Case Studies of Schools Implementing Early Elementary Strategies: Preschool Through Third Grade Alignment and Differentiated Instruction

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December 2016

Prepared for:

U.S. Department of Education
Office of Planning, Evaluation and Policy Development
Policy and Program Studies Service

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This report was produced under U.S. Department of Education Contract No. EDPEP-11-O-0089/Task Order 18 with American Institutes for Research. Erica Lee served as the contracting officer's representative. The views expressed herein do not necessarily represent the positions or policies of the U.S. Department of Education. No official endorsement by the U.S. Department of Education of any product (e.g., commercial assessment product or curriculum), commodity, service, or enterprise mentioned in this publication is intended or should be inferred. For the reader's convenience, this publication contains information about and from outside organizations, including hyperlinks and URLs. Inclusion of such information does not constitute an endorsement by the U.S. Department of Education.

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December 2016

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Acknowledgments

We wish to thank the programs who took time to provide valuable information and participate in the study: Boston Public Schools, Chicago Child–Parent Centers, Early Works Initiative, FirstSchool, and the Sobrato Early Academic Language (SEAL) program.

We also wish to thank our Technical Workgroup members, Margaret Burchinal (University of North Carolina–Chapel Hill), Lindy Buch (Michigan Department of Education), Linda Espinosa (University of Missouri–Columbia [Ret.]), Kristie Kauerz (University of Washington–Seattle), and Ellen Kisker (Twin Peaks Partners, LLC) for their input and guidance on design of interview protocols and site selection. At American Institutes for Research, Kerstin Le Floch provided valuable review of all report drafts and Connie Chandra helped schedule and conduct data collection activities.

We are also grateful to staff from the U.S. Department of Education Office of Early Learning and the U.S. Department of Health and Human Services for their review of interview protocols, advice on site selection, and review of report drafts.

We appreciate the assistance and support of these individuals, and any errors in judgment or fact are the responsibility of the authors.

Executive Summary

Participation in high-quality preschool can improve academic, behavioral, social-emotional, and cognitive outcomes for students of varying backgrounds, including students from disadvantaged backgrounds (e.g., Andrews, Jargowsky, and Kuhne 2012; Barnett 2008; Camilli et al. 2010; Karoly and Bigelow 2005; Reynolds et al. 2007). However, some studies have found that some of these benefits do not persist into third grade (e.g., Bogard and Takanishi 2005; Li et al. 2013; Lipsey, Farran, and Hofer 2015; Puma et al. 2012). Without additional and continuous supports as children proceed through the elementary grades, participation in preschool does not inoculate against the potential challenges that children, particularly children at risk for poorer academic outcomes, may face.

To explore how educators might build on and sustain the positive effects of preschool, this study examined two types of strategies that preliminary literature searches revealed as promising practices to support children's learning in early elementary school: (1) aligning instruction from preschool through grade 3 (referred to as P–3 alignment) and (2) differentiated instruction. The P–3 alignment strategy emphasizes coordination among standards, curricula, instructional practices and environments, student assessment, and teacher professional development between the preschool years and the early elementary school years. The differentiated instruction strategy focuses on teachers varying their pedagogical practices to meet the diverse needs and skills of individual students.

To explore how educators use these two strategies, this study conducted a systematic literature review[1] followed by case studies of five programs that used one or both of these two strategies. The case studies focused on the approaches programs used to implement P–3 and differentiated instruction; some of the approaches revealed may be relevent to early elementary strategies beyond the two strategies studied. This report focuses on the findings of the case studies.

Key Findings

- All five case study programs aligned instruction across grades by aligning or coordinating standards, curricula, instructional practices, and professional development; three sites also used aligned assessments.
- Common elements of P–3 programs included the use of professional learning communities (PLCs), coaches, parent engagement, and play-based or student-initiated learning.
- Although only one site was explicitly nominated for the study for its differentiated instruction approach, teachers in all five programs reported using strategies to accommodate students' different skill levels, including modifying assignments, adapting learning materials, providing different levels of support, or using small-group instruction.
- All five programs focused on increasing students' vocabulary, oral language, and social-emotional skills.

[1] The U.S. Department of Education published the review in August 2016; it is available at http://www2.ed.gov/rschstat/eval/disadv/p-3-alignment-differentiated-instruction/report.pdf, and briefly summarized in the Introduction section of this report.

- Staff in four programs reported that they had observed improvement in students' vocabulary or oral language skills, social-emotional development, and engagement or attendance, as well as increased parent involvement after implementing their programs. Initial evaluations or outcome studies from Chicago Child–Parent Centers (CPC), Early Works, and Sobrato Early Academic Language (SEAL) program support many of these perceived changes.
- Staff in all five programs reported that guiding teachers to change their practices in the context of P–3 alignment (e.g., incorporating student-initiated learning) was a challenge, and staff in all five programs reported concerns about funding sustainability.

Case Study Methodology

The case studies focus on five programs that used one or both of two strategies identified as having the potential to help sustain the initial positive effects of preschool: P–3 alignment and differentiated instruction for children in the early elementary grades. The case studies were designed to answer the following study questions:

1. What approaches did the five programs use to implement P–3 alignment?
2. In programs that implemented differentiated instruction, what approaches did staff use?
3. What were the goals of the five programs?
4. What changes in student and teacher outcomes did staff attribute to their programs?
5. What were the challenges of implementing these programs, and how did staff and leaders try to overcome these challenges?

Programs Studied

- To select the five programs, the research team considered programs identified through a literature review and solicited recommendations from early childhood organizations and agencies. The five programs, purposively selected based on their approaches to P–3 alignment and differentiated instruction and their geographic diversity, were the Boston Public Schools (BPS), CPC, Early Works, FirstSchool, and SEAL program. All five of the programs selected (see Exhibit ES-1) were focused on students in preschool through third grade. Additional information on enrollment, demographics, and strategies of each program can be found in Section III. BPS is focused on both P–3 alignment and differentiated instruction. BPS's program includes revised curricula in kindergarten and first-grade classrooms, specific differentiated instruction strategies, and coaching and professional development opportunities for staff.
- The CPC "New Generation" Midwest Expansion program incorporates an expanded system of instructional and family support as well as bolstered professional development and coaching for staff.
- The FirstSchool program is a P–3 initiative designed to help schools effectively serve an increasingly younger and more diverse population entering schools. The program focuses on implementing developmentally appropriate instruction in early grade classrooms and professional development for school staff to coordinate and align P–3 instruction.
- The Early Works initiative was selected for its P–3 alignment strategies and family supports that are being implemented at Earl Boyles Elementary School. The program incorporates professional development and PLCs for teachers.

- Finally, the SEAL program focuses on a specific set of aligned practices for English language learners (ELs) in preschool and early elementary grades. This program incorporates a bilingual, academic language and literacy focus and strongly involves parents. All programs have used some type of external funding (e.g., federal grants, private foundation awards) and/or leveraged public bond measures to support the start-up or augmentation of their programs.

Exhibit ES-1. Characteristics of Case Study Programs

Program	Location	Urbanicity	External funder (purpose)
Boston Public Schools (BPS)	Boston, Massachusetts	Urban	Barr Foundation (initial curriculum development, National Association for the Education of Young Children (NAEYC) accreditation, principal training)
Chicago Child–Parent Centers (CPC)	Chicago, Illinois, and St. Paul, Minnesota	Urban	U.S. Department of Education Investing in Innovation (i3) grant (program staff and activities)
Early Works	Portland, Oregon	Urban	Children's Institute (advocacy efforts and needs assessment)
FirstSchool	Martin County, North Carolina	Rural	Frank Porter Graham Child Development Center/ Kellogg Foundation (teacher training and coaching)
Sobrato Early Academic Language (SEAL) program	Redwood City, California	Suburban	Sobrato Family Foundation (model development, teacher training)

The intent was to select up to two schools to represent each program; however, one program—Early Works—nominated only one elementary school for the case study. To select specific schools for the other programs, the study team asked the district or program developer to recommend the two schools that would best represent implementation of the program.

Data Collection and Analysis

Data collection at the nine schools took place between November 2015 and January 2016. Case study data collection activities included interviews with program staff—district-level staff, school administrators, preschool and elementary teachers, and the program funder and evaluator. Site visitors observed program activities (e.g., teacher meetings or classroom instruction) and collected documents about the program. The study team coded interview data and information from documents to examine commonalities across the five programs and nine site locations. Although the report focuses on similarities that emerged across three or more programs, it also mentions findings that were unique to one or two sites if the findings may be helpful for policymakers and administrators to consider.

Study Limitations

Findings are based largely on self-reports of staff interviewed and limited classroom and activity observations at a small number of purposively selected sites. Therefore, findings are not generalizable to other schools that use the two strategies that we studied. Still, policymakers and administrators may use the study findings to inform their own efforts to use P–3 alignment or differentiated instruction to sustain the effects of preschool education by considering how these five sites implemented these strategies, the challenges they faced, and the steps they took to overcome those challenges.

Summary of Findings

Common Approaches to P–3 Alignment

All five case study programs aligned instruction across grades by aligning or coordinating standards, curricula, instructional practices, and professional development; three sites also used aligned assessments.

In the literature review, nearly all qualitative studies and policy and theory articles on P–3 alignment suggested aligning standards, curriculum, instruction, assessments, environments, and teacher professional development across preschool and grades K–3, to provide additional and continuous supports for students through the early elementary grades to sustain the advantages gained from participating in preschool. In all five case study programs, staff said that their curriculum and standards are aligned from preschool through third grade. Some of the curriculum units and themes in BPS overlap across grades; for example, preschoolers study a friends and family unit, and then kindergarteners study a unit about families and communities, which builds on the preschool content. Staff at all sites reported using consistent instructional approaches across grades; for example, BPS uses play-based learning in early elementary grades, similar to what is used in their preschool classrooms. As another example, SEAL classrooms incorporate specific strategies at all elementary levels (e.g., chants) that students became familiar with in preschool. At BPS, Early Works, and FirstSchool, district officials and teachers reported that their reading assessments are aligned to measure students' reading levels in preschool through third grade. At all sites, teacher professional development was supported primarily through PLCs, which allowed teachers to coordinate instruction across grades.

Teachers reported that PLCs support consistent instructional practices and aligned curricula across preschool through grade 3 by providing teachers the opportunity to coordinate lessons and strategies.

In all five case study programs, staff reported that they valued teacher PLCs, during which teachers met as within-grade or cross-grade teams and discussed successes and challenges faced in their classrooms and how to align instructional practices across P–3 grades. Horizontal team meetings, during which teachers met with other teachers from the same grade, provided the opportunity to co-plan and learn about successful strategies that their peers were implementing in their classrooms. Vertical team meetings, during which teachers met with teachers in different grades, provided the opportunity to align curricula and instructional practices across grades. Teachers at all five sites reported benefits of these collaborations. For example, teachers at First School reported that aligning practices helped students know what to expect in the classroom each year, removing an initial barrier to learning. Early Works preschool teachers reported that PLCS encouraged communication between preschool and kindergarten teachers. The PLCs enabled preschool teachers to better prepare students for kindergarten, and kindergarten teachers are better prepared to meet the needs of incoming students.

All programs used instructional coaches to help teachers understand standards, align the curriculum with earlier or later grades, align instructional practices across and within grades, and adjust instructional practices to match the program model.

Teachers at BPS, Early Works, FirstSchool, and SEAL reported that coaches helped them align their specific instructional practices with the program and with the instructional practices of other teachers. In BPS, coaches helped preschool teachers coordinate the two different curricula used in their classrooms by creating teacher guides. Administrators from CPC, SEAL, and Early Works reported that they noticed a change in teacher practices as a result of coaching, such as increasing opportunities for student talk in their classrooms, using centers or stations for active learning, and using data more frequently to inform instruction. At each program, teachers and coaches reported effective relationships with each other, and teachers said they were receptive to coaches' feedback. Teachers emphasized that having supportive coaches who were there to help them succeed and not to catch them making mistakes helped them to embrace the risk of implementing a challenging new strategy.

To provide additional continuity for children's learning across grades P–3, all five programs took a proactive approach to engaging parents by creating a welcoming environment, conducting home visits, providing resources for families, or involving parents in children's education at home.

All five programs proactively communicated and engaged with parents, families, and the community. Staff from BPS, CPC, Early Works, and SEAL indicated that parent and family engagement was one of the most critical components of the program. For example, teachers at the CPC and Early Works programs conducted home visits; the frequency of these visits was tailored based on the needs of each student and the student's family. Teachers and administrators at Peck School (CPC in Chicago) reported that home visits were an effective way to talk with parents about what was going on in the classroom while also conveying rules and expectations.

Building on practices used in their preschool programs, kindergarten through third grade teachers in four programs reported focusing on student-initiated and play-based learning.

Four case study programs—BPS, CPC, FirstSchool, and SEAL—focused instruction in preschool and early elementary grades on student-initiated and play-based learning. In these programs, staff emphasized the importance of building on students' interests and described this practice as developmentally appropriate not only for 4-year-olds but also for students in early elementary grades. Staff at BPS, CPC, and SEAL believed their focus on student-initiated learning resulted in greater student engagement. At BPS, CPC, and FirstSchool, staff reported that students were given choices in the classroom primarily through the use of free-choice centers. Staff at CPC, FirstSchool, and SEAL emphasized the specific importance of hands-on, tactile activities. Overall, staff in BPS and FirstSchool described how their programs were "pushing up" elements of preschool into the early elementary grades through their focus on developmentally appropriate practice in elementary school.

Common Approaches to Differentiated Instruction

Teachers in all five programs reported using strategies to accommodate students' different skill levels, including modifying writing prompts or math problems, adjusting rubrics, adapting learning materials, asking different levels of questions, providing different levels of support, or using small-group instruction.

Although BPS was the only program nominated for the study based on an explicit focus on differentiated instruction, all five programs demonstrated efforts to implement differentiation in the classroom, such as through modifying assignments, rubrics, or supporting materials. For example, one BPS kindergarten teacher described how writing assignments could be modified: Students who have not yet learned to write letter forms practice writing the individual letters, and students who have mastered the letter forms instead write words that begin with that letter.

Teachers in all five programs used homogenous groupings and teachers in four programs used heterogeneous groupings when differentiating instruction.

Staff at all five programs reported using homogenous groups for differentiating instruction, and staff in four of the programs reported that they used these homogenous groups for reading instruction specifically, wherein students at the same reading level worked together to read and complete activities on texts of the same level. Staff at BPS, CPC, FirstSchool, and SEAL reported also using heterogeneous groupings for some lessons so that classmates could help one another learn. In heterogeneous groups, students had different levels of academic or social-emotional needs. In addition, staff at BPS, CPC, FirstSchool, and SEAL reported using flexible or fluid groups to allow students to work with different groups of their peers and to be regrouped frequently based on their learning progress.

Staff in all five programs reported that having extra adult support staff in the classroom enabled them to provide differentiated instruction to more students.

According to staff from all five programs, a key factor of successful, differentiated, and small-group instruction is having multiple teachers or aides in the classroom. Program models varied in requirements for aides in classrooms; for example, the CPC model specifies aides in each classroom who have received the same training as teachers, but aides are not required in the SEAL program. According to interview respondents, teaching assistants in BPS classrooms made multiple small groups possible, enabling teachers and aides to offer different levels of support or modified assignments according to student need. When asked to discuss challenges with the implementation of the program, respondents from BPS, CPC, Early Works, and FirstSchool all pointed specifically to a need for additional staff support in the classroom. In BPS, the program nominated for the study because of its differentiated instruction approach, kindergarten and first-grade classrooms observed had low student-to-teacher ratios, with ratios ranging from 10.5 to 1 to as low as 3.5 to 1.

Instructional coaches trained teachers in all five programs to differentiate instruction and group students.

Staff in all five programs reported that coaches helped teachers effectively implement differentiation strategies. Specifically, coaches played a significant role in helping teachers transition their instructional

practices from didactic, teacher-led instruction to small-group instruction and center-based learning. At BPS, CPC, Early Works, and FirstSchool, respondents reported that coaches specifically helped them analyze student test scores to group students. This finding is consistent with the literature on the implementation of differentiated instruction that found that coaches can be effective in helping teachers improve their practice related to differentiation.

Goals of Programs

All five programs focused on increasing students' vocabulary, oral language, and social-emotional skills.

In all five programs, staff emphasized their program's goal to build students' vocabulary, oral language development, and social-emotional skills. District officials, principals, and teachers in these programs reported that their curriculum focused on building students' reading, vocabulary, and comprehension skills to develop a solid literacy foundation that will allow students to succeed in later grades. Staff at BPS and SEAL reported that they incorporated storytelling to increase students' vocabulary and oral language skills. Staff at SEAL described their practices of creating a language-rich environment in the classroom, especially for English language learners. CPC, Early Works, FirstSchool, and SEAL also reported that they used a curriculum specifically focused on children's social-emotional development.

Program Outcomes and Successes

Staff in four programs reported that they had observed improvement in students' vocabulary or oral language skills, social-emotional development, and engagement or attendance, as well as improvement in parent involvement after implementing their program.

Rigorous evaluations of these programs had not been conducted or were only just underway at the time of data collection. However, BPS, Early Works, and SEAL staff discussed positive changes they had observed in students' vocabulary and oral language skills since implementing their P–3 alignment programs. At BPS, CPC, Early Works, and SEAL, staff reported that they observed positive social-emotional changes in the children who participated in their programs, including students' comfort in the classroom, improved behavior, and improved interactions with other students. At BPS, CPC, and SEAL, case study participants reported that they observed that their students are now more involved in classroom activities and more eager to learn compared with students prior to program implementation. CPC and Early Works staff reported improved student attendance during program implementation, and CPC, Early Works, and SEAL staff reported that they had observed a higher level of parent involvement in their schools since implementing the program. Initial evaluation findings corroborate CPC teachers' reports of improved attendance, SEAL teachers' reports of improved language skills, and Early Works teachers' reports of increased language and social-emotional skills (direct assessment of self-regulation) (see the "Evaluation Results" box in Section II).

Challenges and Lessons Learned

Staff in all five programs reported that guiding teachers to change their practices (e.g., incorporating student-initiated learning) can be difficult, and teachers and principals suggested addressing this challenge through in-depth teacher training, staff voice in choosing to implement new practices, additional classroom resources, and effective leadership.

Staff in all five programs emphasized the critical role that training played in securing staff buy-in to the program. For example, teachers at BPS, CPC, Early Works, and FirstSchool all expressed a desire for (and appreciation of existing) thorough training that addressed not only exactly how to implement the strategies but also why the strategies were being put into place. Staff choice helped several sites to create buy-in. Teachers and principals in the BPS, CPC, and SEAL programs all chose to be a part of the program, which staff reported had facilitated staff commitment to changing their practices. Staff in CPC, FirstSchool, and SEAL reported that securing teacher buy-in to the new program was easier when the program was accompanied by additional resources for teachers, such as coaching. At BPS, CPC, Early Works, and FirstSchool, participants reported that it was important for school leaders to be committed to early childhood education, more generally, for the program to be successful.

Staff in all five programs reported concerns that sustaining staffing levels required for faithful implementation of the program after external funding support ends would be a challenge, and district leaders have begun work to allocate district or public preschool funds to continue program activities.

Because all programs have used some type of external funding, staff including district officials, funders, and principals in all five case study programs expected challenges to arise when the funding they received to implement the program decreases or ends. All five programs received external support that enabled schools to hire teaching aides, support staff, parent engagement coordinators, and coaches or to purchase materials. The Sobrato Family Foundation currently provides all teacher training for the SEAL program. The Barr Foundation awarded several grants to BPS to support NAEYC accreditation of early elementary classrooms as well as kindergarten and first-grade curriculum development. The federal i3 grant is funding some staff salaries to expand the CPC program into new districts. In Oregon, the Children's Institute raised money for Earl Boyles' community needs assessment, new building, and principal and teacher training. Finally, Frank Porter Graham Child Development Center, supported by grants from the Kellogg Foundation, provides model information and coaching to FirstSchool sites.

Without these additional resources, staff said they feared that they would not be able to continue implementing the programs as intended. Early Works has worked carefully to braid existing funding sources for Oregon's public preschool to support their preschool program. Districts implementing the other four programs are currently working to allocate district funds to sustain some or all of the staff required for the program activities.

I. Introduction

Participation in high-quality preschool can improve academic, behavioral, social-emotional, and cognitive outcomes for students of varying backgrounds, including students from disadvantaged backgrounds (e.g., Andrews, Jargowsky, and Kuhne 2012; Barnett 2008; Camilli et al. 2010; Karoly and Bigelow 2005; Reynolds et al. 2007). However, some studies have documented that some of these benefits do not persist into second or third grade (e.g., Bogard and Takanishi 2005; Li et al. 2013; Lipsey, Farran, and Hofer 2015; Puma et al. 2012). Without additional and continuous supports as children proceed through the elementary grades, participation in preschool does not inoculate against the potential challenges that children, particularly children at risk for poorer academic outcomes, may face. It is important to identify ways to sustain early cognitive, social-emotional, and academic gains in order to give all students opportunities to thrive academically.

