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EDUCATION POLICY | EARLY & ELEMENTARY EDUCATION POLICY

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INDISPENSABLE POLICIES & PRACTICES FOR HIGH-QUALITY PRE-K

Research & Pre-K Standards Review

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INTRODUCTION

Decades of research confirm that high-quality pre-K programming can significantly influence young children's development, providing the solid foundation needed for academic and life success. As a result, momentum has continued to grow around expanding the availability of pre-K programs across the United States, especially for children who live in underserved communities, who are dual language learners, or who have special needs. The leading questions now are less about whether high-quality pre-K education leads to positive outcomes and more about determining the elements of quality programming that yield these outcomes.

Since publicly funded pre-K programs are guided by varying intents, regulations, and funding approaches, there is little continuity in early learning. There are uneven standards for program quality, variable hours of coverage, incongruent eligibility requirements, and competing demands for accountability. As a result, practitioners, along with families and policymakers, have to sift through various approaches to find high-quality education and care for young children.

If pre-K is to gain equal footing with other grades in public education, the early childhood field will have to come to consensus on the key components fundamental to building high-quality pre-K.

This report synthesizes recent meta-analyses and other studies of pre-K programs and analyzes existing pre-K quality standards (see page 32) to arrive at a summary of policies and practices that are indispensable for high-quality teaching and learning in pre-K.

Six core themes emerge from this review:

1. Curriculum, Instruction, & Assessment
2. Family Engagement
3. Funding
4. P–3 Alignment
5. Program Improvement
6. Workforce Support

CURRICULUM, INSTRUCTION, & ASSESSMENT

In order to meet the needs of all young learners, early childhood programs have been challenged with building and sustaining comprehensive, high-quality teaching and learning environments. An effective approach involves a complex cycle of curriculum, instruction, and assessment practices. Together, each of these elements contributes to creating a strong framework for fostering each child's learning and development.[1]

High-quality curricula play a significant role in ensuring children have the opportunity to develop the skills necessary to succeed in school and beyond. Early learning curricula can vary widely, from "global" approaches that focus on multiple content areas, such as building knowledge and skills in mathematics, language, science, arts, and social studies, to those that are "developmentally focused" and provide intensive exposure to one or more content areas.[2] When high-quality curricula are effectively implemented, they can serve as a flexible framework that allows for warm and responsive interactions, individualized teaching, and comprehensive planning for experiences that support a range of learning and skill development.

Instruction that has been individualized based on children's unique needs, strengths, and interests can help to ensure that all children access, participate, and thrive in an early learning setting. Effective, high-quality curricula should provide guidance for educators in adapting instruction based on children's individual differences. Educators maximize learning for all children through individualized instruction.[3]

Finally, strategic and purposeful assessments linked to effectively implemented curricula and used to enhance instruction are another critical component of any high-quality pre-K program. Valid and reliable assessment data provide valuable information about what children know and can do and help to set learning goals. This knowledge allows educators to understand the variability within their classrooms and effectively modify instruction in order to meet children's diverse needs.[4] Ongoing child assessments offer teachers important opportunities to plan for children's individual goals, inform instruction in ways that are meaningful and targeted, and provide language for collaborating with families and other service providers on children's growth and development.[5]

By emphasizing the connection between high-quality curricula, effective instruction, and purposeful assessment, early childhood programs are able to support more efficient and effective teaching and learning for young children.

What Do We Know From Research?

Simply put, the experiences children have in the pre-K setting through interactions with teachers, other adults, and peers are the strongest predictors of developmental gains in cognitive, social, and emotional domains.[6] Research on pre-K programming indicates that the use of research-based, developmental curricula; data-driven and individualized instructional approaches; and formative assessments based on clear learning goals are essential practices that lead to positive child outcomes.[7]

