded very positively.... They can't wait, so it's pretty exciting." Susan, a second-grade teacher, explained how implementing PD practices helped her students be more engaged and independent.

I can see more independence in more of them. With having more choice...it's not constantly monitoring because that kid is not doing something he really doesn't want to do. He's *choosing* what he wants to do. I learned through this [PD] that there are lots of ways to give them choice that's still structured.... You're not letting everything go, but there's a million different ways to give them choice.

She went on to say that what she had learned about fostering independence had released her from the daily responsibility of constantly preparing and monitoring "a million things" for students to do during work time. In this way, she was able to demonstrate PD learning centered on fostering independent literacy learning. This, in turn, allowed her to take on additional literacy practices learned through the PD, those related to working with flexible, need-based groups and individuals. Unsurprisingly, when teachers saw direct benefit for their students, they were encouraged and excited to implement their learning.

Hindering Factors

Most participants also discussed constraints that hindered implementation; three that stood out as strong trends were circumstantial factors, lack of resources, and mismatches between PD learning and school or district demands. Notably, some teachers viewed these hindrances as, at times, insurmountable, while others perceived them as challenges they could address.

Circumstantial Factors

The most frequently mentioned hindrances, noted by 21 participants (16 of 19 single-cohort participants, 5 of 7 dual-cohort participants), were those related to circumstantial factors (real or perceived) that were outside of teachers' control. Many had to do with perceptions of their students. For example, in reference to why she only partially implemented some PD practices, Kendra, a kindergarten teacher, commented,

I think the biggest thing [challenge of the workshop model] is that the model is really well developed for children who have independence or experiences of middle-class kids, and mine aren't... So, you know...I student taught in a high-affluent area, and I can easily see how this would go right in there. So, I just think that there is a mismatch.

Another teacher stated, "I have some, like, three that are obstinate [sic] defiant disorder, so I can't expect the same out of them as the other kids." In these instances, the teachers, viewing their students through a deficit lens, did not believe they were capable of the type of independent, self-regulated experiences that were the focus of the PD. For this reason, there were many literacy practices that they did not attempt. As a point of contrast, Doug, a special education teacher who was teaching in a multigrade, self-contained classroom, explained,

I have a vast group as far as ability. Trying to make something real for a third grader and a kindergartener, which are my high and low, I have to get really, really creative sometimes. I also have to be realistic about my expectations. Third graders will be able to write...say if we're doing a concept map, third graders can write words and kindergarteners might be drawing pictures. I had to be OK with that. It's about getting ideas down.

What stands out in this quote is that the teacher viewed students as capable and himself as responsible for employing universal design elements to make lessons accessible to all of his students while maintaining the curricular focus. Here, the circumstances were challenging but resulted in productive struggle and consideration of not whether students could engage in the pedagogy but how he could scaffold and make it possible for them.

Not all circumstantial factors were related to students. Teachers, particularly those who were not general education classroom teachers, also cited their job requirements as a hindrance. For instance, one teacher who had recently switched from a general education classroom to a special education resource room reported difficulty adjusting to teaching small groups for shorter periods of time as opposed to having her students all day. She was also challenged because necessary scheduling logistics mandated a rigid schedule that did not allow flexible grouping of children in the ways in which we were advocating. The contextual factors in these types of scenarios were ones in which we (the researchers and PD facilitators) had to negotiate necessary compromises between ideal implementation and what could work within the parameters.

Lack of Resources

Lack of a particular resource, particularly technology (e.g., adequate wireless or access to devices) or time, was an issue reported by 15 teachers (13 of 19 single-cohort participants, 2 of 7 dual-cohort participants). A requirement of the funding agency supporting the PD was assistance for integrating technology into the curriculum. However, this often proved frustrating because many of the classrooms and buildings did not have adequate technological infrastructure. For example, Lauren, a fifth-grade teacher, lamented,

We have a laptop cart on this floor. I'm trying to do research the last trimester and...even though I've checked it out, the principal is like, "You can't have it. We need it for MSTEP [Michigan Student Test of Educational Progress] testing!"...And we have fifth through eighth grade in our building. So, each is testing. So, that's 2 months we've had nothing. We have one laptop cart for 10 teachers and it's just difficult to get it checked out in a reasonable amount of time.

Many other teachers had similar frustrations related to lack of adequate and reliable Wi-Fi, inability to add apps to district-issued iPads, and the like.

Time was also an issue, in terms of both time to attend the PD and time to implement learning. With a few exceptions of school or district meetings that did not take the existing PD schedule into account, most teachers had little difficulty attending the (paid) PD sessions outside of school hours. The PD also included opportunities to attend model literacy lessons and debriefings during the school day, with substitute teachers paid for by grant funding. However, the reality was that there was (and is) a substitute teacher shortage in the area, so there were times when we were not able to secure substitutes or our substitutes were co-opted to cover other classrooms. Teachers rightly pointed out that they were hindered from implementing practices if they were not able to attend the PD to learn about them.