P–3 Alignment and Differentiated Instruction

To explore how educators might build on and sustain the positive effects of preschool, this study examined two types of strategies: (1) aligned instruction between preschool through grade 3 (P–3 alignment) and (2) differentiated instruction. The study involved a systematic literature review on the two strategies followed by case studies of five preschool programs that use one or both of the strategies. The two topics were selected by the U.S. Department of Education (ED) and the U.S. Department of Health and Human Services (HHS) in seeking evidence for early elementary school practices that sustain the effects of preschool and provide benefits for students' transition to elementary school. Results of preliminary literature searches by the study team on eight topics suggested promising results for P–3 and differentiated instruction.

An aligned P–3 program is a program in which standards, curricula, instructional practices and environments, student assessment, and teacher professional development are purposefully coordinated from the preschool years through the early elementary school years. Although there is limited research evidence on the effects of such alignment, early childhood experts have recommended that explicitly linking curricula and instructional strategies from preschool through grade 3 could sustain the effects of preschool and other investments in early childhood education (Bogard and Takanishi 2005; Brooks-Gunn 2003; Howard 2008). As Reynolds and Temple (2008) suggested, aligned P–3 programs may provide more continuity and better organization of services for students as well as enhanced school–family partnerships.

The premise of differentiated instruction is that teaching practices should vary to meet the diverse needs and skills of the individual students and to optimize students' learning experiences (Tomlinson 2000, 2001). In a differentiated instructional delivery model, student needs are emphasized (Stanford and Reeves 2009), and teachers purposively adapt instructional strategies and the focus of skill building to be responsive to individuals or groups of students (Jones, Yssel, and Grant 2012). One explanation for why initial benefits of preschool do not persist through elementary school is that children who make early gains in preschool may not have the opportunity to maintain their learning trajectory if their early elementary instruction focuses on students who are less prepared and have low-level skills. In other words, instruction may not be differentiated, and in some cases, instruction may not be rigorous enough to build upon the skills that some students have upon school entry (Claessens, Engel, and Curran 2013; Kauerz 2006; Lipsey, Farran, and Hofer 2015).

The study involved research questions for the two study components: literature review and case studies (see Exhibit 1).

Exhibit 1. Study Questions

Literature Review	Case Studies
• What approaches did the research and theoretical literature suggest for aligning preschool through grade 3 (P−3) education, and what was the quality of the research studies? • What were the findings from studies of differentiated instruction for children in kindergarten and first grade, and what was the quality of these studies?	• What approaches did the five programs use to implement P–3 alignment? • In programs that implemented differentiated instruction, what approaches did staff use? • What were the goals of the five programs? • What changes in student and teacher outcomes did staff attribute to their programs? • What were the challenges of implementing these programs, and how did staff and leaders try to overcome these challenges?

ED published the literature review in August 2016. A brief summary of findings from the review[2] appear next, followed by an overview of the case study design.

Summary of Findings From the Literature Review

To gather appropriate literature, the review team conducted keyword searches in nine widely used education and psychology electronic databases for articles published between January 2003 and July 2014. For P–3 alignment, the research team used additional Internet searches and requests to experts in the field for article or intervention recommendations. Because preliminary searches revealed there would be few experimental or quasi-experimental studies for either topic, the research team conducted a broad review to catalog all available studies and quantify and categorize the currently available research (Brett et al. 2011; EPPI Centre 2010).

All studies that used quantitative designs—including randomized controlled trials, quasi-experimental designs, and pre-test and post-test and correlational designs—were included. Studies that used primarily qualitative methods were included if they focused on implementation issues relevant to interventions for either topic. Most often, the qualitative studies were case studies of a single program.

The P–3 alignment portion of the literature review included 49 policy or theory resources, nine qualitative studies, three quantitative studies, and one mixed-methods study. None of the quantitative studies used experimental or quasi-experimental designs to examine impacts of P–3 alignment interventions. The research instead focused on theoretical discussions of the importance of this approach and policy recommendations. Nearly all of the articles pointed to the importance of aligning standards, curriculum, instruction, assessments, and learning environments across early grades. The articles also discussed the importance of similar training and education levels for preschool and elementary teachers, parity in pay for preschool and elementary teachers, sharing data between preschool and elementary schools, and intentional leadership and management practices.

[2] The literature review, *Preschool Through Third Grade Alignment and Differentiated Instruction: A Literature Review,* is available at http://www2.ed.gov/rschstat/eval/disadv/p-3-alignment-differentiated-instruction/report.pdf.

Specifically, the articles suggested including early childhood education providers and elementary staff in planning P–3 initiatives together, to ensure that programs are implemented with fidelity; selecting specific and measurable outcomes; and holding teachers and principals accountable for these outcomes. Finally, the literature raised several challenges to aligning early grades, including policies that inhibit the blending of federal, state, and local funding sources to support P–3; instability of preschool funding; resistance by elementary school staff to including preschool; and elementary school facilities and enrollment policies.

In the literature review, studies on differentiated instruction were limited to those studies that involved students in kindergarten or first grade in order to focus on the use of differentiation to meet the skill levels of children upon their entry to elementary school. Studies that included only low-achieving students were excluded from the review because of interest in instructional activities being made more rigorous for students who are prepared for more advanced work. The differentiated instruction topic included 21 studies, encompassing 17 quantitative studies and four qualitative studies focused on students in kindergarten or grade 1. Two thirds of the studies focused on reading instruction, and the other studies focused on either writing or mathematics. Six randomized controlled trials (RCTs) focused on the branded program Individualized Student Instruction with Assessment to Instruction (A2i). All of the RCTs demonstrated positive effects on reading outcomes, even though the reviewers only judged one of the six studies as having the potential to meet the criteria for strong causal evidence. The intervention package provides training and professional development to teachers on how to individualize literacy instruction in the classroom using the recommendations and planning strategies provided by A2i Web-based software. Other less rigorous quantitative studies focused on more general student grouping practices. These studies reached mixed conclusions on the effectiveness of particular grouping strategies (e.g., by learning style or by achievement level). Several studies suggested that ability grouping can benefit students with higher initial reading skills, with less benefit to students with lower initial skills. Qualitative studies suggested that differentiation requires careful planning and reflection by teachers to be effective. The qualitative studies illustrated also that mentors and coaches may be helpful in improving teachers' differentiation practices.

Prevalence of Practices

Limited data exist on how many educators use these two broad approaches nationwide. Adoption of strategies to align instruction from preschool through early elementary grades is relatively new. The National P–3 Center has conducted P–3 Institute training since 2007; however, the extent to which states and districts implement a formalized P–3 approach has not been formally studied. The National P–3 Center documents district or state initiatives in 10 states (National P–3 Center n.d.).

There are no nationally representative data on the extent to which teachers differentiate instruction in early elementary grades. However, the 2011–12 Schools and Staffing Survey (U.S. Department of Education n.d.) asked teachers in grades K–12 how well prepared they felt to differentiate instruction in their first year of teaching. Only 18 percent of teachers reported that they felt "very well prepared." If differentiated instruction is needed to optimize individual student learning and teachers only feel moderately prepared to implement it upon entry to the teaching field, then there is a clear need for additional training, professional development, tools, and mentoring related to differentiated instruction.

Two specific approaches that emerged among the five P–3 case study programs included incorporating play-based learning into elementary grades and implementing efforts to closely engage parents. In the past two decades, there has been a decrease in the amount of time kindergarten classes devoted to

play-based learning (Frost, Wortham, and Reifel 2008; Shonkoff and Meisels 2000). Because most prekindergarten classrooms allow substantial time for play, the decrease of play-based learning in kindergarten can create a misalignment between preschool and kindergarten.

The results from the most recent nationally representative survey on parent involvement suggest that, while many parents received general communications from schools, it is less common for them to receive specific personalized, communication regarding their own child and/or to actually participate in the school building (Herrold and O'Donnell 2008). In this survey, 87 percent of parents of students in grades K–12 reported they received general communications from their child's school, such as newsletters, memos, or e-mails. However, a lower precentage (57 percent) received notes or e-mail from the school specifically about their child. In addition, 41 percent of parents reported that the school had contacted them by telephone Reported percentages were lower when parents did not speak English (e.g., 40 percent of non–English-speaking parents reported that they had received notes or e-mail from the school specifically about their child) and/or had low family incomes (e.g., 48 percent of parents living below the poverty threshold had received such communication; Herrold and O'Donnell, 2008). The survey also reported that only 51 percent of parents reported being "very satisfied" with the way school staff interacted with parents. Taken together, these statistics suggest that schools may need to adopt additional strategies to engage parents—particularly low-income and non–English-speaking parents—in their child's learning.

Overview of Case Study Design

To better understand how to build on the positive effects of high-quality preschool, the research team conducted case studies of five intentionally selected sites. Selected sites used practices focused on P–3 alignment and/or differentiated instruction in early elementary grades. Case study questions included the following:

1. What approaches did the five programs use to implement P–3 alignment?
2. In programs that implemented differentiated instruction, what approaches did staff use?
3. What were the goals of the five programs?
4. What changes in student and teacher outcomes did staff attribute to their programs?
5. What were the challenges of implementing these programs, and how did staff and leaders try to overcome these challenges?

Program and Site Selection

To build on what was learned through the literature review, researchers conducted case studies in a purposive sample of five programs. To select those programs, the team considered programs identified through the literature review as well as nominations solicited from the study's technical working group members,[3] offices responsible for early learning within state departments of education, and national-level associations such as the National Association for the Education of Young Children (NAEYC) and the National Association of Elementary School Principals. Factors considered in selecting the case study programs included whether the program focused on P–3 alignment, differentiated instruction, or both;

[3] The technical working group consisted of Margaret Burchinal (University of North Carolina–Chapel Hill), Lindy Buch, (Michigan Department of Education), Linda Espinosa (University of Missouri–Columbia [Ret.]), Kristie Kauerz (University of Washington–Seattle), and Ellen Kisker (Twin Peaks Partners, LLC).

the grade levels targeted by the program; and student outcomes data available through public information sources. The team aimed to include geographic diversity (region of the country and urbanicity), diverse student population, and diverse program approaches. All five of the programs selected (see Exhibit 2) were focused on students in preschool through third grade. Additional information on enrollment, demographics, and strategies of each program can be found in Section III.

Exhibit 2. Characteristics of Case Study Programs

Program	Location	Urbanicity	External funder (purpose)
Boston Public Schools (BPS)	Boston, Massachusetts	Urban	Barr Foundation (initial curriculum development, NAEYC accreditation, principal training)
Chicago Child–Parent Centers (CPC)	Chicago, Illinois, and St. Paul, Minnesota	Urban	U.S. Department of Education Investing in Innovation (i3) grant (program staff and activities)
Early Works	Portland, Oregon	Urban	Children's Institute (advocacy efforts and needs assessment)
FirstSchool	Martin County, North Carolina	Rural	Frank Porter Graham Child Development Center/Kellogg Foundation (teacher training and coaching)
Sobrato Early Academic Language (SEAL) program	Redwood City, California	Suburban	Sobrato Family Foundation (model development, teacher training)

- Boston Public Schools (BPS) is focused on both P–3 alignment and differentiated instruction. In 2013, district officials at BPS concluded that stagnant Massachusetts Comprehensive Assessment System (MCAS) scores for third-grade students suggested a need to improve the curriculum and instructional quality in early elementary grades to sustain the early benefits experienced by students participating in BPS' preschool program. As a result, the district used district and private funds to develop new full curricula for preschool, kindergarten, and first grade, as well as an aligned professional development system for their teachers. Both the new curriculum and professional development system focused on strengthening P–3 alignment. Additionally, differentiated instruction to meet students' individual needs was an integral component to P–3 efforts in BPS schools.
- The "new generation" (also known as the Midwest Expansion) model of the Child–Parent Centers (CPC) P–3 program builds on the original CPC program implemented in Title I schools in Chicago. Like the original CPC program, the Midwest Expansion model continued to focus on students in preschool through third grade who come from low-income families but expanded into additional districts and into additional schools in Chicago. The new model gives a larger role to the principal, focuses on home visits and attendance in lieu of only school-based parent activities, improves curriculum alignment, combines in-person and online professional development, and emphasizes a balance of child-initiated and teacher-directed instruction.
- The Early Works initiative was selected for its P–3 alignment strategies and family supports that are being implemented at Earl Boyles Elementary School. The Initiative aligns the new preschool program at Earl Boyles with elementary grades in terms of instructional practices, learning standards, and services. This alignment is fostered through ongoing professional development and collaboration opportunities for teachers throughout the year.

- The FirstSchool program is a P–3 initiative designed to help schools effectively sustain high-quality instruction in early childhood and elementary classrooms particularly for low-income students from diverse backgrounds. The program focuses on nurturing children's sense of self-efficacy and identity, encouraging peer interactions in the classroom, promoting independence and self-regulation, using developmentally appropriate practice, promoting critical thinking, and incorporating a balanced curriculum that covers multiple topic areas. Instruction is intentionally aligned across grades and differentiated according to student needs.
- Finally, the Sobrato Early Academic Language (SEAL) program is a P–3 program designed to develop the language and literacy skills of Spanish-speaking English learners (ELs). SEAL has a goal of closing the achievement gap between ELs and non-ELs by fourth grade, citing statistics that the dropout rate of ELs is eight times higher than those of non-Hispanic, white students in the districts they serve. The program begins with a language-rich preschool program and then incorporates aligned instructional strategies from preschool through third grade intended to help students build the skills and academic language foundation they need for long-term success.

Site visits were conducted in a total of nine elementary schools, including one school for the Early Works initiative, and two schools for each of the other four programs. The nine schools were selected based on nominations from program and district staff, who were asked to recommend the two schools that would best represent implementation of the program (Early Works staff recommended just one school for the case study).

Data Collection and Analysis

Data collection took place between November 2015 and January 2016 and included interviews and focus groups with personnel, observations of program activities, and review of extant program documents. Details of data collection and analysis procedures are provided in Appendix A.

Interviews. Site visitors conducted a total of 93 semistructured interviews with a variety of program staff, including district-level staff, school administrators or coaches, teachers, and if applicable, the program funder (e.g., from a foundation or private funding agency) and program evaluator. For three of the programs, site visitors also conducted interviews with other types of staff recommended by program staff, including an instructional coach (SEAL) and two program developers (FirstSchool and CPC) (see Exhibit 3). The interview protocols are provided in Appendix B.

Exhibit 3. Number and Type of Participants at Each Case Study Program

Program Name	Principals	Coaches	Individual Teachers	District-Level Staff	Program Developer	Funder	Evaluator	Teachers in Focus Groups	Total
BPS	1	0	3	2	0	1	1	11	19
CPC	2	0	1	2	1	0	1	20	27
Early Works	1	0	0	2	0	1	1	8	13
FirstSchool	2	0	3	2	1	0	0	8	16
SEAL	2	1	0	1	0	1	1	12	18
TOTAL	8	1	7	9	2	3	4	59	93

Exhibit reads: In BPS, interviews were conducted with one principal, three teachers, two district-level staff, one funder, and one evaluator; 11 additional teachers participated in a focus group, for a total of 19 participants.

Observations. Site visitors conducted observations of relevant program activities taking place on the day of the site visit (see Exhibit 4), including classroom instruction, teacher training sessions, or staff meetings, including professional learning communities (PLCs). Principals selected activities for site visitors to observe. Observations lasted between 10 and 60 minutes depending on the logistics of scheduling, classroom activities taking place, and the length of classes or meetings. Observers took running notes, recording examples of alignment (e.g., common instructional practices across grades, training focused on these common instructional practices, or collaborative teacher conversations about aligning instruction) and differentiation. An observation protocol helped guide observation notes and asked observers to answer three summary questions based on their running notes; the observation protocol is included in Appendix C. Observation data were used to provide confirmatory examples of themes that arose from analysis of interview and focus group data.

Exhibit 4. Program Activities Observed at Each Program

Program	Activities Observed
BPS	One preschool classroom, three kindergarten classrooms, three first-grade classrooms, one Language Leadership Team staff meeting, one districtwide kindergarten teacher training
CPC	One preschool classroom, one preschool active learning activity, four kindergarten classrooms, three first-grade classrooms, two second-grade classrooms, one parent resource class, one second-grade PLC meeting
Early Works	One preschool PLC meeting, one kindergarten PLC meeting, one first-grade PLC meeting, one second-grade PLC meeting
FirstSchool	Three preschool classrooms, three kindergarten classrooms, one kindergarten resource room, two first-grade classrooms, two second-grade classrooms, one third-grade classroom
SEAL	One preschool classroom, one transitional kindergarten classroom, four kindergarten classrooms, three first-grade classrooms, three second-grade classrooms, two third-grade classrooms

Document Review. Site visitors collected internal and external documents describing program activities, history, theory of action, or program outcomes (see Exhibit 5). The research team analyzed these program documents to clarify details about the program design and as references for additional detail to supplement interviewees' descriptions.

Exhibit 5. Documents Reviewed for Each Program

Program	Documents Reviewed
BPS	Evaluation of BPS preschool program (Weiland and Yoshikawa 2013); BPS K1 Cohort Performance on 2009–2010 Beginning of Year DIBELS; "High Quality Pre-K in Community-Based Early Education Programs" (Boston K1DS n.d.); "Eliminating Achievement Gaps" statement on district website (Boston Public Schools 2016)
CPC	CPC Program Guidelines and Requirements 2015–16 (Human Capital Research Collaborative 2015); Midwest CPC Expansion Annual Report 2013 (Human Capital Research Collaborative 2013); CPC Fact Brief on Curriculum; CPC Fact Brief on Funding; CPC Fact Brief on Parent Involvement; Peck School Report Card, 2015
Early Works	*Early Works Strategies* overview document; Early Works Fact Sheet; Early Works at Earl Boyles 2013–14 Executive Report: Executive Summary (Green and Patterson 2014); Early Works at Earl Boyles 2014–15 Annual Report; *Leading the Way* report 2014 (profile of superintendent leadership), *Oregon Report Card 2014–15: Earl Boyles Elementary* (Oregon Department of Education 2015)
FirstSchool	Brief, "What Is FirstSchool?" (Ritchie, Maxwell, and Clifford 2009); *Issues in PreK–3rd Education: A FirstSchool Framework for Curriculum and Instruction (#7;* New, Palsha, and Ritchie 2009); *FirstSchool* overview document (Frank Porter Graham Child Development Institute 2016)
SEAL	*The SEAL Model* overview document (Sobrato Family Foundation n.d.); SEAL Modules Progression (descriptions of training offered to SEAL teachers)); Summary of SEAL Third Year Evaluation Report, 2011–12 (Lindholm-Leary 2012); *Welcome to SEAL Replication* information sheet for districts; *Sobrato Family Foundation Early Academic and Literacy Project After Five Full Years of Implementation: Final Research Report* (Lindholm-Leary 2015)

The study team used qualitative analysis software to identify themes that were common across programs as well as the unique characteristics of each program. Themes that emerged with the strongest evidence (greatest number of respondents across three or more programs) were identified as key findings in this report. Additional details on analysis procedures can be found in Appendix A.

Study Limitations

This was a descriptive study based on data collected at a small number of purposively selected sites and are based on self-reports of the staff interviewed at each site and observations limited by the logistics of school schedules. Therefore, the findings are not generalizable to other schools that use the two strategies that we studied. Still, policymakers and administrators may use the study findings to inform their own efforts to use P–3 alignment or differentiated instruction to sustain the effects of preschool education by considering how these five sites implemented these strategies, the challenges they faced, and the steps they took to overcome those challenges.

II. Cross-Site Findings

This section describes similarities across three or more programs in terms of program elements, goals, successes, and challenges. In some cases, the text highlights particularly unique practices at one or two sites that may be of interest to practitioners and policymakers.

Common Approaches to P–3 Alignment

In the literature review, nearly all qualitative studies and policy and theory articles on P–3 alignment suggest aligning standards, curriculum, instruction, assessments, environments, and teacher professional development across preschool and grades K–3 to support students' continued success after preschool. Common approaches to P–3 alignment in case study sites include PLCs, use of coaches, parent engagement, and incorporation of play-based learning in elementary grades.

All five case study programs aligned instruction across grades by aligning or coordinating standards, curricula, instructional practices, and professional development; three sites also used aligned assessments.

In all five case study programs, staff reported that their curriculum and standards are aligned from preschool through third grade. Teachers explained that they see the value of aligning standards and curriculum as each year's content builds on the previous year's. At BPS, some of the curriculum units and themes overlap across grades; for example, preschoolers study a friends and family unit, and then kindergarteners study a unit about families and communities, which builds on the preschool content.

While an aligned curriculum was a key feature of the P–3 initiatives, district officials, principals, and teachers in all five programs also discussed the importance for teachers to be flexible in their implementation of the curriculum. Teachers spoke to the need to be able to adapt the curriculum to meet the needs of their students. For example, a BPS preschool teacher reported the following:

> *When we first started the curriculum, we needed to follow it exactly. That was difficult for me. [The district has] now realized that it's going to look different in every classroom…so that when we went to the training, they were like, "This is just a guide. You know your students best."…I feel like they're respecting us enough and trusting us enough to know that, okay, you might read the book differently than somebody else or you might take playground and do it differently, but the concepts are still the same. Our approach is going to be different, and it doesn't have to all look the same in every classroom.*

Thus, there is some tension between aligning instruction within and across grade levels and enabling teachers to adjust pacing or pedagogy to the needs of their students. That said, administrators and teachers recognized that consistency within and between grades is also important for student success.