Evidence-based and developmentally focused curricula that are implemented with fidelity are associated with positive child outcomes. A quality curriculum plays a crucial role in ensuring that children have the opportunity to acquire school readiness skills during pre-K. A high quality curriculum provides developmentally appropriate activities that integrate the five areas of school readiness: social and emotional development; approaches to learning; language development; cognition and knowledge; and physical well-being and motor development.[8] Recent evaluations showcase that the effective use of curricula focused on specific aspects of learning (e.g., language and literacy, math, or socio-emotional development) offers a substantial boost for children's learning.[9] Effective curricula include 1) an encouraging emotional climate, characterized by attuned and responsive teachers, and 2) teacher-child interactions that foster a language-rich environment that supports learning in specific content areas (e.g., early literacy and math), while also promoting higher-order thinking skills.[10] Additionally, studies show that children tend to make more gains when educators faithfully and accurately implement the curriculum (i.e., fidelity).[11]

Learning gains for young children are realized when instruction promotes critical thinking and problem solving, and fosters engaging, learning-focused and warm, responsive interaction.[12] Researchers found that teacher instructional interactions predicted academic and language skills: higher quality instructional interactions were positively associated with multiple measures of academic and language skills.[13] Effective instruction is grounded in the positive relationship teachers develop with each child. This manifests through reciprocal interactions characterized by back and forth conversations between teachers and students and warm and stimulating interactions.[14] Positive teacher-child relationships and positive interactions between children help build higher-order thinking skills, as well as early math and language skills.[15]

Effective instruction is also seen through individualized teaching practices.[16] Instruction that has been individualized based on children's unique needs, strengths, and interests can help to ensure all children fully access and participate in learning opportunities within a pre-K setting. Individualized instruction can be enhanced through the use of groups, centers, or daily routines.[17]

Strategic and purposeful assessments used to enhance instruction are a crucial component of high-quality early education. Assessments should encompass all needs of the child—physical, social-emotional, and academic.[18] Assessments provide valuable information about what children know and can do. This knowledge allows educators to better understand the variability within their classrooms and effectively inform practices, modify instruction to successfully meet diverse needs, and improve program quality.[19]

Ongoing collection of observational data that is driven by clear goals and objectives can be used to track progress over time and facilitate individualized support by addressing children's strengths and needs.[20] Effective assessment practices include using assessment evidence to understand and improve learning, gathering data from realistic settings and situations that reflect children's actual performance, and implementing assessments that are developmentally and individually appropriate and educationally significant.[21]

Courtesy of Allison Shelley/The Verbatim Agency for American Education: Images of Teachers and Students in Action.

A review of literature in recent meta-analyses highlights the utility of implementing formative assessments as they can be a significant and readily achievable source of improved student learning.[22] However, these meta-analyses examined more than 300 studies that appeared to address the efficacy of formative assessment in grades K–12 and found that many of the studies had severely flawed research designs, yielding uninterpretable results. Further research is needed to determine the factors influencing the efficacy of formative assessment of young children.

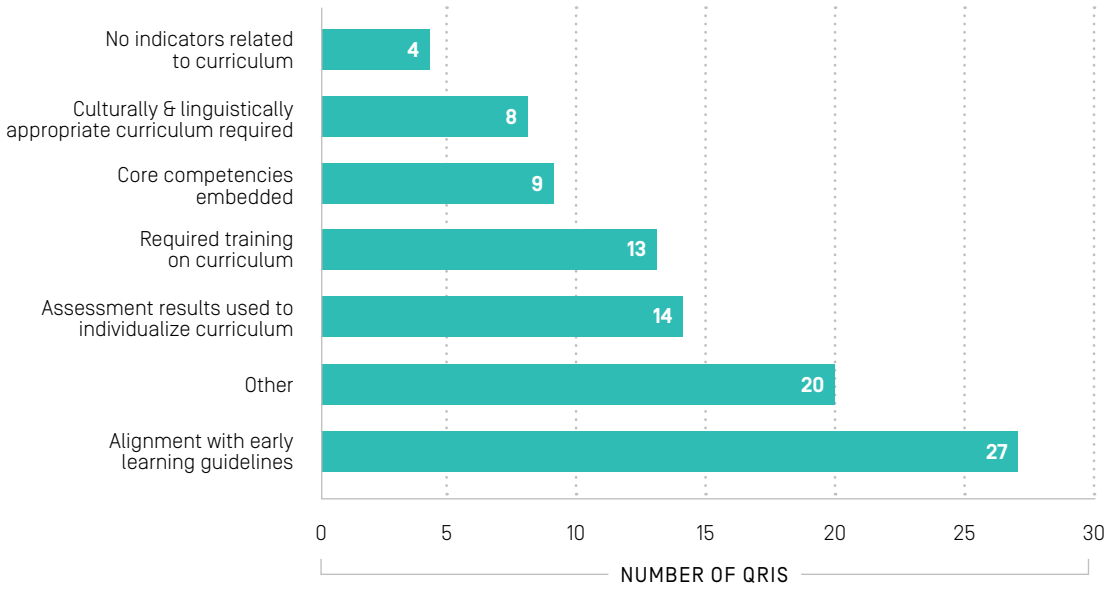
Overall, current research suggests that the combination of consistent and accurate implementation of curricula, instruction, and monitoring of progress through assessment offers the strongest hope for positive child outcomes during pre-K, as well as for improving classroom quality.[23]