Mismatches Between PD Learning and School or District Demands

The second way in which time was challenging overlaps with the third major barrier to implementation: a mismatch between school and district demands and new literacy practices. This was an issue noted by 13 teachers (11 of 19 single-cohort participants, 2 of 7 dual-cohort participants). In some buildings, this took the form of teachers being constrained by policies regarding different time frames during the year to focus on different literacy content, such as genres of reading or writing. However, in the Crescent School District, all classrooms were implementing a program that structured all elements of their literacy instruction. While it did not dictate pedagogy, it did dictate categories of literacy curriculum, which aligned well with our PD. However, it also dictated a daily schedule for each element of literacy instruction, which if followed to the letter presented challenges. As Pam, a fourth-grade teacher, explained,

All the lessons [the PD facilitators] showed us and that they taught are more than 15 minutes long and that is our cutoff, between 10 and 15 minutes at

school, and they never once did the 10–15 minutes, and even the first time we saw them we were like, “We are never going to do this.” ... So, it would be nice for them to just do a 10-minute lesson or break it down for us.... Lessons we saw were like 20, 30. [laugh] We’re like, “Wow! This is really long! We’d get in so much trouble.”

While some teachers viewed this as a problem related to implementation of the PD, others viewed it as a larger problem affecting student opportunities. As June, a special education teacher, explained after implementing PD literacy practices in her classroom, “It just seems with my particular students, they need a lot of practice on the same type of literacy lessons and strategies. Unfortunately, with [mandated] time restraints that’s a little bit difficult to do.”

For the teachers who perceived the 15-minute time limit per lesson—inclusive of instruction, modeling, and student enactment—to be completely inflexible, it was very difficult to imagine implementing the literacy instructional practices learned in PD, at least on an ongoing basis. Interestingly, other teachers in the same district seemed not to view scheduling as a strict mandate, rarely raised the topic in PD sessions, and did not mention it at all in the interviews. Still others recognized the restriction but addressed it head on. Andrea, a kindergarten teacher, reported that she was able to raise the issue with her principal and successfully argue to start the year on a trial basis using the grant-based workshop approach as opposed to “the rigid mini-lesson time block.” Clearly, time for instruction presented very real challenges for some teachers; however, what is less clear is the degree to which the challenge varied by building and classroom, and to what degree that variance was due to immovable mandates versus perceptions of restrictions.

Discussion

There has been a persistent call for investigations into whether, how, and to what degree teacher professional development translates to changes in practice (e.g., Desimone, 2009; Desimone & Garet, 2015; Piasta et al., 2020). Even when PD is designed using research-recommended processes, there are teachers who are resistant to change by choice or circumstance (e.g., Jeanpierre et al., 2005; Smith & Robinson, 2020). The findings we present highlight contextual factors that teachers perceived as hinderances to literacy PD implementation. As a counterpoint, our findings also indicate contextual factors that teachers cited for implementing new practices they learned from the PD. Of the seven factors identified, PD facilitators is the only one that was uniform for all participants. The remaining factors all hinged on the specific contexts in which teachers were operating, making generalization inappropriate. This study extends the current literature by highlighting factors that influence the space between teacher learning and implementation in Desimone’s (2011) model of PD (Figure 1). Identifying and considering these factors is an important step toward increasing degree of implementation, which serves as a gatekeeper between teacher learning and student literacy learning outcomes.

The interview data from teachers in this study highlighted the criticality of place-based experiences, specifically the importance of modeling effective literacy instructional practices in teachers’ own classrooms or buildings and within existing constraints (Ball & Cohen, 1999; Bates & Morgan, 2018; Broemmel et al., 2022; Darling-Hammond et al., 2017). For many teachers, seeing model lessons taught at their grade level and even

with their students provided them with a starting point to integrate PD learning into their literacy instruction. This aligns with theorists and researchers who believe that cognition is situated; that is, the context in which an activity takes place is an integral part of learning (Lave & Wenger, 1991; Putnam & Borko, 2000). However, other teachers seemed to be limited by this and, as a result, only taught lessons nearly identical to those modeled in their grade level or classroom or rejected the idea that modifications were possible and could make the pedagogy viable in their classroom. They found experiences not grounded in their personal day-to-day classroom environment (or in very close proximity) to be less meaningful.