Staff from BPS, CPC, and SEAL described how the use of similar instructional practices facilitated P–3 alignment. For example, a CPC district official reported that preschool and kindergarten students engage in active learning, make choices during their independent work time, and are frequently asked to verbalize their thoughts or answers in front of the whole class. BPS early elementary classrooms

incorporate play-based learning, similar to that used in preschool classrooms. At SEAL schools, teachers from preschool through grade 3 incorporate similar instructional practices, such as charts with explicit labels, chants, and think-pair-share activities with other students.

Three case study programs also described how teachers at different grade levels shared data from aligned assessments. At BPS, Early Works, and FirstSchool, participants described aligned assessments that were used across preschool through third grade. District officials and teachers in these three programs reported that their reading assessments are aligned to measure students' reading levels in preschool through third grade.

Literature review findings suggested the importance of sharing data between preschool and kindergarten teachers and administrators to facilitate coordination of instruction across grades. Teachers at Early Works and CPC reported sharing assessment data across grades. At Early Works, assessment data from children in preschool were shared with the kindergarten teachers so that they understood the academic strengths and weaknesses of the incoming class. In the CPC program at Bruce Vento Elementary in St. Paul, Minnesota, sharing assessment data with other teachers occurred during cross-grade meetings twice a month. Before each meeting, a specific focus or standard was selected to discuss during the meeting. During the meeting, all of the teachers, school leadership, and coaches came together to examine assessment data across grades to (1) better understand students' performance against the standard, (2) share strategies to improve teaching practice of the standard, and (3) discuss how the current teachers can better prepare students for the following grade.

Teachers reported that PLCs support consistent instructional practices and aligned curricula across preschool through grade 3 by providing teachers the opportunity to coordinate lessons and strategies.

The study's literature review suggested the importance of joint professional development and planning time for early childhood education providers and elementary staff. In all five case study programs, teachers participated in PLCs and meeting in within-grade or cross-grade teams to discuss successes and challenges faced in their classrooms and strategies for aligning instructional practices across P–3. Horizontal team meetings, in which teachers met with other teachers from the same grade, provided the opportunity to co-plan and learn successful strategies implemented by peers in their classrooms. Vertical team meetings, in which teachers met with teachers in different grades, provided the opportunity to align curricula and instructional practices across grades. Teachers at all programs reported brief discussions with other teachers as useful for responses to quick questions, but formal PLC meetings, which were held once or twice a month across programs and primarily after school, were seen as valuable for solving complex classroom challenges.

Staff from BPS, CPC, Early Works, and SEAL observed that PLCs provided the opportunity for teachers to work on curriculum alignment. PLCs at the different programs focused on topics ranging from working with grade-level interventionists to align instructional practices across grade-level staff, to developing unit-specific practices, for example, "Draw and Label" activities at the SEAL program. At Early Works and SEAL, interviewees specifically mentioned that preschool teachers and kindergarten teachers meet to align their curricula so that the transition between the two grades is as smooth as possible.

PLC meetings afford teachers the opportunity to share assessment data and discuss with other teachers what students need to learn to succeed in the next grade. For example, CPC and Early Works principals emphasized the importance of having teachers share and discuss assessment data in their vertical team

meetings. Vertical teams sometimes select a standard and review student assessment results to share successful strategies and how other teachers might be able to use them in their specific classrooms. In contrast, horizontal meetings give teachers the time to plan at their grade level, which ensures that teachers use similar instructional methods and develop consistent strategies for dealing with prevalent student issues at the grade level.

Overall, principals and teachers reported that the PLCs were helpful in supporting P–3 alignment. Teachers who previously taught at schools without PLCs reported that they felt more supported, and they appreciated the opportunities to gain feedback from and share practices with other teachers to help align practices. Teachers at First School reported that aligning practices helps students to know what to expect in the classroom each year, removing an initial barrier to learning. A preschool teacher at Earl Boyles reported that the PLCs helped her to better prepare her students for kindergarten by affording her the opportunity to discuss with kindergarten teachers how topics are covered in each grade.

All programs used instructional coaches to help teachers understand standards, align the curriculum with earlier or later grades, align instructional practices across and within grades, and adjust instructional practices to match the program model.

Staff in all programs reported that coaches had a concrete understanding of the curricula at the schools, which enabled them to help teachers understand the curricula, effectively integrate multiple curricula, identify important strategies on which to focus, and align instructional practices with other teachers. Multiple teachers reported that they enjoyed the coaching because it brought more continuity into their instruction. At BPS, coaches helped teachers understand the goals and expected outcomes of each specific curriculum being used. In all programs, coaching support helps to ensure that teachers not only possess the skills necessary to lead their classroom but also understand how to prepare their students for the next school year. Coaches also assisted with practical supports for BPS teachers, such as putting together teacher guides that blended the preschool and kindergarten curricula. Teachers at all sites reported that coaches were available to them when they were needed. At one SEAL site, teachers reported that the coach met with them weekly. Early Works teachers received training with coaches once every two weeks.

Staff at BPS, Early Works, FirstSchool, and SEAL reported that coaches helped teachers to align their specific instructional practices with the program and with the instructional practices of other teachers. At BPS and FirstSchool, coaches provided teachers with opportunities to sit in on other teachers' lessons so that they could observe exemplary practices and aligned instruction. Coaches also provided hands-on coaching by helping teachers to be more intentional about each practice in their teaching, such as by showing them what questions to ask the students. Administrators from CPC, SEAL, and Early Works reported that they noticed a change in teacher practices as a result of coaching, such as increasing opportunities for student talk in their classrooms, using centers or stations for active learning, and using data more frequently to inform instruction.

In each program, teachers and coaches reported effective relationships with each other, and teachers said they were receptive to coaches' feedback. The BPS program evaluator commented on the remarkable level of receptiveness that teachers had toward the coaches' feedback. She attributed the level of trust to the fact that coaches are "not there to…force something upon the teacher. It's sort of like a mentoring rather than cop role, and they play that really, really well." Teachers also emphasized that having supportive coaches who were there to help them succeed and not to catch them making

mistakes helped them to embrace the risk of implementing a challenging new strategy. Indeed, teachers at BPS reported that the trainings on curricula and strategies were helpful, but coaching solidified their changes in practice.

Family Engagement

To provide additional continuity for children's learning across grades P–3, all five programs took a proactive approach to engaging parents in the school by creating a welcoming environment, conducting home visits, providing resources for families, or involving parents in children's education at home.

Staff in all five programs described how they proactively work to communicate and engage with parents, families, and the community. Although interview data from the FirstSchool program suggests that parent engagement is only a minor focus, interview data from BPS, CPC, Early Works, and SEAL indicate that parent and family engagement is one of the most critical components of the program. In these four programs, interview respondents indicated that they believe that engaging families in meaningful and multiple ways has made a significant impact by creating a more positive school culture and improving student outcomes.

Creating a Welcoming Environment to Involve Parents in School Activities

Staff at BPS, CPC, Early Works, and SEAL described schoolwide efforts to create a welcoming environment and encourage parents to get involved in the school. The schools focused on increasing the frequency of communication with parents and communicating in a manner that is comfortable for the parents. Staff in all four programs, for example, described efforts to communicate information in the parents' first languages, which often is not English. At CPC, respondents reported providing monthly calendars in English and Spanish, and at Early Works, respondents reported that they translate volunteer forms into several different languages so that all parents can volunteer in the school regardless of their home language.

Furthermore, principals and teachers at the BPS, CPC, Early Works, and SEAL programs emphasized the need to communicate to parents their critical role as their child's "first teacher." School staff explained that many parents lack confidence that they can contribute to their child's education, making parents less inclined to participate in school-related activities. Respondents in these programs explained that providing a welcoming environment for parents helps them to feel more comfortable becoming involved in school activities.

In an effort to increase parent engagement in their school, BPS, CPC, Early Works, and SEAL implemented strategies for involving parents both in the classroom and in their children's education outside of the classroom. For example, the CPC program requires parents to volunteer 2.5 hours a week by assisting in the classroom, attending parent workshops, helping teachers with lesson preparation tasks, or attending one-on-one meetings with the teacher. To increase the rate of parent engagement, Early Works hired a family engagement coordinator. The family engagement coordinator facilitates focus groups with parents and families to discuss how their needs can be addressed. The family engagement coordinator also assists a cohort of parent leaders in the school who conduct outreach to other parents to encourage them to get involved with school activities. According to staff, parents and families are more likely to become involved in the school when they are encouraged by other parents

and families who are currently involved. Staff reported that they believe that parent engagement has positively influenced student achievement.

Conducting Home Visits

Teachers at the CPC and Early Works programs conduct home visits; the frequency of these visits is tailored based on the needs of each student and their family. Teachers and administrators at Peck Elementary School reported that home visits, a part of the CPC program, are a very effective way to talk with parents about what is going on in the classroom while also conveying rules and expectations. Parent Resource Teachers and School Community Representatives at CPC play a role in helping teachers to determine which of their students may benefit from a home visit at certain times. Teachers from CPC reported that after a home visit, parent involvement tends to increase significantly. Early Works kindergarten and preschool teachers conduct several home visits for their students. Teachers at Earl Boyles reported that home visits have positive impacts on their relationships with parents. Teachers conduct several home visits a year, and respondents explained that when parents are in their own home, they are much more comfortable and open. As one respondent described:

> *Parents are a lot more willing to be open and talk to you about their life and their child and their dreams for their child [when they are] in their home. They are comfortable, they make you dinner, [unlike at] school, where we're not speaking their language and it's not their comfort zone*.

Staff at Earl Boyles reported that first- through fifth-grade teachers began to conduct home visits after observing the positive outcomes that resulted from the preschool and kindergarten teachers' experiences.

Providing Resources for Parents on Topics Other Than Education

Staff from BPS, CPC, Early Works, and SEAL described providing resources for parents on topics not directly related to education. For example, CPC and SEAL programs both have on-site centers dedicated to family and community engagement, which provide health and wellness services for students and their families. All four programs held workshops for parents focused on a variety of topics, including financial literacy, food management, and how to use a smartphone.

Involving Parents in Children's Education at Home

To foster parent engagement, all four programs use newsletters or other written communication to inform parents about classroom and school activities. BPS, SEAL, and CPC also support parent engagement by sending activities home for children to complete with their parents. For example, in the BPS Home Links program, teachers send home weekly or biweekly packets of activities to encourage parents to be engaged in their child's education. Instead of assigning more homework, teachers assign activities supported by the curriculum that families can do with their children.

The SEAL program provides parent volunteers with training on home learning strategies in reading and math. As one SEAL coach stated, the parent volunteer training is "teaching them how to teach, not just stapling papers." In addition, Hoover Elementary, one of the SEAL schools, organizes an 8-week family literacy event called *Familias Unidas*, which focuses on supporting biliteracy through projects at home. Over 500 parents have participated in *Familias Unidas* over the past eight years.

Building on practices used in their preschool programs, kindergarten through third grade teachers in four programs reported focusing on student-initiated and play-based learning.

Although research suggests that time devoted to play may be on the decline in early grades (Bassok, Latham, and Rorem 2014; Frost, Wortham, and Reifel 2008; Miller and Almon 2009; Shonkoff and Meisels 2000), four case study programs—BPS, CPC, FirstSchool, and SEAL—focused instruction in early elementary grades on student-initiated and play-based learning, building on similar practices in their preschool classrooms. In these programs, staff emphasized the importance of building on students' interests and described this practice as developmentally appropriate not only for 4-year-olds but also for all children in the early elementary grades. Staff at CPC, SEAL, and BPS in particular emphasized that student engagement has increased since they began to focus more on student-initiated learning. A district official described this student-initiated learning approach in BPS classrooms as follows: "What you'll see in…classrooms are not kids sitting at desks in rows in front of worksheets, but kids directing and facilitating their own learning, really engaged in what they're doing." A district official for the CPC program in St. Paul also emphasized that children enjoy learning more when they choose their own activities, and an early elementary teacher at SEAL stressed their school's goal of ensuring joy in learning.

At BPS, CPC, and FirstSchool, participants highlighted instructional strategies, similar across grades, that involve student choice. Teachers at the three programs stated that they regularly provided students with a choice of activities in their classrooms. An elementary teacher at the CPC site Peck Elementary described how student choice, over time, led to greater student ownership of learning. Teachers at BPS, CPC, FirstSchool, and SEAL also reported that their curricula facilitated this use of student-initiated and other play-based learning. For example, teachers in BPS reported that their new kindergarten curriculum, Focus on K2, gave them permission to integrate play-based learning in their classrooms, which is something they believed that students needed. One SEAL elementary teacher reported that the SEAL curriculum allowed for more creativity than they used previously, and her colleague reported that teachers now incorporate dramatic play into their classrooms, which was discouraged prior to implementation of the SEAL model.

Staff at CPC, FirstSchool, and SEAL also emphasized the importance of hands-on activities. For example, teachers at the CPC site in St. Paul used tactile activities, such as clay and manipulatives (e.g., stacking blocks or alphabet beads) for words and letters. A second-grade teacher in the SEAL program described teaching with visual aids, music and movement, hands-on projects, books, and field trips in their "fully integrated curricula." A FirstSchool kindergarten teacher emphasized the need for movement to always be present in instruction, such as through water tables and sand tables in preschool, blocks and dramatic play in kindergarten, LEGO bricks in first grade, and model building and coding in fourth and fifth grade.

Sometimes, student-initiated learning took the form of centers or stations in kindergarten and first grade. For example, the new first-grade curriculum in BPS, Focus on 1st, incorporates both learning stations and studios. During learning studio time, students choose from one of six studios (library, listening, art, writing and drawing, building, or dramatic play) and their own activity at the studio. Teachers ask students to select an activity that connects to what they have been learning in class. Learning stations, however, are teacher-directed and occur in small groups. Students follow a specific routine and complete an assigned task at each station, but they do so independently.

FirstSchool and SEAL staff stressed the importance of having more "student talk" than "teacher talk" in the classrooms. One district official from the SEAL program noted that teachers were motivated by understanding the program's goal of making more effective learning experiences for students by increasing child-initiated talk and questions. Teachers reported that making this change was difficult but effective. For example, one first-grade teacher at FirstSchool reported the following:

> *I think it's a change of mindset….You go in with the idea that classrooms are supposed to be quiet, kids are supposed to be working quietly, and this experience [with providing more student-initiated and less didactic instruction] has changed that. No matter what I prefer, I know this [strategy of more student-initiated and less didactic instruction] is what's best.*

Overall, staff in BPS and FirstSchool described how their programs were "pushing up" elements of preschool into early elementary grades. The district official in BPS emphasized the overall goal of "pushing preschool up" to early elementary grades by incorporating developmentally appropriate practice in elementary school rather than making preschool more like kindergarten or first grade. A principal at FirstSchool described what this looks like in her school: "When you go to first grade, you'll still see centers. You'll see book centers, but you [also] see LEGOs…. What you want is a concept of movement, a concept of engagement, a concept of talking…those qualities of instruction should be present all the way up the spectrum."

Common Approaches to Differentiated Instruction

Teachers in all five programs reported using strategies to accommodate students' different skill levels, including modifying writing prompts or math problems, adjusting rubrics, adapting learning materials, asking different levels of questions, providing different levels of support, or using small-group instruction.

Although BPS was the only program nominated for the study because of its explicit focus on differentiated instruction, all five programs demonstrated efforts to implement differentiation in the classroom. Differentiated instruction is a practice that provides all students with personalized instruction that is most effective for their individual learning needs and is based on their individual abilities. As one BPS teacher described, "All students get all the pieces; they just might not get them at the same time, or they may have to be presented in a different way." For example, a FirstSchool early elementary teacher described assigning students different levels of books, a CPC elementary teacher described providing students with more or less challenging vocabulary words, and Early Works respondents described using different forms of technology and computer games to access students at their differing skill levels.

Across programs, teachers frequently implemented differentiation by starting a lesson with whole-group instruction and later using small-group instruction (during which students are divided into small groups of two to six students). Staff described implementing center-based activities during small-group instruction in which students worked on similar activities. For example, a CPC kindergarten teacher described how during small-group instruction, students divided into groups and either worked on collaborative tasks or worked independently with an adult. The teacher worked with one small group, for example, focusing on a particular text, but then rotated around the room to work with students who were focused on different text. FirstSchool respondents described a differentiation strategy (i.e., "curriculum compacting") that teachers use to help enrich the curriculum for more advanced students

who may already have mastered the content. Teachers used tiered assessments (parallel tasks at differing levels of complexity, depending on the skills and needs of the particular student) to assist them with curriculum compacting and identifying appropriate assignments for individual students. According to FirstSchool staff, using tiered assessments within heterogeneous classrooms allowed the teachers to meet the diverse needs of the students in the class and to provide them with the content and curriculum that best fits students' individual needs.

Differentiation through adapted assignments or support was evident in classrooms observed in BPS, the one site nominated for its differentiated instruction approach. In one first-grade classroom, a lesson began with the teacher reading a story, incorporating the concepts of *same* and *different*, to the whole class. After the story, students moved to four small groups to complete a worksheet listing things they themselves wanted that were the same or different from the story character. Each group had different levels of support: One table of students was working independently; another group of students was working with the teacher on the carpet, using a laminated card of capital and lowercase letters students could copy; a third group was working with the paraprofessional with the same laminated card and worksheet; and a final group was working with the student teacher with both the laminated alphabet card and a list of pictures in *same* and *different* columns that they had talked about in the large group. In a K2 (kindergarten) classroom, similar differentiation of learning materials took place. Some students were playing a card game in which two students each flip over a card and determine whose card has a larger value. To challenge one group, students used two cards instead of one and had to add the two values together to determine which student won the round. This more advanced version of the game indicated that students in that group had already mastered counting 1–10.

During small-group instruction, teachers assigned students to work individually with teachers or another staff member. While the rest of the class is working in their groups, the teacher can provide targeted, one-on-one skill building for an individual student. Early Works emphasized using this strategy for language development. Center-based and small-group differentiated instruction is an 80-minute daily integrated part of the BPS focus on K2 (kindergarten) curriculum.[4]

Teachers in all five programs used homogenous groupings and teachers in four programs used heterogeneous groupings when differentiating instruction.

Staff in all five programs reported using homogenous groupings when differentiating instruction. In homogenous groups, all students have similar levels of academic and/or social-emotional needs. For example, a FirstSchool first-grade teacher described that she groups her students by their academic level and that the groups of students with a higher level of comprehension will receive more challenging critical-thinking questions, such as explaining why events happened in a story or supporting predictions with evidence. One BPS kindergarten teacher described grouping students by writing level and modifying assignments accordingly: Students who have not yet learned to write letter forms practice writing the individual letters, and students who have mastered the letter forms instead write words that begin with that letter.

Staff at BPS, CPC, FirstSchool, and SEAL reported using heterogeneous groupings for some lessons. In heterogeneous groups, students have different levels of academic and/or social-emotional needs. For example, a BPS kindergarten teacher said that she often matches higher-skilled students with lower-

[4] An outline of the Integrated Approach Towards Teaching and Learning in Focus on K2 can be found at http://bpsearlychildhood.weebly.com/uploads/1/0/1/3/10131776/curriculum_overview.pdf.

skilled students so that the lower-skilled students can learn from their peers. Likewise, a SEAL elementary teacher explained that she pairs students with a high level of English proficiency with students who have a low level of English proficiency to help the students with a low English proficiency level translate and complete their work in English.

Teachers at BPS, FirstSchool, SEAL, and CPC reported using flexible or fluid groups. This type of grouping allows students to work with different groups of their peers and to be regrouped frequently according to their own learning progress. One elementary BPS teacher described occasionally grouping students based on the work or projects they still needed to finish, which could change frequently. CPC respondents reported using "flex" groups, particularly with math instruction. The teacher explained that because they test students and assess their levels so often in math, it is helpful to have flexible groups to allow students to move quickly from one group to another.

Teachers and coaches used formal assessment data to inform student groups (see Exhibit 6). Some assessments are common across programs; for example, three programs used Dynamic Indicators of Basic Literacy Skills (DIBELS) to help teachers form small groups.

Exhibit 6. Formal Assessments Used to Help Teachers Form Small Groups

Program	Assessments Used
BPS	Phonological Awareness Literacy Screening (PALS), DIBELS, Massachusetts Comprehensive Assessment System (MCAS), Text Reading Comprehension (TRC), Developmental Reading Assessment (DRA), Fountas and Pinnell assessments, Expressive Vocabulary Test (EVT)
CPC	PALS and Teaching Strategies Gold in preschool, and DIBELS and Mondo Assessments in K–3
Early Works	Teaching Strategies Gold and Preschool Early Literacy Indicators (PELI) in prekindergarten; DIBELS, Ages and Stages Questionnaire (ASQ), and Expressive Vocabulary Test (EVT) in kindergarten
FirstSchool	North Carolina Kindergarten Entry Assessment (KEA)
SEAL	Desired Results Developmental Profiles (DRDP), Fountas and Pinnell assessments

Exhibit reads: Teachers in BPS use several assessments, including the PALS and DIBELS, to place students into small groups.