How is this Reflected in Existing Pre-K Quality Standards?

Evidence suggests that intensive, developmentally-focused curricula implemented in combination with quality interactions and assessments are linked to improving classroom quality and child outcomes. In light of these benefits, requirements for curriculum, instruction, and assessment are reflected in existing pre-K quality standards impacting different types of early learning programs. Our review examined a wide range of standards guiding pre-K program quality. (See Appendix for more information.)

Requirements guiding curricula are a consistent trend across most pre-K quality standards. For example, the "Essential Elements of High-Quality Pre-K" outlined by the Gates Foundation were identified by examining common elements across exemplar pre-K programs linked to sustained

Figure 1 | Features of Curriculum & Assessment Indicators



Source: The BUILD Initiative & Child Trends, "A Catalog and Comparison of Quality Rating and Improvement Systems (QRIS) [Data System]," 2015, http://qriscompendium.org/.

academic outcomes for children in low-income families. Of these, the importance of high-quality curricula is highlighted: "All of the exemplars have thought deeply about curriculum and believe it is a powerful tool when it is chosen well (i.e., it is research-based and can show proven results), tightly coupled with their early learning standards, connected to their system of professional development, and adhered to with very high fidelity. In exemplar programs, the quality of teacher-child interactions is high and the content focus of those interactions is guided by the curriculum in use."[24]

The National Association for the Education of Young Children (NAEYC) includes "Curriculum" as one of its 10 Accreditation Program Standards. This standard examines essential characteristics of curriculum along with key areas of development to address (e.g., social-emotional, physical, language, and cognitive development).[25] The Head Start Program Performance Standards also require grantee and delegate agencies (in collaboration with parents) to implement comprehensive curricula and provide guidance for the selection and use of such curricula.[26]

Based on a review in 2015 of Quality Rating and Improvement Systems, 36 out of 40 states included indicators related to curriculum in their QRIS (see Figure 1).[27] However, some pre-K quality standards, such as those in the National Institute for Early Education Research (NIEER) *2015 State of Preschool Yearbook*, focused on ensuring that a comprehensive set of early learning standards for children was being implemented rather than including indicators specific to curricula.[28] The BUILD Initiative explains that such standards instead more generally "articulate the goals the state has adopted for children's learning," although they can be used to guide curriculum and instruction and to determine what aspects of children's learning and development should be assessed.[29]

Existing pre-K quality standards also include requirements guiding instruction. As with indicators guiding curricula, instruction was highlighted as a component of most existing pre-K standards we reviewed. For example, "teachers delivering high-quality instruction" is highlighted as a differentiator of quality pre-K programming and is included as part of the Essential Elements of High-Quality Pre-K.[30] NAEYC Accreditation Program Standards include "Teaching" as a standard, which focuses on components key to quality instruction, such as "using time, grouping, and routines to achieve learning goals;" "making learning meaningful for all children;" and "using instruction to deepen children's understanding and build their skills and knowledge."[31]