Context mattered to the teachers in this study and was a determining factor for implementation for some; this was confirmatory for what we know from previous research about the importance of grounding PD in classroom experiences (e.g., Broemmel et al., 2022; Darling Hammond et al., 2017; Dennis & Hemmings, 2019; Hawley & Valli, 2007; Putnam & Borko, 2000). It also exposes a problem because traditional wisdom would guide us to preserve what worked well in this PD in any scale-up efforts. However, regularly modeling lessons in participants' classrooms is resource intensive and likely to hinder scalability. Looking at the issue from another angle, the cognitive dissonance that observing lessons that require modification in order to be appropriate in other contexts presents opportunities to support teachers to break free from perceived contextual limitations and embrace change.

There is also a clear need to address teachers' perceptions of students as they directly impacted the decisions regarding implementation. In some instances, teachers were more inclined to enact new PD learning if there was clear evidence during the lesson that it improved student engagement and understanding of literacy content or skills. This is consistent with literature indicating the importance of content being immediately relevant to students and that teachers' practices are driven by student achievement (Campbell et al., 2016; Darling-Hammond et al., 2017; E. Kennedy & Sheil, 2010; Putnam & Borko, 2000). Relatedly, in instances in which teachers had the mentality that there are PD practices that are not for "these kids," rates of implementation were low or nonexistent. This perspective is more complicated because it requires teasing out the ways in which this might be true and pointing to a need to modify the practices (e.g., accurately assessed literacy skills and knowledge that indicate the students are not yet ready for the lesson) versus instances of a deficit lens clouding teachers' views of what might be possible (e.g., assumptions of what children know, can do, or are interested in that are not based in observation or assessment). This type of analysis is only possible if teachers and PD facilitators hold joint focus on the recommended PD practices and the adaptations needed to meaningfully implement them in individual classrooms and schools (Ball & Cohen, 1999; Darling-Hammond et al., 2017).

Teacher buy-in, as predicted, supported implementation of new literacy instructional practices. The high level of buy-in was likely due in large part to the fact that teachers self-selected to join the PD because they viewed literacy pedagogy as an area of need or interest, as indicated by the survey completed by teachers in the design phase of the PD. From a research standpoint, this was a strong design feature (Glover et al., 2016; Gutierrez & Kim, 2017; Hawley & Valli, 2007; Mraz et al., 2014). From a systems change perspective, this posed a challenge because research indicates that change is more likely and sustainable if it is done within school- or district-wide support systems or communities of

practice (Borko, 2004; Darling-Hammond et al., 2017; Putnam & Borko, 2000). Limited numbers of self-selected teachers from across many buildings in two districts participating in the PD resulted in fragmented communities of practice. These communities of practice existed in PD sessions but were not explicitly prioritized or supported outside of PD sessions.

Although not as ideal as a whole-school or -district change effort, working with colleagues in a community of practice during PD sessions allowed teachers to form discourse communities that facilitated thoughtful reconsideration of current literacy practices, consideration of new ones, and learning from each other (Christ et al., 2016; Broemmell et al., 2022; Lieberman & Pointer Mace, 2008; Penuel et al., 2007; Putnam & Borko, 2000). Every teacher brought unique knowledge, beliefs, and expertise to the conversations that, when put together, helped them move beyond their perceived limits and bend the new literacy practices to their specific contexts. This is in keeping with the sociocentric views of knowledge and learning that emphasize the value of distributed cognition and shared collective learning (Bates & Morgan, 2018; Cobb, 1994; McComb & Eather, 2017; Vygotsky, 1978).

In some instances, when there was a sufficiently strong existing connection between teachers in the project at a particular school, they were able to support each other outside of PD sessions. But in other instances, either that connection was not naturally there or it was simply overshadowed by perceived conflict with the practices of the larger school community. While a strong PD professional learning community was enough to support implementation of PD learning and change teacher practices, in some cases the wider school community was enough to overtly reverse it. This highlights the tension between the importance of teachers articulating their needs in order to shape PD content and delivery (Gutierrez & Kim, 2017; Hawley & Valli, 2007; Hunzicker, 2010; Lieberman & Pointer Mace, 2008; Weber-Mayer et al., 2018) and the benefits of professional learning communities at the school or district level to support and sustain change (Borko, 2004; Broemmell et al., 2022; Darling-Hammond et al., 2017; Putnam & Borko, 2000). It also highlights the need for PD facilitators to strive to adapt literacy instructional practices to fit the context of participants but also work to inform systematic change at the school and district levels to make research-based practices feasible.