Teachers also reported using qualitative information to group their students, such as teachers' observation of students' personalities, behaviors, and relationships, along with "teacher instinct." Staff at several programs reported keeping running notes or logs of observations of students in their classrooms, such as notes on who works well with whom; which students are visual, oral, or tactile learners; and which students have more difficulty paying attention for longer periods of time. For example, an elementary teacher at the Peck school described a student in her class who had very high comprehension but was very quiet and would not participate in an activity unless she was grouped with other quiet students.

District or program officials from CPC and Early Works described screening students to help determine their social-emotional needs and to help teachers identify best strategies for placing them into groups. At CPC, students in grades P–3 are screened with an instrument that helps determine their strengths and weaknesses in areas such as gross motor skills, fine motor skills, special concepts, and receptive

vocabulary. Teachers at CPC reported using this information in conjunction with classroom observations to help form small groups in their classrooms. Early Works implements a staggered-start screening process to help teachers determine how to best group students. With a staggered start, only a certain group of students start school each day of the first week of the school year. Each child comes early one day of the week to work in small groups with other students as the teachers observe and take notes on how the students are interacting. After this first week, students are placed into a classroom. Teachers will continue observing the students throughout the second week and may decide to move students from one classroom to another for the second week. This process continues for a third week, and by the end of the third week, the classrooms are solidified. This staggered process helps teachers to get to know their students and to ensure that each student is in the classroom that is the best fit for them.

Teachers from the Peck School (CPC) also reported that they used data collected from home visits to help them understand the needs of their students and to assist the teachers with grouping students in the group that is best for their educational needs. Teachers reported that frequent home visits could help them understand why students might experience certain challenges in the classroom and those areas of development on which teachers need to concentrate with the child. For example, a preschool teacher in the CPC program at Peck Elementary explained that this information is helpful because it enables the educator to focus on building the student's skills in the identified area and to place the student in the group that will best meet his or her needs.

Staff in all five programs reported that having extra adult support staff in the classroom enabled them to provide differentiated instruction to more students.

According to staff from all five programs, a key factor of successful, differentiated, and small-group instruction is having multiple teachers or aides in the classroom. Program models varied in requirements for aides in classrooms; for example, the CPC model specifies aides in each classroom who have received the same training as teachers, but aides are not required in the SEAL program. A CPC district official suggested that the quality of the program is dependent on having extra adults and trained teaching assistants in the classroom to "lower that child-teacher ratio, give kids more people to talk to, and more interactions." When asked to discuss challenges with the implementation of the program, respondents from BPS, CPC, Early Works, and FirstSchool all pointed specifically to a need for additional staff support at the school and classroom levels. Differentiation is a process that requires a lot of time and human resources to implement, and teachers at these programs reported that having more staff would allow them to implement this strategy more effectively. Furthermore, an elementary teacher at Peck Elementary specifically emphasized that having a full-time parent resource teacher and/or home visitor would help teachers provide more effective differentiation for their students. According to this teacher, these positions are crucial to helping teachers gain insight on students' home lives because it helps them understand how to effectively differentiate instruction for students. In addition, the respondent explained that without these full-time positions, teachers have to take over these nonteaching responsibilities, time that could be used to more effectively implement differentiation in the classroom.

Baldwin Early Learning Academy in BPS employs well-trained surround care staff, or teaching aides, to ensure that at least two personnel are in every classroom throughout the day. The surround care staff are scheduled to come into the classrooms at different times throughout the day, from 7:15 a.m. to 3:15 p.m. These surround care staff receive training that is similar to the training that full-time teachers receive on the curriculum. BPS kindergarten and first-grade classrooms observed had low student-to-teacher ratios, with ratios ranging from 10.5 to 1 to as low as 3.5 to 1.

Instructional coaches trained teachers in all five programs to differentiate instruction and group students.

Staff in all five programs reported that coaches helped teachers to effectively implement differentiation strategies. This finding is consistent with the literature review, which also highlighted the role of coaches. Four qualitative studies focused on perceptions of facilitators or barriers to implementing differentiated instruction; these studies suggest that differentiated instruction requires careful planning and reflection on the part of teachers, which may be facilitated by coaches.

Teachers suggested that the coaches played a significant role in helping them transition their instructional practices from didactic, teacher-led instruction to small-group instruction and center-based learning. Teachers reported that without supportive coaches providing them with strategies, feedback, and general assistance, they would not have been nearly as confident or as successful trying out the new strategies. Teacher leaders in the CPC and FirstSchool programs performed similar roles as formal coaches.

Teachers at all five programs reported receiving training on reviewing lesson plans, conducting observations and providing feedback, using data, and implementing specific instructional strategies for differentiation. BPS and SEAL teachers attended two trainings per month in addition to planning time. CPC teachers attended one training at the beginning of each quarter in addition to planning time. Early Works teachers received training with coaches once every two weeks, and they receive training from early childhood special education specialists about the needs of specific students who have individual family service plans once a month, in addition to planning time.

Although principals and teachers generally indicated that the training opportunities were helpful, they reported that the trainings sometimes provided an overwhelming number of materials. Coaches helped teachers implement what they learned in trainings. Respondents from FirstSchool, for example, explained that some manuals contained too much information to reference in a real-time classroom setting when they were in need of an immediate solution. In this situation, coaches played a crucial role in reminding teachers of the various strategies of differentiation, explaining to teachers why they should use the strategies, and breaking the strategies down into simpler steps that the teachers could understand. Respondents from CPC and SEAL explained that coaches are often in the classrooms with the teachers, observing, providing feedback, and occasionally, modeling differentiation practices for the teacher during class time. One CPC elementary teacher specifically commented that she appreciated having a coach in the classroom who was willing to “jump in” and demonstrate how to differentiate instruction effectively.

Staff at all five programs reported that one of the main roles coaches play in training teachers to differentiate effectively is to organize meetings and facilitate conversations in which teachers discuss how their differentiation strategies have been working in their classrooms. Respondents at all programs gave examples of coaches planning specific meetings, holding PLCs, or facilitating discussions with teachers to collaborate and share differentiation strategies. A coach from the SEAL program explained that coaches consistently tried to maintain a dialog to keep the importance of differentiation at the forefront of everyone’s mind to facilitate continuous use of the strategy. The SEAL coach reported that she organizes one planning day per unit as well as two trainings a month for the teachers so that they have scheduled time to work with her and to learn about the strategies for differentiation in their classrooms.

At BPS, CPC, Early Works, and FirstSchool, teachers reported that coaches help them to collect, understand, and use data to group students, to identify skills that each student needs to develop, and

ultimately to provide more individualized instruction to students. Teachers also reported that the coaches are available to them if they have questions or need help. For example, a first-grade BPS teacher reported that when a large percentage of students in her class were having trouble understanding a particular concept, she consulted the coach for advice. The coach helped her use a BPS-developed math checklist aligned to the state mathematics standards to differentiate the concept for her students.

Goals of Programs

All five programs focused on increasing students' vocabulary, oral language, and social-emotional skills.

District and school staff at BPS and Early Works, in particular, emphasized that the students whom they serve have limited vocabulary skills. When discussing their students' skills, program staff cited evidence that adult–child interactions in households of lower socioeconomic status typically use less complex vocabulary than do middle-class and upper-class families. The curricula in all five programs focus on building student's reading, vocabulary, and comprehension skills to develop a solid literacy foundation for later grades. Programs used various strategies to incorporate more vocabulary into instruction by adding extra vocabulary lessons and integrating vocabulary throughout the day, such as by having students discuss questions in small groups or in pairs (referred to as "turn-and-talk" at a few sites) or asking students to explain how they arrived at their answers during a math activity.

Program staff at BPS and SEAL discussed the importance of storytelling for developing students' vocabulary and oral language skills. At SEAL, one kindergarten teacher shared that, as she reads stories in her classroom, she first asks concrete questions (for example, a character's name), and later she asks more in-depth questions that require analysis. This strategy helps students build their vocabulary and comprehension skills as they learn how to dissect a story. At BPS, one preschool teacher described the importance of giving children the opportunity to make independent decisions as they create and tell their own stories.

A coach and teachers at SEAL discussed the importance of creating a language-rich environment in the classroom, especially for ELs. To meet their goal of expanding children's vocabulary and comprehension, staff spoke about the need to be intentional about incorporating academic language in their teaching practices. A SEAL coach discussed how she models instruction that facilitates language learning, such as including more "student talk" (i.e., giving the students more opportunities to talk with one another during class and reducing the amount of teacher talk), so those teachers can implement the same strategies in their classrooms.

Staff at all programs described their efforts to develop support for children's social-emotional development; they believe this ultimately will facilitate better academic outcomes. In the CPC program at Peck Elementary in Chicago, preschool teachers share with kindergarten teachers the social-emotional skills on which they have been working with their preschool students—such as self-regulation, independence, communication and teamwork skills—so that the kindergarten teachers are prepared to continue developing those skills. A preschool teacher at Early Works noted that because of the social-emotional focus in preschool, the transition to kindergarten has been smoother, allowing kindergarten teachers to spend more time focusing on academics and less on social-emotional and behavioral skills. Principals and teachers at CPC, Early Works, FirstSchool, and SEAL reported that their curricula specifically focus on children's social-emotional development.

Although oral language and social-emotional development emerged as prominent themes commonly mentioned across sites, individual program staff also described other program goals, including student achievement in mathematics, science, and social studies. For example, BPS staff reported a goal of focusing on math, specifically to increase rigor and incorporate more developmentally appropriate approaches through scaffolding, differentiation, and student-centered instruction. The SEAL program focused on social studies and science by aiming to help children comprehend advanced scientific terms as part of certain curricular topics, which teachers believe contributes to children's academic language growth.

Program Outcomes and Successes

Staff in four programs reported that they had observed improvement in students' vocabulary or oral language skills, social-emotional development, and engagement or attendance, as well as improvement in parent involvement after implementing their program.

Rigorous evaluations of these programs had not been conducted or were only just under way. In addition, some perceived outcomes such as student engagement and social-emotional skills are difficult to measure; this challenge was acknowledged by some respondents. Overall, additional research is needed to evaluate these particular programs and to determine the ways in which P–3 alignment and differentiated instruction can improve student outcomes and build on the advantages provided by attending preschool.

Despite the lack of extensive rigorous research, staff in four case study programs—BPS, CPC, Early Works, and SEAL—reported that they had observed improvement in at least two of the following areas: (1) vocabulary or oral language skills, (2) social-emotional development, (3) student engagement or attendance, and (4) parent involvement. Staff at BPS, Early Works, and SEAL reported that they had noticed gains in students' vocabulary or oral language skills, which they attributed to the program. Staff at BPS, CPC, Early Works, and SEAL reported positive social-emotional changes, such as comfort in the classroom environment, behaving well in the classroom, and interacting appropriately with other students. Staff at BPS, CPC, and SEAL reported improved student engagement or attendance since implementing their program. Finally, staff at CPC, Early Works, and SEAL reported a high level of parent involvement in their schools since the program began.

At BPS, Early Works, and SEAL, staff highlighted positive changes they had observed in students' vocabulary and oral language skills since program implementation. One principal in BPS reported tracking formative assessment data for students who attend preschool, kindergarten, or first grade in BPS; when these students were compared with their kindergarten or first-grade classmates in the same school, the principal observed that those students who started in the preschool performed better on vocabulary assessments. The principal at Earl Boyles believes that, because of preschool, kindergarten students enter with higher vocabulary skills than in previous years and that more kindergarten students meet letter-name benchmarks. SEAL staff reported that they have observed students using more advanced vocabulary during storytelling. One staff member believed that, because of SEAL, students are moving from *beginner* to *intermediate* levels on the California English Language Development Test. Initial evaluation findings also corroborate SEAL and Early Works teachers' reports of improved language skills (see the "Evaluation Results" box).

At BPS, CPC, Early Works, and SEAL, staff reported improvement in children's social-emotional skills. These changes, measured not through a formal assessment but rather through teachers' observations of

students in the classroom, include students' comfort in the classroom, improved behavior, and improved interactions with other students. A district official from each of the two CPC sites reported observing social-emotional gains such as students asking more questions. The principal at Earl Boyles said she has noticed that scores on a social-emotional measure for students who attended the preschool program are higher than for students who did not. This principal also reported that the students who participate in preschool have the social-emotional and self-regulation skills they need to be ready for kindergarten.

At BPS, CPC, and SEAL, participants reported higher levels of student engagement because of the program. Staff in these programs suggested that students were more involved in classroom activities and more eager to learn, which can facilitate academic achievement. District officials at BPS and CPC said that they had observed greater engagement in program classrooms than during previous years. A district official at CPC noted that preliminary findings from an evaluation of the Midwest Expansion of the CPC program include that CPC classrooms were rated more highly on average on an observation measure of students' engagement and task orientation than were non-CPC classrooms.

CPC and Early Works staff also reported improved student attendance because of the program. For example, Earl Boyles teachers reported that they have a 90 percent schoolwide attendance rate and that they reached this level only after implementation of Early Works. A Chicago district official reported that the district monitors attendance rates closely, with a goal of at least 92 percent, and that attendance rates have increased since introduction of the CPC program.

CPC, Early Works, and SEAL staff reported that they observed higher parent involvement in their schools because of the program. Staff at both CPC sites noticed that more parents engage in school activities and ask how they can help support their child's learning, which they attribute to the CPC program's efforts to create a more welcoming environment. The principal at Hoover reported that the rate of family engagement (defined as a parent participating in a school activity, attending a parent conference, or volunteering in the classroom) increased from 30 percent to 97 percent after parent involvement strategies were implemented under SEAL. A third-grade teacher from Early Works described how parents have shown greater comfort being involved in school since the program began, despite the language barriers that often exist. She also reported greater participation in parent conferences.

Although each program's staff members perceived many improvements, only three programs have formal evaluations of their programs: CPC, Early Works, and SEAL. The CPC evaluation includes a comparison group, and the preliminary results are positive (Human Capital Research Collaborative 2013). The Early Works and SEAL evaluations reported positive outcomes but do not include comparison groups. See the "Evaluation Results" box for brief summaries of the evaluations.

Evaluation Results

What Research Has Been Conducted on These Programs?

- Funded by an Investing in Innovation (i3) grant from ED, SRI International is conducting an **evaluation of the CPC Midwest Expansion** (implementation years 2012–13 and 2013–14). Preliminary results show positive differences in attendance for students who received "critical components" of the model and high staff satisfaction (Human Capital Research Collaborative 2013). The original CPC model was evaluated through the Chicago Longitudinal Study (CLS), which followed a cohort of more than 1,500 children who grew up in high-poverty neighborhoods in Chicago and attended public kindergarten programs in the Chicago Public Schools from 1985 to 1986. Study results from the CLS demonstrate that high-risk students who attended CPCs had positive outcomes compared with their peers, including higher rates of school readiness, higher achievement scores, higher graduation rates, and lower mobility rates (Reynolds et al. 2001).
- Green and Patterson (2014) completed a descriptive **study of outcomes for students participating in the Early Works Initiative**, documenting student growth in literacy, vocabulary, self-regulation, and social skills for kindergartners in the 2014–15 school year. No comparison group was included in this study.
- Lindholm-Leary authored **two evaluations on the SEAL program** (2012, 2015). The 2012 descriptive study documented growth for SEAL students in three cohorts (2010–11, 2011–12, and 2012–13) in language and literacy skills from fall to spring of the preschool year. The study also compared language and literacy outcomes for students who had the "full SEAL" experience (including preschool) and those who had a "partial SEAL" experience (K–2 only); full SEAL students showed significantly higher language and literacy scores in second grade than partial SEAL students did. The 2015 evaluation found that teachers were implementing SEAL components at a high level of fidelity and that patterns of student growth were similar to the first evaluation for students through third grade (between 2009–10 and 2013–14). Full SEAL students performed higher on most assessments. There was no non-SEAL comparison group, only district averages.

Challenges and Lessons Learned

Staff in all five programs reported that guiding teachers to change their practices (e.g., incorporating student-initiated learning) can be difficult, and teachers and principals suggested addressing this challenge through in-depth teacher training, staff voice in choosing to implement new practices, additional classroom resources, and effective leadership.

Changing teacher practice was an issue that participants at all five programs raised as a challenge. At two programs (FirstSchool and SEAL), staff pointed out the particular difficulty of changing practice for experienced teachers who had taught a different way for many years. As one first-grade BPS teacher explained, "Because the time we have with [students] is so little and so precious…I think it takes a lot to shift practice, especially with teachers who have done something for a number of years and are very good at it now."

Staff at all five programs emphasized the critical role that staff training plays in securing staff buy-in to the program. For example, at BPS, the district official pointed out that teachers of upper elementary grades who were reassigned to teach early elementary grades, where new practices were being implemented, had not been taught the differences between older and younger children's brain functioning. Thus, training was required not only on the concrete practices but also on why the practices were beneficial for the ways in which young children learn. Teachers at BPS, CPC, Early Works, and FirstSchool expressed appreciation of—and ongoing requests for—thorough training that addresses not only exactly how to implement the strategies, but why the strategies are being put into place. CPC and Early Works used teacher leaders to help train other teachers, which teachers reported was effective.

Allowing teachers to be part of decision making about adopting a new model helped several programs to create buy-in. Principals and teachers chose to be a part of the programs in BPS, CPC, and SEAL. Interviewees reported that having staff who chose to be a part of the program facilitated overall staff commitment to changing their practices. In contrast, FirstSchool staff reported that teachers were told that they were going to implement the initiative, making buy-in more difficult.

Staff at three programs—CPC, FirstSchool, and SEAL—reported that securing teacher adoption of the new program was easier when the program was accompanied by additional resources. For example, the district official in St. Paul reported that teachers were more willing to implement CPC program strategies if they had a teaching assistant in their classroom or if their time was restructured such that they had more time to complete their responsibilities. School leaders at FirstSchool and SEAL also emphasized to teachers the additional content to which they would have access as a result of the program. For example, the SEAL curriculum includes more art and social studies content than the previous curriculum, something teachers were enthusiastic about adding more of in their classrooms.

Most programs emphasized the importance of effective leadership, which also was emphasized in the literature reviewed. At CPC, BPS, Early Works, and FirstSchool, participants reported that it was important that school leaders were committed to early childhood education, more generally, in order for the program to be successful. An Early Works liaison and a BPS principal both commented that it is important for school leaders to have a solid understanding of early childhood and to advocate to the district for early childhood education for P–3 programs to succeed at the school. Because K–12 teachers often are not substantially trained in early childhood education strategies, the liaison emphasized that strong leadership is necessary to integrate early childhood into schools.

Staff in all five programs reported concerns that sustaining staffing levels required for faithful implementation of the program after external funding support ends would be a challenge, and district leaders have begun work to allocate district or public preschool funds to continue program activities.

Staff in all five programs reported concerns or expected challenges to arise as grant funds decrease or end. Each of the five programs received external support to either begin or augment their programs. Such funding enabled schools to hire teaching aides, support staff, parent engagement coordinators, or coaches, or to purchase materials. For example, the Barr Foundation in Boston supported NAEYC accreditation and the new curriculum development in BPS. An Investing in Innovation (i3) grant, funded by ED, supported some teaching assistants in both of the CPC Midwest Expansion sites (along with other staff positions). For the SEAL program, the Sobrato Family Foundation currently covers all teacher training expenses. A Kellogg Foundation grant helped develop and pilot the FirstSchool program, and the Children's Institute in Portland helped raise money to support principal and teacher training and the new preschool facilities at Earl Boyles. Without these external funds, staff across all programs feared that they will not be able to continue implementing the program with fidelity. As such, funders, district officials, and principals in these programs reported that they are seeking district funding to continue supporting the program.

According to interviewees, losing key staff if funding is reduced would impact the quality of program implementation. Staff at BPS, CPC, and Early Works commented that having more than one adult in each classroom allowed the teacher to implement the program with fidelity, such as by having more adult-led small groups to differentiate instruction. A district official in St. Paul reported that teachers will not be able to provide the current level of differentiation within the CPC program without teaching assistants.

BPS, CPC, and SEAL participants described the benefits that coaches brought to the program and feared that these benefits would diminish without supplemental program funding. For example, one principal indicated that their budget likely will be able to fund only two of the four coach positions once private money is no longer available. These coaches provide a variety of support to teachers, including offering teachers feedback after classroom observations, modeling lessons, and suggesting strategies for differentiating instruction.

Aside from human capital, BPS and SEAL participants mentioned concerns about funding for materials. Teachers in the two programs commented that having materials such as books, notebooks, different types of writing paper, worksheets, and crayons allowed them to implement activities. Teachers expressed concern that it might be difficult for districts to incorporate these items into their annual budgets.

Moving forward, the five programs plan to identify other funding sources to cover salaries of staff critical to the programs. The district official at Chicago Public Schools hopes to demonstrate the benefit of the CPC program to convince district officials to use district resources to keep coaches. BPS and CPC staff reported investigating other possible sources of funding, including federal grants or social impact bonds[5] to continue funding portions of the program. Earl Boyles has worked carefully to braid existing funding sources for Oregon's public preschool to support their preschool program; its district also used a $3.5 million bond initiative and additional private fundraising to fund the Early Childhood Center facility.