Moreover, existing pre-K quality standards link high-quality curricula and instruction. For instance, the requirements defining high-quality pre-K for Federal Preschool Development Grants include "developmentally appropriate, culturally and linguistically responsive instruction and evidence-based curricula."[32] The Head Start Program Performance Standards highlight the importance of curricula in providing the framework for high-quality instruction, as selected curricula are required to "support each child's individual pattern of development and learning" and "provide for the development of cognitive skills by encouraging each child to organize his or her experiences, to understand concepts, and to develop age appropriate literacy, numeracy, reasoning, problem solving and decision-making skills which form a foundation for school readiness and later school success."[33]

Requirements related to assessment are a common theme among existing pre-K quality standards and are linked to indicators guiding curricula and instruction. This fact suggests that existing pre-K quality standards reflect the latest research findings supporting the full cycle of curriculum, instruction, and assessment. For example, the 2015 QRIS Compendium found that some of the most common features across the 36 states which have assessment indicators as part of their QRIS are the use of child assessments to guide curriculum planning (55 percent) and the use of assessment results to individualize curriculum (35 percent).[34] (See Figure 1) NAEYC Accreditation Program Standards also set out "Assessment" as a standard, which includes indicators focused on using assessments for "adapting curriculum, individualizing teaching, and informing program development."[35]

The Gates Foundation, as part of its identified "Essential Elements," highlights this complex cycle: "while many pre-K systems conduct assessments, exemplar programs *consume* them. Consistent with cultures of ongoing self-improvement and a focus on outcomes for children, exemplars make aggressive use of assessments to inform administrators, teachers, and students about what is working well and what needs to be fixed, while identifying teachers and students who need more help to improve."[36]


Brown
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Courtesy of Allison Shelley/The Verbatim Agency for American Education: Images of Teachers and Students in Action.

FAMILY ENGAGEMENT

Quality interactions between young children and their parents and other family members have been found to lead to significant and long-term cognitive and social-emotional benefits; an extensive body of research suggests that meaningful family engagement in early learning programs supports school readiness and later academic success. Strategies for developing partnerships with families have become an increasingly important component of high-quality early learning programming. [37]

What Do We Know From Research?

Research indicates that family engagement in early care and education programs creates positive impacts.[38] Family engagement in early childhood programming has been positively linked to pre-literacy skills such as vocabulary, early writing, book knowledge, letter word recognition and letter identification tasks, story and print comprehension, and pre-math problem solving.[39] Family engagement in early care and education can include 1) home-based involvement, such as reading to a child at home; 2) school-based involvement, like volunteering in a classroom; or 3) home-school conferencing, where the family and teacher communicate about a child's progress.[40]

When families are engaged with program-related activities on a recurring basis, researchers see more pro-social child behaviors and fewer problem behaviors.[41] Parent-teacher communication is linked to children's positive engagement with others as well as an increase in adaptive, language, social, and motor skills.[42] Parents who reported high levels of involvement in the school setting had children with higher scores in mathematics skills, lower scores in problem behaviors, and higher scores in social skills.[43] The literature points to home-based involvement as having the strongest relationship with academic achievement and other classroom competencies.[44]

Positive family–program partnerships have been linked to greater academic and socio-emotional skills for all young children, including those from less-advantaged socioeconomic and diverse ethnic backgrounds.[45] Families' decisions about involvement are influenced by the programs their children attend. In a review of why families become involved, how inviting and welcoming a program is was one of the most influential factors leading to engagement.[46] Other factors include strong parent-teacher relationships, where families trust the teachers/administrators; and the feeling of a school or center as safe and empowering.[47] It is important for programs to take steps to create multiple pathways for family engagement by creating a welcoming environment, acknowledging the role of the family in child development, building trust and interacting with the community, and offering opportunities for families to learn and share their experiences.[48]

Principles for Engaging Diverse Families

- **Principle 1: Programs invite families to participate in decision making and goal setting for their children.** Programs invite families to actively take part in making decisions concerning their children's education. Teachers and families set goals for children's education and learning both at home and at school.