Our findings point to the need to pay more attention to the infrastructure, which has little to do with content-specific pedagogy but everything to do with teachers' abilities to significantly change their practice (e.g., Smith & Robinson, 2020). This has made us consider the importance of having a research and design team with expertise in school change, policy, and/or instructional leadership in addition to content and pedagogical knowledge in order to support uptake at the teacher, school, and district levels. This aligns with research indicating that ongoing support from administrators is a contributing factor to implementation (e.g., Desimone, 2009; Supovitz et al., 2010) as well as our own findings that when principals were vocally open to teachers trying new approaches, teachers were more likely to do so.

The hindering factors that we have shared here are not meant to be excuses as to why literacy PD cannot be successful. Rather, they are the reality of the settings in which we work and must be acknowledged and incorporated into our approaches if PD is to be successful and changes in literacy instructional practices maintained. Designing profes-

sional development that is effective, then, hinges on the particular supports and constraints in individual contexts. The implications of this are multifaceted. First, designers of PD scale-up efforts must recognize that fidelity in terms of PD instruction may produce similar results in terms of teachers learning about new content or practice but fail to translate to implementation because implementation is influenced by different contextual factors than learning and requires adaptation. Second, the balance between teachers' self-identifying needs and the importance of whole-school professional learning communities and instructional leadership is an issue that cannot be addressed through PD alone, as in approaches focused entirely on pedagogical content knowledge. Effective PD that goes beyond teacher learning to include consistent enactment requires dedicated and intense work combining the expertise of teachers, building administrators, pedagogical content experts, and experts on policy and school change.

Limitations and Directions for Future Research

The results of this project provide important insight and implications for future literacy professional development initiatives; however, there are some limitations. The number of participants was robust for a qualitative study and allowed for an in-depth qualitative point of view that would not be possible with a large-scale quantitative study. However, and particularly in light of the finding regarding the importance of context, this study's findings cannot be generalized to all settings and should be interpreted with caution. While this means that we were not able to disaggregate results due to the large number of independent variables or ways in which teachers' contexts might differ, it also means that we were able to identify trends that were present, though manifested in contextually specific ways, across a diverse sample. However, the list is not exhaustive and does not preclude additional supports and variables that may not have been prevalent in these settings but would be in others.

In addition, our dual roles as both literacy professional developers and researchers complicated this study. First and foremost, we developed collegial relationships with our participants, which may have resulted in response bias, particularly related to sharing barriers to implementation that may have been related to the PD itself. Second, our dual roles meant that we sometimes had competing priorities, and when we had to choose, we prioritized decisions that would allow deeper knowledge and access for more educators. For example, available funding allowed interested teachers from Cohort 1 to continue in the program for an additional year while simultaneously allowing teachers from a new district to join for Cohort 2. This was undoubtedly good for deepening literacy pedagogical and knowledge and expanding access to the PD, but it also made the data more complex. Since our goal for this study was to identify potential supports and barriers, this did not affect the strength of our research design, but rather increased our opportunities to collect them from a wider array of contexts.

Finally, PD in real contexts is complicated. Literacy PD is most effective when it is tailored to the specific needs of each participant, though how to do so at scale is an area that is under-researched, which raised in previous research (e.g., Piasta et al., 2017). In addition, in this case, particularly in Year 2, there were issues with teachers missing some sessions due to a statewide substitute teacher shortage. There were also ill family members, surgery, and other competing obligations that made it difficult for some participants to complete the recommended 90 hours. While we could have excluded those participants

with significantly fewer than 90 hours from our analyses to ameliorate a confounding variable, we chose not to because variability in participation is a reality of longer term PD.

Conclusion

In this study, we explored the space between learning and enactment of new practices for literacy teaching and learning. Specifically, we asked: What contextual factors support and hinder in-service teachers moving from learning to implementation of literacy PD? We found four primary supportive factors (PD facilitators, communities of practice, schools/administrators, and student affective responses) and three primary hindering factors (circumstantial factors, lack of resources, and mismatches between the PD and school or district demands). Identifying and considering these factors is an important step toward increasing implementation of new literacy pedagogical practices learned through PD, which is essential to positive changes in student-level literacy learning.

Declaration of Interest

No potential conflict of interest was reported by the authors.

About the Authors

Poonam Arya is a professor of reading, language, and literature at Wayne State University, where she teaches preservice and graduate courses in literacy theory and research, and critical pedagogy. Her research interests include studying eye movements, retellings, and oral readings of children as they transact with multimodal texts; digital literacies; and collaborative discussions of videos to support teachers' reflective practice and decision-making processes.

Kathryn L. Roberts, PhD, is a professor of reading, language, and literature at Wayne State University. Dr. Roberts holds a bachelor's degree from Butler University, master's degree from Indiana University, and doctoral degree from Michigan State University. She is a former kindergarten teacher and currently teaches preservice and graduate-level courses in literacy education. Her research interests include family literacy, visual literacy, content area literacy, and emergent literacy.

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