[5] Social impact bonds are a public–private partnership model in which the private sector funds (invests in) prevention-focused social programs that are believed to save public money long term. Investors are repaid only if and when improved social outcomes are achieved.

III. Profiles of the Five Case Study Programs

Boston Public Schools

BPS has worked to expand and enhance its early childhood education programs to provide all children with a strong and early start to their formal education. In 2013, district officials at BPS concluded that stagnant MCAS scores for third-grade students suggested a need to improve the curriculum and instructional quality in early elementary grades to sustain the early benefits experienced by students participating in the preschool program. As a result, BPS used district and private funds to develop new full curricula for preschool (grade "K0" serves 3-year-olds and "K1" serves 4-year-olds), kindergarten ("K2"), and first grade, as well as an aligned professional development system for their teachers. Both the new curriculum and professional development system focused on strengthening P–3 alignment. Additionally, differentiated instruction to meet students' individual needs was an integral component to P–3 efforts in BPS schools. This case study included visits to two schools that were piloting the new first-grade curriculum and professional development system.

Schools Visited

The demographic characteristics of the schools visited at BPS are shown in Exhibit 7.

Exhibit 7. Demographic Characteristics of the Two Locations Visited at BPS

Characteristic	Baldwin Early Learning Pilot Academy Boston, Massachusetts	Roger Clap Innovation School Boston, Massachusetts
Grades	K0 (3-year-olds)–1	K1 (4-year-olds)–5
Enrollment	160	173
Number of P–3 teachers	12	6
Free or reduced-price meals	51%	73%
English learners	43%	26%
Special education	18%	17%
White	36%	28%
Black	18%	28%
Hispanic	26%	36%
Asian	14%	5%
Native Hawaiian/Pacific Islander	0%	0%
American Indian/Alaska Native	0%	1%
Two or more races	6%	2%

Source: School principal report to study team and school websites.

Program Description

To eliminate access and achievement gaps among students of various races and ethnicities, educational programs, socioeconomic backgrounds, and genders, BPS implemented four main early childhood initiatives:

1. Thrive in Five, Boston's birth-to-five school readiness initiative that focuses on strengthening a commitment to early care and education through family engagement
2. Boston K1DS, a three-year demonstration project to expand the BPS preschool program to 14 community-based preschool classrooms
3. A Summer Learning program, a five-week "pre-entry" program for students entering kindergarten through grade 3 that uses a curriculum designed to prepare students for the grade they are entering
4. A P–3 initiative, which included new curricula, professional development, and a set of instructional practices

This case study focuses on the fourth element, the P–3 initiative in BPS. This initiative included new curricula, a focus on vocabulary, differentiated instructional practices, professional development, and a general focus on emphasizing developmentally appropriate instructional elements (such as incorporating more student-selected activities) in all early elementary grades.

In terms of curricula, BPS launched a new kindergarten curriculum (Focus on K2) in fall 2015 and added elements such as storytelling to the preschool curriculum (Opening the World of Learning). During the 2015–16 school year, BPS piloted a new first-grade curriculum (Focus on 1st) to help students build academic and social-emotional skills. Designed collaboratively by teacher teams, staff from BPS' Department of Early Childhood, and K–5 content departments and early childhood specialists from the local universities, these curricula incorporated student-centered instruction, developmentally appropriate practices, and culturally responsive instruction—incorporating students' experiences into their learning—throughout all grades.

Another key element of the P–3 initiative at BPS was a focus on vocabulary and language development. BPS strongly focused on introducing and developing advanced vocabulary for all students, responding to research demonstrating that children from low-income families often know fewer words than children from middle- and upper-class families (e.g., Hart and Risley 2003).

In addition, differentiated instruction to meet students' individual needs was an integral component to P–3 efforts in BPS schools. BPS teachers offered different learning opportunities, activities, and lessons for students in response to their varied needs, which were observed in multiple classrooms during case study site visits. For example, the study team observed students in a given class working on the same activity but with varying supports (such as visual aids or manipulatives), and multiple educators worked with small groups of students with different needs.

Professional development and coaching opportunities were a key component of the BPS P–3 initiative. Teachers at BPS received formal training (e.g., monthly seminars on curriculum implementation), informal training (e.g., bimonthly grade-level seminars), and coaching support to help them align instruction across grades, differentiate instruction, introduce vocabulary, and include developmentally and culturally appropriate lessons in the classroom. Staff at BPS repeatedly emphasized the positive impact that coaching had on the success of their P–3 initiative.

Overall, the district focused on "pushing preschool up," or incorporating developmentally appropriate instructional strategies into early elementary classrooms, for example, including more movement and more play-based learning. To focus teachers and principals on these practices as well as to recognize

excellent practices, BPS helped 33 schools—including the two case study schools—earn accreditation from NAEYC. As of 2016, an additional 12 elementary schools were working toward this accreditation.

Outcomes and Successes

Since the new curricula were implemented, district and school staff reported a noticeable increase in students' abilities to think critically and work collaboratively. Teachers reported that current students use a higher level of vocabulary than student cohorts of previous years. For example, one district administrator described that it was common to observe a classroom and see students using advanced vocabulary, such as K2 students discussing asteroids on their own or K1 students describing how they feel when resolving conflict. The administrator stressed the important role of professional development, which helped teachers introduce new words and support students as they integrated enriched vocabulary in their conversations. Several teachers reported that professional development played an instrumental role in helping them to understand the program strategies and, in turn, enabling them to effectively implement those strategies in the classroom.

Challenges and Lessons Learned

One remaining challenge reported by BPS school and district staff is the sustainability of the program. BPS used district and private funds to develop the new curricula and professional development system for grades K–2. The Barr Foundation has supported curricula development, NAEYC accreditation activities, and principal training in the district. In 2011, Massachusetts won an ED- and HHS-funded Race to the Top–Early Learning Challenge Grant. In 2014, Massachusetts won an ED- and HHS-funded Preschool Development Expansion Grant worth $45 million over the first three years of the grant to help expand access to its preschool program statewide. Both federal grants helped fund BPS' P–3 alignment program and develop its new preschool, kindergarten, and first-grade curricula. However, as these funding sources expire, school and district staff reported concern for locating sufficient funds to provide the professional development and resources necessary to continue successfully implementing the program activities.

When asked what advice they would give others interested in implementing similar priorities, staff at both the district and school levels cited three main lessons learned. First, respondents advised that it was important to develop a strong curriculum that focused on student-centered instruction and developmentally appropriate practices, and that allowed teachers the flexibility to make adjustments to meet the needs of their students. Second, respondents reported that coaching and professional development were very important to the effective and intentional implementation of program strategies, including aligned, differentiated, student-centered and play-based instruction. Finally, BPS staff emphasized the importance of leadership commitment to the initiative; strong leadership from principals and district administrators can help to facilitate staff buy-in and willingness to implement new strategies.

Chicago Child-Parent Centers—Midwest Expansion

The CPC P–3 program, first implemented in Chicago in 1967, was designed to provide comprehensive educational and family support services to children from preschool to third grade in Title I schools. The "new generation" (also known as the Midwest Expansion) model of the CPC P–3 program builds on the original CPC program, continuing to focus on students in preschool through third grade who come from low-income families and expanding into additional districts and schools in Chicago. According to the program developer, the Midwest Expansion model, compared with the original CPC model, gives a larger role to the principal, focuses on home visits and attendance in lieu of only school-based parent

activities, improves curriculum alignment, combines in-person and online professional development, and emphasizes a balance of child-initiated and teacher-directed instruction. The Midwest CPC Expansion is funded in part by an ED i3 grant ($15 million in the first year); the program was also supported in the first year by school district funds (approximately $2 million) and private funders ($3 million). These funds pay for the salaries of teaching assistants and other school and district staff needed to implement the program, research, professional development, and program design staff and activities (Human Capital Research Collaborative 2013). This case study focused on one elementary school in St. Paul, Minnesota, and one elementary school in Chicago, Illinois.

Schools Visited

The demographic characteristics of the CPC schools visited are shown in Exhibit 8.

Exhibit 8. Demographic Characteristics of the Two CPC Locations Visited

Characteristic	Peck Elementary School Chicago, Illinois	Bruce Vento Elementary School St. Paul, Minnesota
Grades	P–8	K–5
Enrollment	1,620	550
Number of P–3 teachers	43	16
Free or reduced-price meals	94%	93%
English learners	47%	55%
Special education	11%	11%
White	2%	3%
Black	1%	35%
Hispanic	97%	7%
Asian	1%	52%
Native Hawaiian/Pacific Islander	0%	0%
American Indian/Alaska Native	0%	2%
Two or more races	0%	0%

Source: School principal report to study team and school websites.

Program Description

The CPC P–3 Midwest Expansion design drew on three main sources. First, the model was based on research demonstrating the positive outcomes for 1,500 students from high-poverty neighborhoods in Chicago who attended kindergarten in Chicago Public Schools from 1985 to 1986. The cohort of students who participated in CPC programs during this study demonstrated higher rates of school readiness, higher achievement scores, higher graduation rates, and lower rates of mobility than their peers, among other positive outcomes (Reynolds et al. 2001). Second, the model was based on Urie Bronfenbrenner's (1992) ecological model, which holds that all aspects of a child's environment, including his or her home and school environment, influence the child's development, making the school environment very important for that child's growth and success. Third, the CPC program was influenced by the risk protection model (e.g., Fraser, Galinksy, and Richman 1999), which posits that unwanted, unsafe, or unhealthy behaviors can be prevented early by protective factors and processes, such as engaging the family and the community in schools.

The stated goal of the CPC program was "to promote children's academic success and to facilitate parent involvement in children's education" (Human Capital Research Collaborative n.d.). The program's

designer, the Human Capital Research Collaborative (2015, 4), emphasized six core elements of the CPC program:

1. *Effective learning experiences, P–3*: Practices that promoted mastery in language and literacy, mathematics, science, and social-emotional development throughout early childhood.
2. *Aligned curriculum*: Sequence of evidence-based curricula and instructional practices that addressed multiple domains of child development within a balanced, activity-based approach.
3. *Parent involvement and engagement*: Comprehensive services were led by the Parent Resource Teachers and School-Community Representatives, including multifaceted activities and opportunities to engage families.
4. *Collaborative leadership team*: A leadership team was run by the head teacher in collaboration with the principal.
5. *Continuity and stability*: Prekindergarten to school-age continuity, through co-located or close-by early childhood centers, incorporated comprehensive service delivery and stability for children and families.
6. *Professional development system*: Online professional development and on-site follow-up support were integrated for classroom and program applications.

Data collected from site visits confirmed the use of several of the core elements of the CPC program. For example, the CPC schools demonstrated P–3 aligned instruction was a key element of the CPC program. Cross-grade team meetings (which took place twice a month with the principal and coaches present) helped teachers to implement the aligned curriculum and gave them an opportunity to discuss strategies for developing students' language, reading, and social-emotional skills. Staff at Peck School emphasized the importance of co-locating the preschool and the elementary grades in the same building to foster aligned instruction and collaboration among preschool and elementary grade teachers.

The CPC schools demonstrated a focus on implementing an activities-based, student-initiated approach to learning, with a particular emphasis on building language skills. While in CPC classrooms, the study team observed centers that involved tactile, hands-on activities; opportunities to work with other students; and room for student choice.

As outlined in the core elements, the CPC schools provided comprehensive family services and prioritized the engagement of parents and families. Both CPC schools held workshops for parents in their designated CPC resource rooms on-site, and Peck School held parents responsible for volunteering at least 2.5 hours per week at the school.

In addition, district and school staff reported that other key elements of the CPC program included reducing class sizes from 30 to 25 students and providing teacher aides in classrooms.

Outcomes and Successes

Participants at both case study schools suggested that student engagement levels have increased since the implementation of the new generation of the CPC program. Staff reported that students were more engaged in the classroom and were more eager to learn when measured against students in the comparison schools in a quasi-experimental study of the CPC Midwest Expansion program. Preliminary results of the quasi-experimental study also show positive differences in attendance for students who received "critical components" of the model and high staff satisfaction (Human Capital Research

Collaborative 2013). School staff reported that they believed the program may be driving improvement in students' academic performance as well. Furthermore, staff reported that parent engagement had increased dramatically since the CPC program began, which also has had positive influences on student achievement in the classroom.

Challenges and Lessons Learned

Although the majority of staff were very supportive of the initiative, CPC respondents identified three main challenges faced during program implementation. First, staff reported that it was initially difficult to ensure instructional consistency in instruction across grades, both within a school and throughout the district. However, staff identified several strategies that helped them to overcome this challenge, including (1) implementing an aligned curriculum, (2) creating collaborative teams within and across grades that include both teachers and leaders, and (3) ensuring clear communication among school staff about the program's goals and expectations.

Second, several staff identified funding as a remaining challenge for the CPC program. Staff reported they might be unable to afford the additional personnel and teaching assistants that have been funded through an ED i3 grant and are crucial to the program's success. However, a district official in Chicago reported that securing a social impact bond to help fund the CPC program in Chicago Public Schools was a significant step toward ensuring sustainability.[6] The social impact bond will afford the district the opportunity to implement the CPC program and evaluate outcomes.

Third, teachers and leaders at the Peck School identified the lack of physical space as a significant challenge. At the time of the case study, the school had placed some classrooms and even entire grades in separate buildings to accommodate the number of students who wanted to attend Peck; however, having the classrooms in separate buildings created a barrier for collaboration between teachers.

When asked what advice they would give others interested in implementing a program like that of CPC, program staff emphasized the need for (1) providing consistent professional development to teachers through coaching, (2) ensuring leadership commitment to and advocacy for the program, and (3) engaging members of the school's specific community, including families and other local community members, in the program design.

Early Works Initiative

The Early Works Initiative in Oregon is a 10-year initiative spearheaded by the Children's Institute to develop effective approaches to increase school readiness and third-grade achievement. Currently, Early Works has two demonstration sites that serve as learning laboratories for school districts, policymakers, and communities to work together meaningfully in an effort to connect preschool with the primary grades. The study team visited Earl Boyles Elementary School, which was the initiative's first site.[7]

[6] For more detailed information on Chicago's Social Impact Bond for Child–Parent Centers, refer to the summary released by the Human Capital Research Collaborative of the University of Minnesota on November 7, 2014 (https://www.humancapitalrc.org/~/media/files/news/sib_chicago_summary.pdf?la=en).

[7] Only one school from the Early Works initiative in Oregon was specifically nominated for the study.

School Visited

The demographic characteristics of the Early Works school visited is shown in Exhibit 9.

Exhibit 9. Demographic Characteristics of the Earl Boyles Elementary

Characteristic	Earl Boyles Elementary Portland, Oregon
Grades	K–5
Enrollment	438
Number of P–3 teachers	20
Free or reduced-price meals	81%
English learners	35%
Special education	16%
White	36%
Black	10%
Hispanic	33%
Asian	13%
Native Hawaiian/Pacific Islander	1%
American Indian/Alaska Native	1%
Two or more races	6%

Source: School principal report to study team.

Program Description

The Children's Institute designed the Early Works Initiative based on three main resources. First, the program was modeled after other successful birth to third-grade programs that program designers observed across the country, such as Educare. Second, the program design drew on research demonstrating that early childhood social disparities that arise before students enter kindergarten can contribute to the achievement gap in elementary school. This research has suggested that earlier access to high-quality early education can help to narrow that gap (Children's Institute 2015, 1). Third, the initiative was designed using results from a community needs assessment (drawing on interviews and focus groups) conducted by the Children's Institute, in which parents in the Earl Boyles local community identified high-quality preschool as their greatest need.

In direct response to the community needs assessment, a preschool program was created at Earl Boyles in 2012. The program was funded through a combination of early childhood special education funds, general funds from the district, and Head Start funds (each contributes one third of the preschool's budget). The preschool teachers received (1) assistance once a month from district early childhood special education specialists to discuss specific students and ensure that their Individual Family Service Plan goals are met, (2) help from the Head Start personnel to ensure that Head Start regulations and requirements are met, and (3) mentorship to better understand the needs of young children and to ensure that instructional practices are exploratory, developmentally appropriate, and based on children's interests (Green and Patterson 2014).

The Children's Institute states that the goals for the Early Works program are to (1) bring parents, schools, and communities together to meet the needs of children from birth to age 8 and (2) identify best practices for use in other schools. The Early Works Initiative aligns the new preschool program at Earl Boyles with elementary grades in terms of instructional practices, learning standards, and services.

To foster this alignment, the program organizes teams of the multiple stakeholders, including educators, coaches, policymakers, parents, funders, evaluators, and program developers, to collaborate on the needs and direction of the program. This alignment also is fostered through ongoing professional development and collaboration opportunities for teachers throughout the year. Teachers at Earl Boyles described continual coaching support as critical to effectively implementing the program strategies and learning how to use data to inform their practice. Furthermore, teachers reported that monthly meetings (which included preschool teachers, kindergarten teachers, and often home child care providers) were helpful because they allowed teachers to discuss what various standards and concepts, such as social-emotional learning, looked like at each grade level.

Along with vertically aligned instruction, differentiated instruction was a key element of the Early Works Initiative at Earl Boyles. One strategy used to promote both alignment and differentiation was *looping*, in which the preschool teachers transition with their students to kindergarten. For students, looping provides the stability of receiving instruction from the same teacher throughout two years, and, for teachers, looping allows them to gain a greater understanding of their students' abilities and personalities, helping them to differentiate effectively for their students.

A final, key element of the Early Works Initiative is engaging families in the school. Teachers at Earl Boyles work to communicate with parents about (1) what is happening in the classroom, (2) the importance of school attendance to student success, and (3) the role that parents can play in their child's education. Teachers at Earl Boyles conduct home visits, often using translators to speak with parents in their preferred language, which staff reported has helped to increase the school's rate of parent involvement.

Outcomes and Successes

School and district staff at Earl Boyles reported an increase in parental involvement since the implementation of their P–3 efforts. Staff reported that, as families have become more involved, students have been more successful academically. Staff reported that student attendance also improved after the school increased communication with parents about the importance of attendance.

Teachers reported that they are now better able to implement more intentional teaching practices, such as reflecting on how best to develop students' higher-level thinking. In addition, teachers reported a more active use of student assessment data and their own observation of students in the classroom to drive instruction.

Challenges and Lessons Learned

Because Earl Boyles Elementary funds its preschool partially through early childhood special education, partially through Head Start funds, and partially through general district funds, preschool teachers have experienced challenges adhering to sometimes conflicting requirements and guidelines of the different systems related to teacher qualifications, food services, transportation, and other issues. Interviewees noted that the multiple systems are not designed or accustomed to working together. In addition, school staff reported concerns of insufficient staff support to complete the necessary paperwork required of all the programs while providing high-quality instruction for the students.

Identifying funding sources to initiate the program was also a challenge for Earl Boyles Elementary. To fund the building of the Early Childhood Center, in 2010 the school board decided to issue a $3.5 million

bond from their community to put toward the development of the center. Strong advocacy from school and district leaders who believed in the importance of early childhood helped the bond to pass. Staff emphasized that having leaders who strongly believed in and advocated for early childhood learning was instrumental in putting the bond measure into motion. To fund the remaining portion of the $7 million required to develop the Center, the Children's Institute partnered with the school district to bring in other private funders. Now that facilities are in place and the program is under way, district staff reported that the P–3 work at Earl Boyles will continue without external support by braiding funds from existing early childhood program funding streams.

When asked what advice they would give others interested in implementing a similar program, staff emphasized the importance of getting to know the community served by the school and the importance of being patient and flexible during the initial rollout of the program, given that it takes time to achieve results.

FirstSchool

In 2010, the Frank Porter Graham Child Development Institute at the University of North Carolina–Chapel Hill received a $4 million grant from the W. K. Kellogg Foundation to support the FirstSchool program and to create a systems-based approach for educating and caring for children between ages 3 and 8. The FirstSchool program provides research expertise and professional development support to districts, schools, administrators, and teachers. Operating in school districts throughout North Carolina and Michigan, the program works with school communities to improve "PreK–3rd grade school experiences for African American, Latino and low-income children and their families" (Frank Porter Graham Child Development Institute 2016). This case study focuses on the program in two schools in the Martin County Public School district in North Carolina.

Schools Visited

The demographic characteristics of the First Schools sites visited shown in Exhibit 10.

Exhibit 10. Demographic Characteristics of the Two FirstSchool Locations Visited

Characteristic	Edna Andrews Elementary Martin County, North Carolina	East End Elementary Martin County, North Carolina
Grades	P–5	K–5
Enrollment	144	328
Number of P–3 teachers	5	13
Free or reduced-price meals	N/A, community eligible program	61%
English learners	3%	3%
Special education	14%	18%
White	25%	19%
Hispanic	10%	14%
Black	64%	62%
Asian	0%	0%
Native Hawaiian/Pacific Islander	0%	0%
American Indian/Alaskan Native	0%	0%
Two or more races	0%	5%

Source: School principal report to study team and school websites.