- **Principle 2: Teachers and programs engage families in two-way communication.** Strategies allow for both school- and family-initiated communication that is timely and continuous. Conversations focus on children's educational experience as well as the larger program. Communication takes multiple forms and reflects each family's language preference.

- **Principle 3: Programs and teachers engage families in ways that are reciprocal.** Programs and families benefit from shared resources and information. Programs invite families to share their knowledge and skills and encourage active participation in the life of the school. Teachers seek information about children's lives, families, and communities and integrate this information into their curriculum and teaching.

- **Principle 4: Programs provide learning activities outside school.** Programs use activities at home and in the community to enhance children's early learning and encourage and support families' efforts to create a learning environment beyond the program.

- **Principle 5: Programs invite families to participate in program-level decisions and advocacy efforts.** Programs invite families to help make decisions about the program itself. Programs also invite families to advocate for early childhood education in the wider community.

- **Principle 6: Programs implement a comprehensive program-level system of family engagement.** Programs institutionalize family engagement policies and practices and ensure that teachers, administrators, and other staff receive the support they need to fully engage families.

Source: National Association for the Education of Young Children. Engaging Diverse Families. Retrieved from **https://www.naeyc.org/familyengagement**

Courtesy of Allison Shelley/The Verbatim Agency for American Education: Images of Teachers and Students in Action.

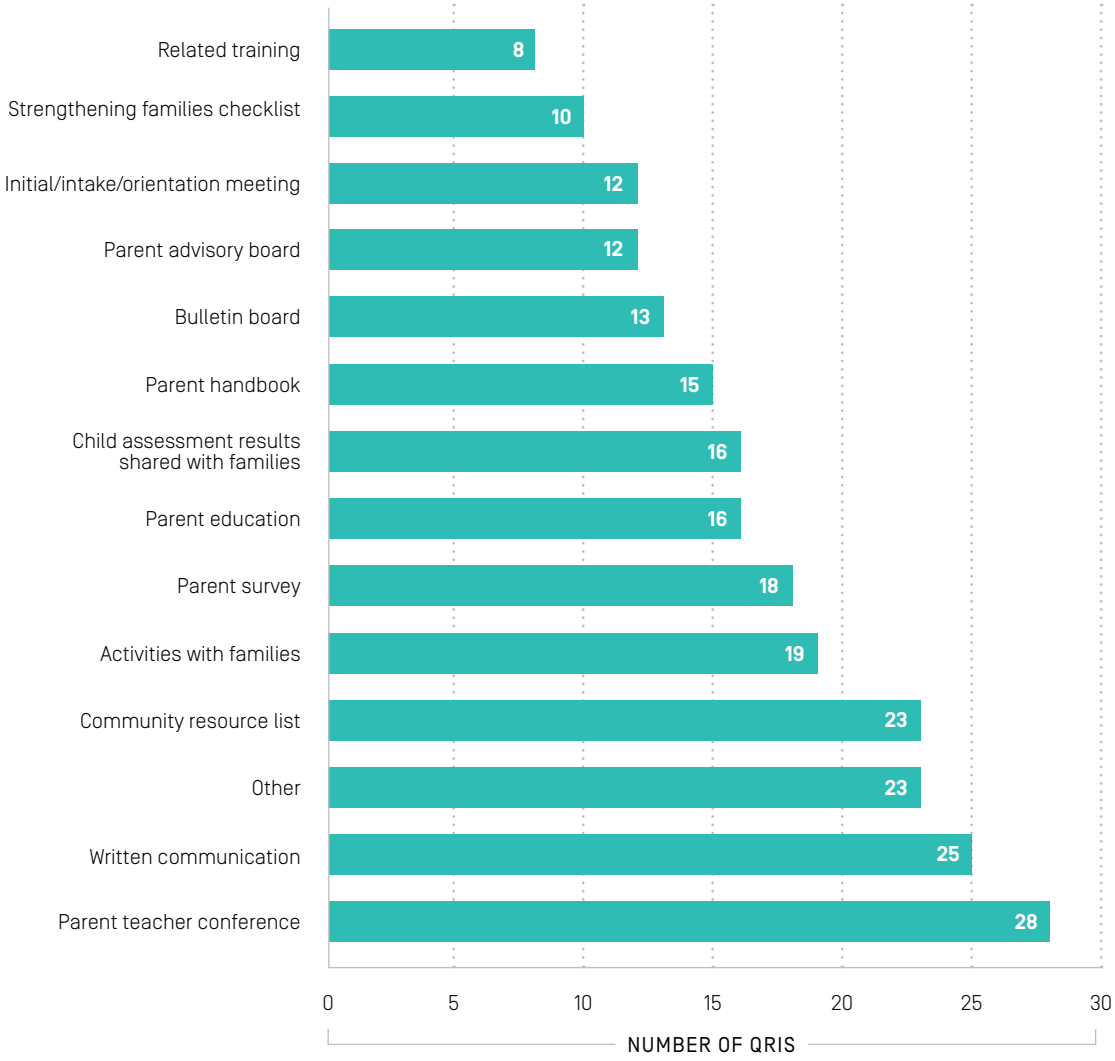
How is this Reflected in Existing Pre-K Quality Standards?

Although evidence suggests important benefits for young children when families are involved in early childhood programming, requirements for family engagement are seen to varying degrees in existing pre-K quality standards. Our review examined a wide range of standards guiding pre-K program quality and impacting different types of early learning programs. (See page 32 for more information.) We saw targets for family engagement ranging from specific guidance supporting family-program partnerships to this element not being addressed at all.

A wide range of requirements for family engagement is seen across existing pre-K quality standards. For example, support for family engagement is a foundation of the Head Start Program Performance Standards, which include specific requirements for grantee and delegate agencies supporting family partnerships, such as

- family goal setting;
- family access to community services and resources;
- parent involvement in child development and education;
- parent involvement in health, nutrition, and mental health education;
- parent involvement in transition activities;
- parent involvement in home visits; and
- parent involvement in community advocacy.[49]

Figure 2 | Features of Family Engagement



Source: The BUILD Initiative & Child Trends. (2015). A Catalog and Comparison of Quality Rating and Improvement Systems (QRIS) [Data System]. Retrieved from http://qriscompendium.org/.

The Parent, Family and Community Engagement (PFCE) Framework was developed to provide Head Start programs with guidance for adopting a systemic, integrated, and comprehensive approach to parent, family, and community engagement and for implementing relevant Head Start Program Performance Standards.[50]

The National Association for the Education of Young Children (NAEYC) includes "Families" as one of its 10 Accreditation Program Standards, indicators related to "knowing and understanding the program's families," "sharing information between staff and families," and "nurturing families as advocates for their children."[51]

Based on a recent review of Quality Rating and Improvement Systems, 36 out of 40 state QRIS included indicators related to family partnership and engagement. Of those systems, the most common feature is parent-teacher conferences (78 percent), closely followed by written communication (69 percent). Across all state QRIS, a range of family engagement features are represented; they vary in complexity from requiring the use of bulletin boards to supporting parent advisory boards. (See Figure 5, outlining the features of family engagement included in the reviewed QRIS.)[52]

While some of the existing pre-K quality standards offer strong support for family engagement, others provide little to no guidance. For example, indicators related to family engagement are not included in the *2015 State of Preschool Yearbook* by the National Institute for Early Education Research (NIEER).[53] Family engagement is also not included in the specific requirements defining high-quality pre-K for the Preschool Development Grants, although it was added as part of the selection criteria to evaluate applications. Applicant states were required to provide evidence of "an ambitious and achievable plan to ensure program quality... through activities such as building preschool programs' capacity to engage parents in decisions about their children's education and development, help families build protective factors, and help parents support their children's learning at home."[54]

The Essential Elements of High-Quality Pre-K outlined by the Gates Foundation were identified by examining common elements across exemplar pre-K programs linked to sustained academic outcomes for children in low-income families. Of these identified standards, components related to family engagement were not highlighted. However, the Gates Foundation did list other attributes that were less common and not present across all exemplars, like 1) significant outreach to parents, families, and the community, and 2) parent education.[55]