Program Description

The FirstSchool program was designed to reduce the achievement gap between minority and majority groups as well as between low-income and high-income students. Overall, FirstSchool aims to transform schools through the following five program elements (Ritchie, Maxwell, and Clifford 2009):

1. A culture that respects teachers' expertise and actively involves them in efforts to improve teaching and learning.
2. Effective use of data and inquiry into practice.
3. A curriculum that includes multiple subject areas, is aligned across grades, and is developmentally appropriate and relevant to students' lives and existing knowledge.
4. Instructional practices that foster a "culture of caring, competence, and excellence."
5. Home-school partnerships that value families' perspectives and involve them in communication about their children's learning.

The FirstSchool design draws on research demonstrating the importance of a vertically aligned curriculum, developmentally appropriate practices, and the need to provide culturally responsive instruction—incorporating students' experiences into their learning—and diversity in the classroom.

The stated goal of the program is "to promote public school efforts to become more responsive to the needs of an increasingly younger, more diverse population of children entering school" (Ritchie, Maxwell, and Clifford 2009, 2).

More specifically, the instructional approach focuses on nurturing children's sense of self-efficacy and identity, encouraging peer interactions in the classroom, promoting independence and self-regulation, using developmentally appropriate practice, promoting critical thinking, and incorporating a balanced curriculum that covers multiple topic areas. Instruction is intentionally aligned across grades and differentiated according to student needs. Teachers described efforts to increase student-initiated learning and to decrease didactic instruction in their classroom. To assist in the implementation of these practices, FirstSchool teachers receive professional development and coaching. Preschool through third-grade leadership teams from each school in the district come together for summer institutes and three times throughout the school year for training and collaboration. The leadership teams are then responsible for relaying all of the information and strategies they learned back to their school staff in school-level professional development time or PLCs. FirstSchool coaches come into the schools three times throughout the year to observe classrooms, collect data, and work directly with the teachers.

Outcomes and Successes

Staff at both schools reported that they witnessed positive outcomes in teacher practice after the implementation of the FirstSchool program. Teachers reported that the FirstSchool program helped them use data in new ways to most effectively use classroom time and improve their instructional interactions with students. For example, at one school, teachers and FirstSchool coaches collected data on the amount of time spent on different activities throughout the day. The teachers and FirstSchool coaches together recognized, from the data, that a large portion of the day was spent transitioning to and from the classroom, time in which no instructional activities take place. FirstSchool teachers described working with FirstSchool coaches to use this time more effectively by implementing learning activities during the time the students transition through hallways, including playing counting games,

chanting, and identifying objects and words on signs posted on walls through the building. Overall, participants at both schools indicated that the training and professional development provided through the program have made their teaching more intentional, increased student-driven instructional strategies, and decreased didactic instruction.

During data collection at both schools, site visitors noticed that one school demonstrated greater fidelity of implementation to the model than the second school. The school with greater fidelity reported more significant changes in teacher practice, school culture, and student outcomes, specifically with respect to student behavior. Teachers of upper elementary grades in the high-implementation school reported that the cohorts of students who had gone through the FirstSchool program were more prepared than any cohorts of students they had previously taught. School staff reported that, since implementation of the FirstSchool program, behavior incidents have decreased significantly; the school's discipline center had more than 100 fewer visits than it had during the previous year. Teachers in the high-implementation school also reported that the program has helped to increase student engagement by creating an environment with more student interaction, conversation, movement, and open-ended questions.

Challenges and Lessons Learned

Staff implementing the FirstSchool program identified three main challenges faced during implementation. First, teachers reported that it is difficult to transition from didactic, teacher-led classroom instruction to more student-centered, student-driven instruction, particularly for veteran teachers. Teachers reported that practice, professional development, and support from the school principal helped them to better implement this strategy. Second, staff reported that buy-in from teachers and school staff was an initial challenge. FirstSchool worked to address this challenge and foster staff commitment to the initiative by providing professional development and ensuring that staff receive support from their principal and coaches to implement the program. Third, teachers reported that it can be challenging to learn, understand, and remember to implement the many different materials and strategies of the program. For example, one first-grade teacher described that a large binder of information is thorough but that a few bulleted steps may be more useful. Administrators at both schools expressed a need for more personnel to work with their students and to prevent their teachers from feeling too overwhelmed as they work to implement new strategies. However, additional personnel requires increased funding, and staff were concerned with financially sustaining the current program. Administrators also reported that it is a financial challenge to send staff to FirstSchool trainings in addition to other staff development.

When asked what advice they would give others interested in implementing a program like that of FirstSchool, program staff emphasized the importance of clearly communicating the goals and expectations to school staff when the program begins.

Sobrato Early Academic Language Program

The SEAL program is a P–3 program designed to develop the language and literacy skills of Spanish-speaking ELs. SEAL has a goal of closing the achievement gap between ELs and non-ELs by fourth grade, citing statistics that the dropout rate of ELs is eight times higher than those of non-Hispanic, white students in the districts they serve. The program operates in 84 schools and 15 school districts in California. This case study focuses on the program in two schools in the Redwood City Elementary School District.

Schools Visited

The characteristics of the two SEAL programs visited are shown in Exhibit 11.

Exhibit 11. Demographic Characteristics of the Two SEAL Program Schools Visited

Characteristic	Hoover Elementary Redwood City, California	Selby Lane Elementary Redwood City, California
Grades	K–8	K–8
Enrollment	828	694
Number of P–3 teachers	15	16
Hispanic students	96%	91%
Free or reduced-price meals	42%	83%
English learners	77%	63%
Special education	11%	15%
White	1%	5%
Black	1%	0%
Hispanic	95%	91%
Asian	1%	1%
Native Hawaiian/Pacific Islander	2%	2%
American Indian/Alaska Native	0%	0%
Two or more races	1%	0%

Source: School principal report to study team and school websites.

Program Description

The SEAL design draws on (1) research on preventing students from becoming long-term ELs, (2) research on effective practices with ELs (including a strong relationship between home and school, and the development of both English and Spanish literacy), and (3) a need to address the demands of the California State Standards (Sobrato Family Foundation n.d.).

The stated goal of the SEAL program is to "develop academically proficient and literate students who love reading and writing, express themselves articulately in two languages, and are actively engaged in their learning" (Sobrato Family Foundation n.d., 2). The program focuses on particular instructional strategies for ELs, beginning with a language-rich preschool program. SEAL incorporates aligned instructional strategies from preschool through third grade intended to help students build the skills and academic language foundation they need for long-term success. At SEAL schools, classes are offered in Spanish and English; at each grade level P–5, at least one class is taught entirely in Spanish and at least one is taught entirely in English. As a part of the SEAL program, parents may choose the language in which they desire their child to receive primary instruction. All students, as required by California education statute, participate in English Language Development time, which focuses on English skills for all students, regardless of EL status.

According to the program developer, the SEAL model has four components (Sobrato Family Foundation n.d., 13–16):

1. A focus on precise and academic language.
2. Creation of an environment that provides enrichment activities and affirms students' self-confidence.

3. Articulation of instruction across grades, and alignment of the preschool and K–3 school systems.
4. Strong partnerships between parents and teachers.

These four components translate into instructional practices that are incorporated in age-appropriate ways across grade levels, including complex academic vocabulary development, structured conversations among students, purposeful read-alouds, exposure to high-level informational text, dramatic play, visual aids, opportunities for students to collaborate, and the incorporation of arts, social studies, and science into instruction. Examples of these strategies include the following:

- "Draw and Label," in which teachers draw a picture of a new concept or word, such as a tree in a preschool classroom (where the trunk, roots, and leaves were labeled) or a police officer in a kindergarten classroom (where the badge, walkie-talkie, and other parts were labeled). In later grades, teachers incorporate more details and advanced vocabulary when labeling.
- Chants, in which students could practice new vocabulary while also being exposed to social studies or science real-world content, such as chants on English grammar or farm unit vocabulary.
- "Think-Pair-Share," in which students pair up to talk with each other about something that they had learned in order to build their oral language skills.

Each school year, teachers in SEAL schools participate in six daylong professional development modules, which help them learn and incorporate these instructional practices. SEAL coaches visit teachers' classrooms to model and help guide them to implement the practices. Teachers at each school site collaborate both across and within grade levels to co-plan thematic units and experience a great deal of autonomy at their school. The SEAL model also incorporates a summer bridge program, which is a 10-day program that provides extra support to lower-performing students moving between grades.

Outcomes and Successes

Principals, coaches, and teachers reported that students who participated in SEAL had greater improvements in oral language skills (both as observed in their classes and as measured by students' scores on the California English Language Development Test) and higher California Standards Test science scores, compared to students before the SEAL program was implemented. Principals and teachers also believed that students were more engaged in learning as a result of the SEAL strategies.

Challenges and Lessons Learned

Although the majority of teachers were supportive of the initiative, interviewees identified two challenges with implementing the SEAL model. First, teachers reported that it is difficult to change teacher practices and habits that have been in place for many years, even if they strongly believe in the mission of the initiative. Second, teachers and a district official reported that it is difficult for teachers to find enough time to plan and reflect on their practices in order to continuously improve their effectiveness.

Staff reported that sustaining the program is a challenge. To date, the Sobrato Family Foundation has paid for all teacher training and coaches' salaries for the SEAL program statewide. However, the Foundation considered these start-up costs and will not cover them indefinitely; their agreements with districts require that district budgets absorb the cost of coaches, training, and materials over time. Redwood City district staff were concerned about their ability to locate funds for coaches and training for new teachers who transition into the schools. The district already had difficulty covering costs for some materials, such as bilingual books.

When asked what advice they would give others interested in implementing a program like that of SEAL, program staff emphasized the importance of time and patience, observing that change in teacher practice and student outcomes takes at least two to three years. The preschool director emphasized the importance of principal support for the program in helping to achieve implementation success.

IV. Conclusions

The literature review that helped inform this case study found that authors of policy and theory articles recommended the alignment of standards, curriculum, instruction, assessments, and environments across preschool and grades K–3. Authors suggested involving teachers in the P–3 planning process, offering cross-grade planning time, ensuring fidelity of implementation, measuring student achievement, and holding administrators and teaching staff accountable for student results. The challenges identified included policies that inhibit the blending of funds, instability of preschool funding, and resistance among practitioners to integrating preschool within elementary schools. The review of differentiated instruction found that qualitative studies noted that teachers need time to carefully plan, reflect, and collaborate with peers on differentiated instruction practice and to receive guidance from coaches.

Case studies that followed the literature review provided more detailed information about the implementation of P–3 alignment and differentiated instruction programs. These case studies were descriptive in nature, based on data collected at a small number of purposively selected sites including self-reports of the staff interviewed at each site and observations limited by the logistics of school schedules. Therefore, findings are not generalizable to other schools that use the two strategies that we studied. Still, policymakers and administrators may use the study findings to inform their own efforts to use P–3 alignment or differentiated instruction to sustain the effects of preschool education by considering how these five sites implemented these strategies, the challenges they faced, and the steps they took to overcome those challenges.

Consistent with the literature review findings, teachers in case study programs reported that having the opportunity to collaborate with their colleagues in all grades helped them to align practices and learn from each other. Also consistent with the literature review, case study data suggested that strong leaders play a role in program success. School principals and district staff—committed to early childhood education—led and inspired teachers in all five programs to change their instructional practice. Although the literature reviewed for P–3 alignment did not focus on the importance of family engagement, all five case study programs focused on home–school partnerships as a part of their strategy to provide additional continuity for children's learning across grades P–3.

Differentiated instruction was facilitated through support from aides or other teachers who could lead small groups of students clustered according to their needs. Coaches played a critical role in helping teachers to understand what other teachers were doing, to translate material from training into concrete classroom practices, and to implement changes in their teaching practices overall.

Long-term sustainability of the case study programs may pose a challenge because staff in case study programs emphasized that providing time for teachers to collaborate, teaching assistants, and coaches requires resources. External funding partially supported the design and early implementation of all five programs, but districts must consider budget trade-offs to ensure the programs' continuation. Teachers and principals expressed concerns that some of the materials and staff that are critical parts of the program may not be able to be funded in future years, likely making faithful implementation of the program more difficult.

Although program staff often reported that they had observed changes in teacher practice, parent involvement, and student outcomes after implementing the program, there are no rigorous evaluations (randomized trials or studies with strong, quasi-experimental designs) of any of the five programs studied. Although at least one evaluation is now under way (the evaluation of CPC under the i3 grant) and all sites have collected data to monitor their programs, more formal evaluation of K–3 efforts is needed. Such evaluations can aid in providing further insight into the specific elements that may be helping to sustain the initial positive effects of preschool. Similarly, the literature review indicated the need for more research on P–3 alignment and differentiated instruction.

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Appendix A. Methodology

Site Visits Preparation and Training. Before the visits were conducted, experienced site visitors participated in a one-day training to study and discuss content of interview protocols and site visit logistics. Site visitors rehearsed content of interviews and discussed the purpose of each interview question, identifying those of highest priority. Each site visit took two days.

Before going into the field, the study team pilot tested interview protocols with four types of respondents (two teachers, a funder, a district official, and a principal). Staff in similar roles in non–case study programs participated in a mock interview. Interviewees answered the questions and provided feedback on question clarity; in some cases, pilot test respondents provided written comments on protocols. The study team then revised each protocol with an aim to achieve greater clarity.

Two members of the study team visited each site. Interviews often were conducted by one site visitor as the other took notes and monitored recorders; however, in some cases when scheduling required it, site visitors split up interviews and conducted interviews of two staff in separate rooms at the same time. Staff often, but not always, observed classrooms and other activities jointly, depending on scheduling.

Interviews. Interviewers used semistructured protocols, asking respondents questions on specific constructs of interest, including the characteristics of the program; the resources, personnel, staff characteristics, or training that facilitate implementation of the program; and program sustainability. Interviewers maintained a conversational tone and asked follow-up questions flexibly to capture breadth of information. Site visitors sought to conduct interviews in person during site visits; however, in some cases, scheduling necessitated phone interviews before or after the visit. Preschool and elementary teachers largely participated through focus groups unless scheduling necessitated individual interviews. All interviews were audio recorded and transcribed to facilitate analysis.

Observations. When at schools, site visitors conducted observations of relevant program activities taking place on the day of the site visit, including classroom instruction, teacher training sessions, or staff meetings, including professional learning communities (PLCs). Observers used a specific protocol to guide their observations, taking running notes during each observation and answering summary questions afterward. The study team used observation notes to capture the content of classroom instruction or foci of meetings. Because each classroom or activity was only observed at one point in time and because the type and number of observation varied across sites, the study team did not use these observations as a primary source of evidence. Rather, observation data were used to provide confirmatory examples of themes that arose from analysis of interview and focus group data.

Analysis. To analyze data, the research team developed a set of codes based on constructs underlying the protocols. First, researchers drafted a preliminary code list to cover overarching topics and then pilot tested those codes with a subset of interviews across respondent types and programs. This step served to check that codes covered relevant constructs and were appropriately specific and defined. The team made small revisions to the codebook after piloting. Appendix C contains the final codebook. Researchers then coded all interviews and focus groups using NVivo, a qualitative software program. Passages were coded into nodes in NVivo. Researchers avoided coding passages into more than one node whenever possible (to avoid how much text would be read multiple times in later analysis phases)

but ensured that all passages coded could be understood standing alone. The coding team met weekly to monitor progress and discuss any questions that arose about how particular text should be coded.

After primary coding was complete, the team used a secondary coding process. Secondary coding served two purposes. First, it served as an initial reliability check between coders; if the secondary coder identified data that did not fit well within the original code, then the two analysts discussed the coding and came to consensus. Second, analysts further coded data into more fine-grained subtopics; for example, the code "Differentiation Approaches" was divided further into four subcodes: Adapting Materials/Technology/Curriculum, Challenges with Differentiation, Small Groups, and Use of Assessments.

To generate the findings or themes that cut across multiple programs, researchers examined primary and secondary codes to identify overall themes. The study team used software to group evidence for each theme. Themes that emerged with the strongest evidence (greatest number of respondents across at least three programs) were identified as key findings.

Appendix B. Interview Protocols

Study on Sustaining the Positive Effects of Preschool

District Interview Protocol

Interviewer_____ Interviewee ID #_____

Site _____ Date/Time_____

Introduction

My name is _____, and I work for American Institutes for Research (AIR). We've been contracted by the U.S. Department of Education to conduct case studies on sites that are implementing particular programs to support early elementary students.

As you may know, the purpose of the study is to document characteristics of programs and policies in early elementary school that support student growth and development, such as P–3 alignment, differentiated instruction, and other programs designed to sustain the advantages of preschool. We are interested in learning more about the theoretical or practical background of these programs, how they are implemented, how they are sustained and funded, and their outcomes.

I want to reassure you that your *responses to this interview will be used only for research purposes*. Though your site's name will appear in the final report, we will not provide your name in any reporting or to anyone outside the study team, except as required by law. Because we are producing case studies of only a small number of named sites, it may be possible for a reader to identify you based on the data that we report, even though your name will not be used. If there is information that you do not want shared directly in any reporting, please let me know. I will now give you a consent form that provides more details about the study and your rights as a participant.

Do you have any questions about the study?

I plan to audio record this session, solely for our note-taking purposes. Only research staff will use the audio recording, and we'll destroy it when the project is done. Is that okay with you?

Role and Previous Education-Related Experience

1. I'd like to start by asking you to tell me a bit about yourself. Briefly, how did you come to be in this position at [NAME OF DISTRICT]?

District Characteristics

2. In one or two sentences, how would you describe any unique features of your district or schools to a colleague from another district?

3. You mentioned on the pre-interview survey that *X*% of your kindergartners attended preschool programs. Do you have any information about the quality, nature or focus of those programs?

Approach to Program or Strategy and Implementation

My next questions focus very specifically on [PROGRAM]. One purpose of this study is to help other districts and schools think about whether a similar program could work in their context.

4. I understand this program involves [BRIEFLY DESCRIBE OUR UNDERSTANDING OF THE PROGRAM FROM BACKGROUND RESEARCH]. Can you tell me more about all the activities involved?
   a. Are you focusing on one particular subject matter or goal for students?
   b. Are you specifically recruiting or providing services to certain subgroups of students?
   c. What are the most important aspects of this program?

5. Can you tell me about the ways you are involved with [PROGRAM] day to day?
   a. Besides yourself, who else at the district is involved with the program and in what ways?

6. What are the explicit goals of [PROGRAM]?

7. In what areas of student performance would you most like to see improvement as a result of your program?

If any of these are mentioned, be sure to get details (such as specific goals and rationale):
- Higher achievement in certain content area
- Better attendance
- Reduced placement in special education
- Reduced grade-level retention
- Better social or behavioral outcomes

8. What research, theory, or experiences informed the development of [PROGRAM]?

9. Who was involved in the design of the program?

10. Did the initiative involve any approval processes, such as a grant application, new funding streams, or formal adoption by a school board?

11. Has the program changed or evolved since its inception? If so, how?

12. [WE ALREADY HAVE (XX DOCUMENT)] OR [WE DO NOT HAVE ANY WRITTEN DOCUMENTS on (PROGRAM)]. Are there [other] written resources that document [PROGRAM] and its components or development?
    a. Could we get a copy of those?

13. Let's talk about when the program was first rolled out into the schools. When was [PROGRAM] first implemented?
    a. Can you describe what was needed initially to roll out [PROGRAM]?
    b. What did the schools stop doing, or how did the schools make time, to begin this initiative? How did the district decide to prioritize the [PROGRAM]?

    If not mentioned, ask:
    a. What staff training was needed?
    b. What resources were required?
    c. What had to be done to ensure staff buy-in to the program? Parent buy-in?
    d. What was the timeline for the rollout? Was it rolled out all at once, or was there a phased-in implementation?

14. In what ways does the district monitor fidelity of the program's implementation? In other words, how do you know if the program is being rolled out as intended?

15. How is [PROGRAM] funded? Has the funding source changed over the course of the program's design and implementation?

16. What was the cost of developing and implementing this program initially? What were the start-up costs?
    a. [*If there is an outside funding source:]* What types of personnel and nonpersonnel costs did the district cover? What types of personnel and nonpersonnel costs did [FUNDING SOURCE/ORGANIZATION] cover?

17. What are the ongoing costs of continuing [PROGRAM]?

ASK QUESTIONS IN THE TWO SECTIONS BELOW, DEPENDING ON WHICH TOPIC(S) IS A FOCUS FOR THE SITE VISIT.

TOPIC 1: P–3 Alignment

I'd like to talk a little more about P–3 alignment efforts at the school level.

18. Are assessments aligned, connected, or coordinated across grades? If so, how?
    a. Did the district need to make any changes to ensure this alignment?

If not mentioned, ask:

a. What assessments are used? How often are they given?
b. How is the information from assessments used?
c. Does your district use a Kindergarten Entry Assessment? If so, which one?
d. Do you receive the results of assessments for children that attended preschool, from their preschool programs? If so, how is this information used?

19. How are standards in different grades and in preschool related or aligned? How are curricula and/or other materials and resources related or aligned?
    a. What changes did the district make to standards and curricula, if any, when [PROGRAM] was implemented?
    b. How do you assure children are learning new material and not repeating something they learned the prior year?