Although not identified as a key element across exemplar programs examined by the Gates Foundation, family engagement does appear as a core feature of other model early learning programs, such as the Educare model that is used to inform a network of programs across the country. Building on the features of the Head Start Program, the Educare model was developed by the Ounce of Prevention Fund to "provide children from birth to age 5 with quality early education, support families, arm teachers with effective teaching practices and share research to elevate early learning nationwide."[56] One of the core features of the Educare model is intensive family engagement to offer a "continuum of supports from an interdisciplinary team that includes classroom teachers, family support specialists, and health, mental health, and language consultants."[57]

The variation between these exemplar programs seems to mirror the trend across existing pre-K quality standards, with family engagement indicators being addressed to varying degrees. Even though research shows the benefits of comprehensive family engagement for young children, consensus does not yet seem as clear among existing pre-K program standards.

FUNDING

Over the years, increased investment in pre-K programming has been driven by a growing awareness of the impact of high-quality early learning experiences on young children's outcomes, as well as by the need for high-quality child care while families are working. This dichotomy between early education as both a workforce support and significant contributor to young children's healthy development has resulted in various public funding sources with different foci, independent of each other, such as Early Head Start, Head Start, Child Care and Development Fund, Title I of the Elementary and Secondary Education Act, state infant-toddler and pre-K programs, and local dollars.[58]

No single federal, state, or local funding source alone is enough to meet the needs of young children and families. Programs must maximize public and private sector investments by combining funds from two or more funding streams. Strategies such as "blending," "braiding," or "stacking" allow programs to integrate existing funding streams to broaden their impact.[59] Research shows that the most effective programs are those that are able to negotiate regulatory differences among funding streams and that create partnerships between funding agencies to improve the quality of early childhood settings.[60]

As states, school districts, and early childhood programs alike continue their work to increase access to high-quality pre-K, especially for children in underserved communities, they have needed to navigate a complex and disparate set of new and existing funding sources. With innovative approaches to program financing being developed, the early childhood field is steadily working to determine strategies that can effectively maximize federal, state, and local dollars to support enhanced and expanded services for young children and families.[61]

What Do We Know From Research?

Low funding levels and high costs put services that support learning and well-being out of reach for many families with young children. Early education today is a critical contributor to children's healthy development and is an important support for working families.[62] High-quality early childhood education reduces gaps in school readiness and improves learning outcomes.[63] However, the high cost of quality care represents a significant barrier for many families.[64] While state, federal, and local funding has helped to increase access for many families who would otherwise not be able to place their children in programs, funding for high-quality early education still falls short of what is needed.[65]

At the pre-K level, most large-scale publicly-funded programs primarily serve children in low-income families or those who face other risks to healthy development.[66] As a result, a significant number of children who would otherwise be eligible are not enrolled in early learning programs.[67]

To expand access to high-quality early education, increases in funding at all levels are needed. Evidence demonstrates that beneficial effects have been found for children who attended universal programs across the income spectrum, although the effects were largest for the most disadvantaged children.[68] Research also shows that higher-quality programs tend to have higher costs.[69]

To date, studies show variation in the per-child costs of early childhood education depending on program elements and level of quality, days and hours of operation, population served, and availability of comprehensive services. Costs in the U.S. vary from $3,600 to $13,400 for high quality pre-K and from $13,300 to $18,023 for full-day, full-year care with comprehensive services.[70] Going forward, it will be important to understand the true costs of quality early education as well as the state of funding streams that support and sustain high-quality early care and education.

Programs supporting early care and education have grown in recent years, resulting in multiple funding streams at the federal, state, and local levels. Funding for early care and education is generated on the federal level from a variety of programs and funding streams including a) Head Start/Early Head Start, b) direct child care subsidies, c) child care tax credits, d) Title 1, e) early childhood special education—IDEA Part C and B, f) state funded pre-K, and g) local pre-K initiatives.[71]

At the state level, funding is provided by making pre-K part of the funding formula for public schools; designating money from a dedicated revenue source such as a state lottery or sales tax on a particular product or service; establishing set-asides and state endowment funds; and reallocating unspent Temporary Assistance for Needy Families program dollars.[72]

A growing national interest in the creation of public-private partnerships such as those created through "pay for success" models, including social impact bonds, represent yet another source of support for early childhood education in states and communities.[73] While advocates, policymakers, and economists continue to explore new and existing funding mechanisms, little research exists on what constitutes the most effective or sustainable approach.