20. *If pre-interview survey indicates that student or teacher mobility is a problem:*
    a. I see that student mobility is a challenge in elementary schools in your district. How does the district guide schools in implementing [the program] given that some students will be at the schools for only part of the P–3 span?
    b. I see that teacher mobility is a challenge in elementary schools in your district. How does the district guide schools in implementing [PROGRAM] given the fact that new teachers will not have received the original training or onboarding for [PROGRAM]?

Now I have a couple of questions about teachers.

21. To what degree are similar instructional practices used in different grades and in preschool?

22. How does the district train and support teachers to align instructional practices across Grades P–3?
    a. Can you describe any ongoing training?
    b. Do teachers have dedicated time to meet with teachers from other grade levels and from preschool?
    c. How is data used and shared across grades?
    d. How, if at all, are preschool teachers included in this training and support?

23. How do teachers for preschool to Grade 3 know what other teachers are doing in their classrooms?

TOPIC 2: Differentiated Instruction

Let's talk now about how differentiated instruction looks in district schools and classrooms.

24. *If not already discussed:* Can you describe any particular approaches that teachers use to differentiate instruction?
    a. How do teachers differentiate instruction for students with higher skills or competencies?

25. Are there specific strategies or practices used for personalizing instruction in kindergarten and first grade that are different from other grades? How are these different than strategies that teachers in later grades (Grade 2 and beyond) might be using?

26. How do schools identify the individual needs of students? How is student progress monitored?

    If not mentioned, ask:
    a. What assessments are used?
    b. Does your district also use a Kindergarten Entry Assessment? If so, which one?
    c. How is the information from assessments used?
    d. How often are children assessed?

27. How are teachers trained and supported on differentiation strategies?

    If not mentioned ask:
    a. Can you describe any ongoing training?
    b. In what other ways does the district support school leaders and teachers in differentiating instruction?

ASK THE FOLLOWING QUESTIONS OF ALL INTERVIEWEES.

Other Specific Interventions or Supports

32. Are there any other programs or supports for early elementary students, designed to sustain the effects of preschool or otherwise support their learning and development, that we have not yet talked about?

If yes, ask questions 33-36:

33. If I observed a school or classroom in your district, what activities would I see related to this program?

34. Who does the program serve?

    If the following are mentioned, make sure to get details:
    - Parents
    - Particular groups of students (e.g., those who attended preschool, English language learners, students with disabilities)

35. How are activities or approaches selected?
    a. What guidance do program staff members receive from the district?

36. Tell me about the [coaches/staff/teachers] who implement [PROGRAM].

Ask if not mentioned:

a. How were they selected?
b. What roles do different teachers and other staff members play?
c. How were staff roles determined?
d. Have these staff received any special training or professional development? If so, what did that training focus on?

Outcomes

37. You previously stated that your goals were [*restate goals from question 7]*. How do you measure progress against those goals? How do you evaluate the program?

If not mentioned, ask:

a. Do you have an outside evaluator?

If yes:

38. What do you think are the barriers to seeing more gains?
    a. Why did you decide to hire an evaluator?
    b. What are the benefits and challenges of working with an evaluator?
    c. In what ways does your evaluator help you determine what program changes are needed?

39. What effect, if any, do you think [PROGRAM] has had on student outcomes in kindergarten through third grade?

If interviewee reports effect:

a. For which outcomes have you seen gains?
b. How are these gains measured or documented?
c. Have you seen gains for any particular student subgroups?
d. Have these gains been consistent over time?
e. Can you share or point us to the data demonstrating these patterns?

If no effect:

a. What do you think are the barriers to seeing more gains?

40. Has your district documented changes in teacher practices? Teacher turnover?

If yes:

a. Have you seen any patterns?
b. Can you share any data with us?

If no:

a. What do you think are the barriers to seeing changes in teacher practice?

Success, Challenges, and Sustainability

41. What is working well with [PROGRAM]?

42. What aspect of [PROGRAM] needs strengthening? Why?
    a. What plans do you have to try to strengthen it?

43. What challenges have you and your colleagues experienced in implementing [PROGRAM], and what steps did you take or may still be needed to address them?

44. How does the district plan to ensure the sustainability of its work with [PROGRAM]? Are there challenges to maintaining the program's quality and success?

    If any of the following are mentioned, make sure to get details:
    - Staffing
    - Professional development
    - Resources (materials, funding)
    - Practices (e.g., teacher practices)
    - Perceptions and buy-in (e.g., from staff, parents, the school board)

45. One purpose of this study is to help other districts and schools potentially begin a similar program. What advice would you give to such districts or schools? Are there certain resources, structures, or capabilities that need to be in place for a program like this to succeed?

46. Those are all the questions I have. Are there any questions that I should ask about [PROGRAM] that I didn't? Is there anything else you'd like to share with me today in regard to [PROGRAM]?

Study on Sustaining the Positive Effects of Preschool

Principal Interview Protocol

Interviewer_____ Interviewee ID #_____

Site _____ Date/Time_____

Introduction

My name is _____, and I work for American Institutes for Research (AIR). We've been contracted by the U.S. Department of Education to conduct case studies on sites that are implementing particular programs to support early elementary students.

As you may know, the purpose of the study is to document characteristics of programs and policies in early elementary school that support student growth and development, such as P–3 alignment, differentiated instruction, and other programs designed to sustain the advantages of preschool. We are interested in learning more about the theoretical or practical background of these programs, how they are implemented, how they are sustained and funded, and their outcomes.

I want to reassure you that your *responses to this interview will be used only for research purposes*. Though your site's name will appear in the final report, we will not provide your name in any reporting or to anyone outside the study team, except as required by law. Because we are producing case studies of only a small number of named sites, it may be possible for a reader to identify you based on the data that we report, even though your name will not be used. If there is information that you do not want shared directly in any reporting, please let me know. I will now give you a consent form that provides more details about the study and your rights as a participant.

Do you have any questions about the study?

I plan to audio record this session, solely for our note-taking purposes. Research staff will only use the audio recording, and we'll destroy it when the project is done. Is that okay with you?

Role and Previous Education-Related Experience

1. I'd like to start by asking you to tell me a bit about yourself. Briefly, how did you come to be principal of [SCHOOL NAME]?

School Context

2. In one or two sentences, how would you describe any unique features of your school to a colleague from another district?

3. You mentioned on the pre-interview survey that X% of your kindergartners attended preschool programs. Do you have any information about the quality, nature, or focus of those programs?

Approach to Program or Strategy and Implementation

My next questions focus very specifically on [PROGRAM]. One purpose of this study is to help other districts and schools think about whether a similar program could work in their context.

4. I understand this program involves [BRIEFLY DESCRIBE OUR UNDERSTANDING OF THE PROGRAM]. Can you tell me more about all the activities involved?
   a. Are you targeting one particular subject matter or outcome?
   b. What are the most important aspects of this program?

5. Can you tell me about the ways you are involved with [PROGRAM] day to day?
   a. How much of your time does this initiative use, compared with your other roles and duties?
   b. Besides yourself, who else at the school is involved with the program and in what ways?

6. To what degree were you involved in the design of the program before the district or school first implemented it?

   If involved:
   a. What research, theory, or experiences informed the development of [PROGRAM]?
   b. Who was involved in the design of the program?
   c. Did the initiative involve any approval processes, such as a grant application, new funding streams, or formal adoption by a school board?
   d. Has the program changed or evolved since its inception? If so, how?

7. What are the explicit goals of [PROGRAM]?
   a. Is your school doing anything different from or in addition to the district's program?
   b. *If so:* What is different and why?

8. In what areas of student performance would you most like to see improvement as a result of your program?

   If any of these are mentioned, be sure to get details (such as specific goals and rationale):
   - Higher achievement in certain content area
   - Better attendance
   - Reduced placement in special education
   - Reduced grade-level retention
   - Better social or behavioral outcomes

9. How do you communicate with parents about the program elements, goals, or vision of [PROGRAM]?
   a. What messages do you emphasize?
   b. What methods of communication do you use?
   c. What questions about [PROGRAM] have you gotten from parents, if any?
   d. Do parents play an active role in the [PROGRAM]? How? Is there training for parents on their role?

10. Let's talk about when the program was first rolled out here at the school. When was [PROGRAM] first implemented?
    a. If you were at the school then, can you describe what was needed to initially start up and roll out [PROGRAM]?

    If not mentioned, ask:
    a. What did your school stop doing, or how did you make time, to begin this initiative?
    b. What staff training was needed?
    c. What resources were required?
    d. What had to be done to ensure staff buy-in to the program? What was done to maintain staff buy-in of the program over time?

11. In what ways do you or the district monitor fidelity of the program's implementation? In other words, how do you know if the program is being rolled out as intended?

ASK QUESTIONS IN THE TWO FOLLOWING SECTIONS, DEPENDING ON WHICH TOPIC(S) IS/ARE A FOCUS FOR THE SITE VISIT.

TOPIC 1: P–3 Alignment

I'd like to talk a little more about P–3 alignment efforts at your school or in your district.

12. Are assessments aligned, connected, or coordinated across grades? If so, how?

    If not mentioned, ask:
    a. What assessments are used? How often are they given?
    b. How is the information from assessments used?
    c. Does your district use a Kindergarten Entry Assessment? If so, which one?
    d. Do you receive the results of assessments for children that attended preschool, from their preschool programs? If so, how is this information used?

13. How are standards in different grades and in preschool related or aligned? How are curricula and/or other materials and resources related or aligned?
    a. What changes were made to standards and curricula, if any, when [PROGRAM] was implemented?
    b. How do you assure children are learning new material and not repeating something they learned the prior year?

14. Can you describe the training or other professional development that teachers receive in order to align instructional practices across Grades P–3?
    a. Can you describe any ongoing training?
    b. How is data used and shared across grades?
    c. How, if at all, are preschool teachers included in this training and support?

15. Can you describe any training or support that you, as principal, received about P–3 alignment?
    a. What is helpful about the support for you and what would you change?

16. How do teachers from preschool through Grade 3 know what other teachers are doing in their classrooms?
    a. Do they have time to meet together? When? Who participates? Is this time paid?

17. *If pre-interview survey indicates that student or teacher mobility is a problem:*
    a. I see that student mobility is a challenge in your school. How do you account for student mobility when implementing [PROGRAM]] if some students miss a portion of the P–3 span and enter the program later? Is it difficult to catch them up?
    b. I see that teacher mobility is a challenge in your school. How do you train new teachers to implement [program], given that they did not receive the original training or onboarding for the P–3 program?

18. Can you describe any collaborative efforts your school might have with preschool programs?
    a. *If this collaboration exists:* What types of activities does this collaboration involve?

TOPIC 2: Differentiated Instruction

Let's talk now about how differentiated instruction looks in classrooms.

19. How do teachers in the classroom work with children at different skill levels?

    If not mentioned, ask:
    a. Can you describe how and whether students are placed in groups or assigned to specific classrooms or teachers? *[If applicable:]* How long do these grouping assignments last?
    b. Are there specific strategies or practices used for personalizing instruction in kindergarten and first grade that are different from other grades? How are these different than strategies that teachers in later grades (Grade 2 and beyond) might be using?
    c. How do teachers differentiate instruction for students with higher skills or competencies?
    d. What resources and tools help teachers effectively differentiate instruction with students?

20. How does the school identify the individual needs of students? How is student progress monitored?

    If not mentioned, ask:
    a. What assessments are used?

b. How is the information from assessments used?
c. How often are children assessed?

If not mentioned, ask:
d. How, if at all, are curricula or other materials and resources used?
e. How, if at all, is technology used?
f. How, if at all, are small groups used?

21. How are teachers trained and supported on differentiation strategies?
    a. Can you describe any ongoing training?
    b. In what other ways does the school support teachers in differentiating instruction?

22. Can you describe any training or support that you, as principal, received about differentiation strategies?
    a. What is helpful for you about that support, and what would you change?

ASK QUESTIONS IN FOLLOWING SECTIONS OF ALL INTERVIEWEES.

Other Specific Interventions or Supports

23. Are there any other programs or supports for early elementary students, designed to sustain the effects of preschool or otherwise support their learning and development, that we have not yet talked about?

    If yes, ask questions 24-27:

24. What activities take place at the school as part of this program?

25. Who does the program serve?

    If the following are mentioned, make sure to get details:
    - Parents
    - Particular groups of students (e.g., those who attended preschool, English language learners, students with disabilities)

26. How are activities or approaches decided upon? What guidance do program staff members receive to carry out the program?

27. Tell me about the staff who implements [PROGRAM]. Who are they, and what roles do they play?

    If not mentioned, ask:
    a. Do you, as principal select them? If so, how did you select them?
    b. How were staff roles determined?
    c. Have these staff received any special training or professional development? If so, what did that training focus on?

Outcomes

28. You previously stated that your goals were [RESTATE GOALS FROM QUESTION ABOVE]. How do you measure progress against those goals?

29. What effect, if any, do you think [PROGRAM] has had on student outcomes in kindergarten through third grade?

    If interviewee reports effect:
    a. For which outcomes have you seen gains?
    b. How are these gains measured or documented?
    c. Have you seen gains for any particular student subgroups?
    d. Have these gains been consistent over time?
    e. Can you share or point us to the data demonstrating these patterns?

    If no effect:
    a. What do you think are the barriers to seeing more gains?

30. Has your school documented changes in teacher practices? Teacher turnover?

    If yes:
    a. Have you seen any patterns?
    b. Can you share any data with us?

    If no:
    a. What do you think are the barriers to changes in teacher practice?

Success, Challenges, and Sustainability

31. Overall, what is working well with [PROGRAM] at your school?

32. What aspect of [PROGRAM] needs strengthening? Why?
    a. What plans do you have to try to strengthen it?

33. What challenges have you experienced in implementing this program, and what steps did you take or may still be needed to address them?

34. Is [PROGRAM] an approach that will or should continue for the long term, in your opinion?

35. Are there resources you need to continue [PROGRAM]?

36. One purpose of this study is to help other schools potentially begin a similar program. What advice would you give to such schools? Are there certain resources, structures, or capabilities that need to be in place for a program like this to succeed?

37. Those are all the questions I have. Are there any questions that I should ask about [PROGRAM] that I didn't? Is there anything else you'd like to share with me today in regard to [PROGRAM]?

Study on Sustaining the Positive Effects of Preschool

K–3 Teacher/Program Staff Focus Group Protocol

Interviewer_____ Focus Group ID #_____

Site _____ Date/Time_____

Introduction

My name is _____, and I work for American Institutes for Research (AIR). We've been contracted by the U.S. Department of Education to conduct case studies on sites that are implementing particular programs to support early elementary students.

As you may know, the purpose of the study is to document characteristics of programs and policies in early elementary school that support student growth and development, such as P–3 alignment, differentiated instruction, and other programs designed to sustain the advantages of preschool. We are interested in learning more about the theoretical or practical background of these programs, how they are implemented, how they are sustained and supported/funded, and their outcomes.

I want to reassure you that your *responses to this interview will be used only for research purposes*. Though your site's name will appear in the final report, we will not provide your name in any reporting or to anyone outside the study team, except as required by law. Because we are producing case studies of only a small number of named sites, it may be possible for a reader to identify you based on the data that we report, even though your name will not be used. If there is information that you do not want shared directly in any reporting, please let me know. I will now give you a consent form that provides more details about the study and your rights as a participant.

Do you have any questions about the study?

I plan to audio record this session, solely for our note-taking purposes. Only research staff will use the audio recording, and we'll destroy it when the project is done. Is that okay with you?

Role and Previous Education-Related Experience

1. I'd like to start by asking each of you to tell me your name and what grade you teach [or what role you play in the program]?

Connections to Preschool

Our research is focused on making connections between early elementary school and earlier preschool experiences that students may have had. Therefore my next set of questions focus on preschool and preschool-related data you might collect.

2. Do you know approximately what percentage of students in your class attended preschool?

3. What differences in cognitive, academic, or social-emotional skills, if any, do you see between students who attended preschool and those who did not?

Approach to Program or Strategy and Implementation

My next questions focus very specifically on [PROGRAM]. One purpose of this study is to help other districts and schools think about whether a similar program could work in their context.

4. I understand this program involves [BRIEFLY DESCRIBE OUR UNDERSTANDING OF THE PROGRAM]. Can you tell me more about all the activities involved?
   a. What does this look like in your classroom?
   b. What do you think are the most important aspects of this program?

5. Let's talk about when the program was first rolled out at your school. What do you know about what changes in staffing, policy, curriculum, or other areas were required to first roll the program out at your school?
   a. What did teachers need to get started, in terms of training, guidance, or extra resources?
   b. What did you and the school <u>stop</u> doing, or how did you make time, to begin this initiative?

6. How does the school communicate with parents about the program elements, goals, or vision of [PROGRAM]?
   a. What messages do you emphasize?
   b. What methods of communication do you use?
   c. What questions about [PROGRAM] have you gotten from parents, if any?
   d. Do parents play an active role in the [PROGRAM]? How? Is there training for parents on their role?

ASK QUESTIONS IN THE TWO FOLLOWING SECTIONS, DEPENDING ON WHICH TOPIC(S) IS/ARE A FOCUS FOR THE SITE VISIT.

TOPIC 1: P–3 Alignment

I'd like to talk a little more about P–3 alignment efforts at your school or in your district.

7. Are assessments aligned, connected, or coordinated across grades? If so, how?

If not mentioned, ask:

a. What assessments are used? How often are they given?
b. How is the information from assessments used?
c. Does your district use a Kindergarten Entry Assessment? If so, which one?

8. How are standards in different grades and in preschool related or aligned? How are curricula and/or other materials and resources related or aligned?
   a. How do you assure children are learning new material and not repeating something they learned the prior year? How do you know what other teachers from preschool through Grade 3 are doing in their classrooms?
   b. Is there time to meet with teachers from different grade levels and from preschool? When? Is the time sufficient?

9. Does your school have any collaborative efforts with preschool programs?
   a. *If these collaborations exist*: What types of activities does this collaboration involve?

10. How do you receive training or support to align instructional practices across preschool to Grade 3?
    a. Can you describe any ongoing training?
    b. Do teachers have dedicated time to meet with teachers in other grades?
    c. How is data used and shared across grades?
    d. How, if at all, are preschool teachers included in this training and support?
    e. What is helpful about the support, and what would you change?

11. *If pre-interview survey indicates that student mobility is a problem:*
    a. How do you account for student mobility in your teaching – if some students miss a portion of the P–3 span and enter the program later? Is it difficult to catch them up?

12. *For any new teachers:* What was the orientation process for [PROGRAM] when you came to this school? To what degree was it adequate or inadequate for you?

TOPIC 2: Differentiated Instruction

Let's talk now about how differentiated instruction looks in classrooms.

13. *If not already discussed:* Can you describe any particular approaches that you use to differentiate instruction?

14. How do you or other teachers in your classroom work with children at different skill levels?
    a. Can you describe how and whether students are placed in groups or assigned to specific classrooms or teachers? *If applicable:* How long do these grouping assignments last?

15. How do you identify the individual needs of students? How is student progress monitored?

If not mentioned, ask:

a. How is assessment used? How often are children assessed?

16. What resources and tools help you effectively differentiate instruction with students?

    If not mentioned, ask:
    a. How, if at all, are curricula or other materials and resources used?
    b. How, if at all, is technology used?
    c. How, if at all, are small groups used?

17. How are you trained or supported on differentiation strategies?
    a. What is helpful about the training or support you have received, and what would you change?

18. How do you work with students with higher skills or competencies?

ASK THE FOLLOWING QUESTIONS OF ALL INTERVIEWEES.

Other Specific Interventions or Supports

19. Are there any other programs or supports for early elementary students, designed to sustain the effects of preschool or otherwise support their learning and development, that we have not yet talked about?

If yes, ask questions 20-24:

20. What role do you play in that program?
    a. Is this a role you applied for? What skills are needed for the position?

21. How do you work with other teachers or staff at the school?

22. What type of student participates in [PROGRAM]?
    a. What type of student is eligible and ineligible to participate?
    b. Are you specifically providing services to certain subgroups of students?

23. What guidance do you receive from the district about the program's goals or activities?

24. How much autonomy do you have in implementing program activities?

Outcomes

25. What effect, if any, do you think [PROGRAM] has had on student outcomes in kindergarten through third grade?
    a. *If interviewee reports effect:* For which outcomes have you seen gains and how are these documented? Have you seen gains for any particular student groups?
    b. *If no effect:* What do you think are the barriers to seeing more gains?

Success, Challenges, and Sustainability

26. Overall, what is working well with [PROGRAM] at your school?

27. What aspect of [PROGRAM] needs strengthening? Why?
    a. What do you know of plans to try to strengthen it?

28. What challenges have you had in implementing this program, and what steps did you take or may still be needed to address them?

    If mentioned, be sure to get details (extent of challenge, how addressed):
    a. Teacher turnover

29. Is [PROGRAM] an approach that will or should continue for the long term, in your opinion?

30. Are there resources you need to continue your work with [PROGRAM]?

31. One purpose of this study is to help other districts and schools potentially begin a similar program. What advice would you give to such districts or schools? Are there certain resources, structures, or capabilities that need to be in place for a program like this to succeed?

32. Those are all the questions I have. Is there anything else you'd like to share with me today in regard to [PROGRAM]?

Study on Sustaining the Positive Effects of Preschool

Preschool Teacher/Program Staff Interview/Focus Group Protocol

Interviewer_____ Focus Group ID #_____

Site _____ Date/Time_____

Introduction

My name is _____, and I work for American Institutes for Research (AIR). We've been contracted by the U.S. Department of Education to conduct case studies on sites that are implementing particular programs to support early elementary students.

As you may know, the purpose of the study is to document characteristics of programs and policies in early elementary school that support student growth and development, such as P–3 alignment, differentiated instruction, and other programs designed to sustain the advantages of preschool. We are interested in learning more about the theoretical or practical background of these programs, how they are implemented, how they are sustained and supported/funded, and their outcomes.

I want to reassure you that your *responses to this interview will be used only for research purposes*. Though your site's name will appear in the final report, we will not provide your name in any reporting or to anyone outside the study team, except as required by law. Because we are producing case studies of only a small number of named sites, it may be possible for a reader to identify you based on the data that we report, even though your name will not be used. If there is information that you do not want shared directly in any reporting, please let me know. I will now give you a consent form that provides more details about the study and your rights as a participant.

Do you have any questions about the study?

I plan to audio record this session, solely for our note-taking purposes. Only research staff will use the audio recording, and we'll destroy it when the project is done. Is that okay with you?

Role and Previous Education-related Experience

1. I'd like to start by asking each of you to tell me your name, and what age or grade you teach [or what role you play in the program]?

Connections to Elementary

Our research is focused on making connections between early elementary school and earlier preschool experiences.

2. Do you know *where* the students in your class will attend elementary school? Do most students attend the same school?

Approach to Program or Strategy and Implementation

My next questions focus very specifically on [PROGRAM]. One purpose of this study is to help other districts and schools think about whether a similar program could work in their context.

3. I understand this program involves [BRIEFLY DESCRIBE OUR UNDERSTANDING OF THE PROGRAM]. Can you tell me more about all the activities involved?
   a. What does this look like in your classroom?
      What do you think are the most important aspects or features of this program?

4. Let's talk about when the program was first rolled out at your [school/preschool/center]. For those of you that were at the school then, what changes in staffing, policy, curriculum, or other areas were required?
   a. What did teachers need to get started, in terms of training, guidance, or extra resources?
   b. What did you stop doing, or how did you make time, to begin this initiative?

5. How do you or your pre-K colleagues communicate with parents about the program elements, goals, or vision of [PROGRAM]?
   a. What messages do you emphasize?
   b. What methods of communication do you use?
   c. What questions about [PROGRAM] have you gotten from parents, if any?
   d. Do parents play an active role in [PROGRAM]? How? Is there training for parents on their role?

P–3 Alignment

I'd like to talk a little more about P–3 alignment efforts in your district.

6. Are assessments aligned, connected, or coordinated across grades? If so, how?

   If not mentioned, ask:
   a. What assessments are used? How often are they given?
   b. How is the information from assessments used?
   c. Does your district use a Kindergarten Entry Assessment? If so, which one? Do you receive the results of assessments for children that attended your preschool?

7. How are standards in different grades and in preschool related or aligned? How are curricula or other materials or resources related or aligned?

8. How do you know what other teachers in preschool or kindergarten through Grade 3 are doing in their classrooms?
   a. Is there time to meet? When? Is the time sufficient?
   b. *If they meet:* Which teachers do you meet with regularly? Do you meet only with preschool teachers or also with elementary school teachers?

9. Does your preschool/center have any other collaborative efforts with elementary schools?
   a. *If these collaborations exist*: What types of activities does this collaboration involve?

10. How do you receive training or support to align instructional practices across Grades P–3?
    a. Can you describe any ongoing training?
    b. Do teachers have dedicated time to meet with teachers in other grades?
    c. How is data used and shared across grades?
    d. How, if at all, are preschool teachers included in this training and support?
    e. What is helpful about the support, and what would you change?

Other Specific Interventions or Supports

11. Are there any other programs or supports for early elementary students, designed to sustain the effects of preschool or otherwise support their learning and development, that we have not yet talked about?

If yes, ask questions 12-16:

12. What role do you play in the program?
    a. Is this a role you applied for? What skills are needed for the position?

13. How do you work with other teachers or staff at your center? At the elementary school?

14. What type of student participates in [PROGRAM]?
    a. What type of student is eligible and ineligible to participate?
    b. Are you specifically providing services to certain subgroups of students?

15. What guidance do you receive from the district about the program's goals or activities?

16. How much autonomy do you have in implementing program activities?

Outcomes

17. What effect, if any, do you think [PROGRAM] has had on student outcomes in kindergarten through third grade?
    a. *If interviewee reports effect*: For which outcomes have you seen gains and how are these documented? Have you seen gains for any particular student groups?
    b. *If no effect*: What do you think are the barriers to seeing more gains?

Success, Challenges, and Sustainability

18. Overall, what is working well with this [PROGRAM] at your school?

19. What aspect of [PROGRAM] needs strengthening? Why?
    a. What do you know of plans to try to strengthen it?

20. What challenges have you had in implementing this program, and what steps did you take or may still be needed to address them?
    a. Are there any challenges in meeting both the requirements of the funder or administrator of your preschool program, and the requirements and goals of [PROGRAM]?

21. Is this an approach that will or should continue for the long term, in your opinion?

22. Are there resources you need to continue your work with [PROGRAM]?

23. One purpose of this study is to help other districts and schools potentially begin a similar program. What advice would you give to such districts or schools? Are there certain resources, structures, or capabilities that need to be in place for a program like this to succeed?

24. Those are all the questions I have. Is there anything else you'd like to share with me today in regard to [PROGRAM]?

Study on Sustaining the Positive Effects of Preschool

Funder Protocol

Interviewer_____ Interviewee ID #_____

Site _____ Date/Time_____

Introduction

My name is _____, and I work for American Institutes for Research (AIR). We've been contracted by the U.S. Department of Education to conduct case studies on sites that are implementing particular programs to support early elementary students.

As you may know, the purpose of the study is to document characteristics of programs and policies in early elementary school that support student growth and development, such as P–3 alignment, differentiated instruction, and other programs designed to sustain the advantages of preschool. We are interested in learning more about the theoretical or practical background of these programs, how they are implemented, how they are sustained and funded, and their outcomes.

I want to reassure you that your *responses to this interview will be used only for research purposes*. Though the district will be named, no part of the study involves evaluation of any individual, and we will not provide information that identifies you as an individual in any reporting. I will now give you a consent form that provides more details about the study and your rights as a participant.

Do you have any questions about the study?

I plan to audio record this session, solely for our note-taking purposes. Only research staff will use the audio recording, and we'll destroy it when the project is done. Is that okay with you?

Role and Perspective

1. I'd like to start by asking you to tell me a bit about yourself. I understand that you are from [FUNDING ORGANIZATION]. Briefly, can you tell me what your role has been in relation to [PROGRAM]?
   a. How did you come to be involved with [PROGRAM]?

2. Can you tell me more about the organization that you work for and about the kind of work they typically engage in? What are your funding priorities?

3. Why did [ORGANIZATION] become interested in partnering with [or supporting] [PROGRAM]?
   a. At what point did [ORGANIZATION] begin funding [PROGRAM]? Did the program already exist, or did it begin as a result of [ORGANIZATION]'s support?
   b. When is current funding for the program planned to end or expire?

Funding Questions

4. What was the cost of developing and implementing this program initially? What were the start-up costs?
   a. How much did [ORGANIZATION] fund?
   b. What types of personnel and nonpersonnel costs did [ORGANIZATION] cover?
   c. What costs did the district cover?

5. What are the ongoing costs of continuing [PROGRAM]? Which of these costs does [ORGANIZATION] support?

6. How does [PROGRAM] measure students' progress? What data do you receive?

7. How do you decide whether or not to continue funding the program? What would make you decide to withdraw funding early?

8. What sustainability challenges, if any, do you anticipate for the program going forward?
   a. What resources does it need to maintain its quality and success?

Success, Challenges, and Closing

9. What challenges have you encountered working with a district on this type of initiative? How have you overcome those challenges?

10. Overall, what is working well with [PROGRAM]?

11. In your opinion, what are the most important aspects or characteristics of this program that make it successful?

12. What aspect of [PROGRAM] needs strengthening? Why?

13. What challenges have you noticed in the district(s) and schools in implementing [PROGRAM], and what steps may be needed to address them?

14. [We already have (XX DOCUMENT)] OR [We do not have any written documents on (PROGRAM)]. Are there [other] written resources that document the program and its funding?
    a. Could we get a copy of those?

15. Those are all the questions I have. Are there any questions that I should ask about [PROGRAM] that I didn't? Is there anything else you'd like to share with me today in regard to [PROGRAM]?

Study on Sustaining the Positive Effects of Preschool

Evaluator Protocol

Interviewer_____ Interviewee ID #_____

Site _____ Date/Time_____

Introduction

My name is _____, and I work for American Institutes for Research (AIR). We've been contracted by the U.S. Department of Education to conduct case studies on sites that are implementing particular programs to support early elementary students.

As you may know, the purpose of the study is to document characteristics of programs and policies in early elementary school that support student growth and development, such as P–3 alignment, differentiated instruction, and other programs designed to sustain the advantages of preschool. We are interested in learning more about the theoretical or practical background of these programs, how they are implemented, how they are sustained and funded, and their outcomes.

I want to reassure you that your *responses to this interview will be used only for research purposes*. Though the district will be identified, no part of the study involves evaluation of any individual, and we will not provide information that identifies you as an individual in any reporting. I will now give you a consent form that provides more details about the study and your rights as a participant.

Do you have any questions about the study?

I plan to audio record this session, solely for our note-taking purposes. Only research staff will use the audio recording, and we'll destroy it when the project is done. Is that okay with you?

Role and Perspective

1. I'd like to start by asking you to tell me a bit about yourself. I understand that you are the evaluator of [PROGRAM]. Briefly, can you tell me what your role has been in relation to [PROGRAM]?
   a. How did you come to be involved with [PROGRAM]?

2. Can you tell me more about the organization that you work for and about the kind of work they typically engage in?

3. Why did [ORGANIZATION] become interested in partnering with [or evaluating] [PROGRAM]?
   a. Can you describe when [ORGANIZATION] got involved? Was it before or after [PROGRAM] began?

Evaluation Questions

4. When did your work evaluating [PROGRAM] begin?

5. Can you tell me about the basic study design of the evaluation?

6. What types of information have you collected over the course of the evaluation work?
   a. Why did you select this information to collect?

7. How does the evaluation measure students' progress?

8. Has the evaluation documented gains in student outcomes in kindergarten through third grade?

   If interviewee reports effect:
   a. For which outcomes have you seen gains?
   b. How are these gains measured or documented?
   c. Have you seen gains for any particular student groups?
   d. Have these gains been consistent over time?
   e. Can you share or point us to the data or report illustrating these patterns?

   If no effect:
   a. What do you think are the barriers to seeing more student gains?

9. Has the evaluation documented changes in teacher practices? Teacher turnover?

   If yes:
   a. Have you seen any patterns?
   b. Can you share any data with us?

   If no:
   a. What do you think are the barriers to seeing changes in teacher practice?

10. What else have you learned from the evaluation so far?

11. How have you shared the results of your evaluation with district and school staff?

12. In what ways and for how long will you continue evaluating the program?

13. Do you expect your work to help the district improve the program? If so, how?

Success, Challenges, and Closing

14. What challenges have you encountered working with a district on this type of initiative? How have you overcome those challenges?

15. Overall, what is working well with [PROGRAM]? How do you know?

16. In your opinion, what are the most important aspects of this program?

17. What aspect of [PROGRAM] needs strengthening? Why?

18. What challenges have you noticed in the district(s) and schools in implementing [PROGRAM], and what steps may be needed to address them?

19. [We already have (XX DOCUMENT)] OR [We do not have any written documents on (PROGRAM)]. Are there [other] written resources that document the program and its evaluation?
    a. Could we get a copy of those?

20. Those are all the questions I have. Are there any questions that I should ask about [PROGRAM] that I didn't? Is there anything else you'd like to share with me today in regard to [PROGRAM]?

Appendix C. Observation Guide

Task Order 18: Sustaining the Positive
Effects of Preschool -- *Activity Observation Protocol*

Date:	Observer:
Site (School and District):	

Check	***Type of Activity Observed***
	1. Classroom Instruction
	2. Afterschool program
	3. Meeting (program staff/teachers)
	4. Training (program staff/teachers)
	5. Other -- Describe:

Start time:	
End time:	

Describe format or structure of activity observed; what is the focus and stated or implied objective?

Describe participants. (# of teachers, # of students, other adults; Was it one grade level, multiple grade levels? Were preschool teachers present? A particular subgroup? Did students appear to have different skills and needs?
How engaged were participants in the activity/discussion?

Running Notes

Record, describe, and timestamp what occurs in the program, classroom, training, or meeting. Document content of activities, conversations, strategies, routines. Use specific information (e.g., quotes, quantification, structure) to support notes wherever possible.

Example:

10:15 a.m. - Teacher asks students (n=18) to sit on the carpet.

10:17 a.m. – Teacher says, "Let's talk about the activities each group is going to do next." She describes math activities that group 1, 2 and 3 are going to do. Group 1 will be counting set of blocks by dividing them into groups of ten. Group 2 will use pattern blocks to replicate pattern models. Group 3 will work with the teacher.

10:19 a.m. – Students break into 3 groups at 3 different tables. Teacher starts by working with group working on a worksheet about mathematical places- tens and ones. One child is given an assignment that involves counting sets 1-10 and writing the number.

Things to look for:

- Evidence of alignment with earlier or later grades
  - Describe specifically any strategies used across grade levels
- Differentiated instruction
  - Did students appear to have different skills and needs? (e.g., English learners, students with varying academic skills, student with different social/emotional/behavioral needs?)
- Any focus on a particular group of students
  - For example, does the afterschool program serve a particular group or groups of students? (e.g., any student whose parent registered them, only English learners, only students who attended preschool?)
- Focus and purpose of activity
  - Did participants in a meeting discuss particular groups of students? If so, what was discussed?
  - Were teachers being trained on a particular topic?
- Use of specific curricula, resources, strategies
- Meeting discussion of successes/milestones, along with any barriers or challenges

Appendix D. Analysis Codebook

Tables D1 through D7 present the code structures used to analyze interview and extant data, grouped by parent code.

Table D1. Parent Node: Background/General

Child node	Grandchild node	Definition
Track students	Preschool program type	Were students who participated in preschool programs tracked? Provide any information on the type of program they were in. Also, include mention of the number or percentage of students who attended preschool.
Track students	Outcome	Were students who participated in preschool programs tracked? If yes, did they have better outcomes than those students who did not participate in preschool programs?
Staff mobility	None	Include information about any staff turnover at the school or in the district.
Student mobility	None	Include information about any student leaving and entering the school or the district.
Participant background	None	Include information about the background of who was interviewed (i.e., a principal with 17 years of experience in early childhood education).
Others' background	None	If other people are mentioned, indicated what their background is.
School or district characteristics	None	Any unique features, such as high English language learner (ELL) population?
Teacher credentials	None	Code any mention of teacher credentials, such as bachelor's or master's degrees or certifications.
Teacher compensation	None	Code any mention of elements such as teacher compensation, salaries, or overtime.

Table D2. Parent Node: Funding

Child node	Grandchild node	Definition
Start-up costs	None	What were the start-up costs or resources required for the program?
Ongoing costs	None	What are the ongoing costs or resources required for the program?
Program funding	None	How was the program funded (i.e., source)?
Continue or change funding	None	How does the organization decide to continue funding this program? Have there been or will there be any changes in the funding source over time?

Table D**3.** Parent Node: Evaluator

Child node	Grandchild node	Definition
Design of the evaluation	None	How is the evaluation designed to evaluate the program (i.e., study design)?
Information collected	None	What information is collected for the evaluation (i.e., teacher characteristics, student data)?
Evaluation findings	None	What are the findings from any evaluation conducted? This should be used only for evaluation findings; other outcomes should be coded in the outcomes section.

Table D4. Parent Node: Program Implementation

Child node	Grandchild node	Definition
Program characteristics	Program activities	What is the focus or various activities associated with the program?
Program characteristics	Program goals	What are the goals of the program?
Program characteristics	Theory	What theory or research informed the development of the program?
Program characteristics	Process	Was there any approval process, grants, or formal adoption that occurred to implement this program? In addition, what was needed to roll out the program, such as buy-in, or time for rollout?
Program characteristics	Who designed	Who designed the program?
Program characteristics	Program evolved	How has the program evolved since it was first implemented?
Student population	None	Any description of student population targeted by this program?
Program involvement	None	How are the interviewees involved with the program?
Fidelity	None	How is the program's implementation monitored?
Parent communication	None	Code anything that involves parent communication about the program.
Parent involvement	None	Code anything that discusses how parents are involved with the school or program.
Teacher communication	None	How is the program communicated to teachers?
P–3 alignment	Aligned assessments	How are assessments aligned across grades?
P–3 alignment	What assessments	What assessments were used?
P–3 alignment	How assessments used	How were the assessments used, code any information that discusses this even if it is outside of alignment. An example might be Kindergarten Entry Assessment (KEA).
P–3 alignment	Aligned standards	How are standards/curricula aligned across grades?
P–3 alignment	Collaboration	Code any mention of collaboration efforts between K–3 and preschool and programs and between teachers in similar grades. This code also should capture text describing how teachers know what other teachers at their school are doing.
P–3 alignment	Aligned instruction	How are instructional practices aligned across grades?

Child node	Grandchild node	Definition
Differentiation	DI approaches	Discussion of any approaches to differentiated instruction teachers use
Differentiation	Identify individual needs	How do teachers or schools identify students' individual needs?
Differentiation	Resources for DI	Are there resources, such as curricula or technology, that teachers use to facilitate their differentiated instruction?
Differentiation	Differentiation observed	Code answers to observation protocol question 2.

Table D5. Parent Node: Professional Development for Teachers

Child node	Grandchild node	Definition
Align instruction	None	Any training for teachers to align instruction or how to align curriculum across grades?
Differentiation	None	Training for teachers to conduct differentiation strategies?
Other training or professional development	None	Any other mention of teacher training or professional development?

Table D6. Parent Node: Instructional Practices

Child node	Grandchild node	Definition
Developmentally appropriate	None	Are teachers incorporating developmentally appropriate instruction into their classrooms, talking about pushing preschool up, or not letting kids sit still too long?
Behavior issues	None	Instructional support for kids with behavioral problems
Gifted children	None	Instructional support for gifted or academically advanced students
ELL	None	Instructional support for English learners
Instructional goals	None	Teachers', principals', or others' goals for instruction
Student talk	None	Are teachers encouraging students to lead conversations as opposed to teachers leading the conversations?
Other practices	None	Any other specific instructional practices that do not fit into the above codes?

Table D7. Parent Node: Other Interventions or Supports

Child node	Grandchild node	Definition
None	None	Code all information related to other interventions or supports—any other program, meeting, or service provided to families or students—in this node. This is specifically and only for the section of the interview when we ask interviewees if there are other programs or interventions at the school in the protocol. This is a specific section in the protocol, and all information from that section of the protocol should be coded here.

Table D8. Parent Node: Outcomes

Child node	Grandchild node	Definition
Program student impact	Actual impact	What impact has the program had on the student it serves? (Non-evaluation findings do not get coded here; they are coded in the evaluation section of this codebook.)
Program student impact	Desired impact	What is the desired impact of the program on the students it serves? If the interviewee discusses this against program goals previously mentioned, please continue to code here.
Program student impact	Measure student progress	How is student progress measured?
Evaluate goals	None	How are the program's goals measured?
Barriers to gains	None	What are some of the barriers to seeing student gains?
Teacher practice impact	Actual impact	What is the program's actual impact on teacher practice?
Teacher practice impact	Desired impact	What is the program's desired impact on teacher practice?
Teacher practice impact	Measure teacher impact	How is teacher impact measured?
Lessons learned	None	What information have interviewees seen or noticed from the evaluation?
Student engagement	None	Level of student engagement

Table D9. Parent Node: Success and Challenges

Child node	Grandchild node	Definition
Working well	None	What is working well with the program?
Should program continue	None	Code text referencing participants' thoughts on whether the program should continue.
Suggested improvement	None	What parts of the program need improving?
Implementation challenges	General challenges	What are the challenges faced when implementing this program?
Implementation challenges	District challenges	What are some of the challenges faced associated working with the district?
Important program aspect	None	What is the most important aspect of this program?
Program sustainability	General sustainability	Any comments about how to sustain the program?
Program sustainability	Resources	Comments about resources needed to sustain the program (i.e., hiring new staff as part of the program)?
Advice for others	None	What advice is there for other schools or districts who might one day implement a program similar to this?

Table D10. Parent Node: Other

Child node	Grandchild node	Definition
Other	None	Code any comments that do not fit into one of the established nodes.
Nonrelevant Information	None	Code information that is not relevant to the project (i.e., "thank you for taking the time today to participate in our study," "we really lucked out with some good weather here").

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