Because no single federal, state, or local funding source alone is enough to support delivery of the comprehensive, high quality services families and children need, many programs draw from multiple funding streams. These sources function independently, each with their own regulations, requirements, and funding approaches. Given the lack of coordination across federal and state funding, much of the work to adequately finance programs occurs at the local level through the blending and/or braiding of money from various sources.[74]

While this strategy has helped ensure that children and families receive the services they need, it can be costly and inefficient to keep up with multiple quality standards, monitoring systems, and funding and eligibility policies, as well as often-conflicting regulations and reporting requirements.[75] The lack of coordination across federal, state, and local levels may mean that investments are neither operating as effectively nor as efficiently as possible. As a result, there may be missed opportunities to increase the number of children who enter kindergarten with the knowledge and skills necessary for success in school and beyond.[76]

Whether the current system is revamped or new systems are put into place, there is evidence that funding early care and education benefits children and their families.

Courtesy of Allison Shelley/The Verbatim Agency for American Education: Images of Teachers and Students in Action.

How is this Reflected in Existing Pre-K Quality Standards?

As early learning programs are faced with the significant costs associated with providing high-quality pre-K, they continue to explore effective strategies to leverage available funding and resources. Support for such efforts is reflected to varying degrees within existing pre-K quality standards. We examined a wide range of standards guiding pre-K program quality. (See Appendix for more information.)

Requirements specific to leveraging available funding and resources vary across existing pre-K quality standards. For example, the Educare model was developed by the Ounce of Prevention Fund to "provide children from birth to age 5 with quality early education, support families, arm teachers with effective teaching practices and share research to elevate early learning nationwide."[77] A core component of this approach is blending funding: "Only by blending all available funding streams is Educare able to deliver the level of quality and intensity of service that is necessary to improve outcomes for vulnerable children. Head Start dollars provide core funding, while other funds support program enhancements critical to the Educare model. Together, these public and private funds support the type of early childhood education experience that research shows is necessary to produce strong outcomes for young children."[78]

The National Association for the Education of Young Children (NAEYC) includes indicators about fiscal accountability policies and practices as part of its 10 Accreditation Program Standards. The "Leadership and Management" standard reads, "the program

has resources to support the program's vision, philosophy, mission, goals, operation, and expected child outcomes. Program administrators and other program leaders actively work to generate and manage the resources needed to support a program of excellence."[79]

Although indicators related to funding are not included in the specific requirements defining high-quality pre-K for Preschool Development Grants, requirements guiding the coordination of existing funding were added as part of the selection criteria to evaluate applications. Applicant states were required to provide evidence detailing their intention to "coordinate the use of existing funds from Federal sources that support early learning and development, such as Title I of the Elementary and Secondary Education Act, part C and section 619 of part B of IDEA, subtitle VII–B of the McKinney-Vento Act, the Head Start Act, and the Child Care and Development Block Grant Act of 1990, and state, private, local, foundation, or other private funding sources for activities and services that help expand High-Quality Preschool Programs."[80]

While indicators were seen related to maximizing multiple funding sources, some standards focused on the importance of funding more generally, or made reference to aspects of fiscal management as a support for high-quality pre-K. For example, indicators related to funding are not included in the quality standards checklist in the *2015 State of Preschool Yearbook* by the National Institute for Early Education Research (NIEER). However, a significant section of the *Yearbook* examines existing funding and spending as a key component of supporting state pre-K programs across the country. The *Yearbook* ranks and includes information on state pre-K programs, such as state spending per child enrolled, state Head Start spending, local match requirements, and total state pre-K spending.[81]

Across Quality Rating and Improvement Systems, requirements related to fiscal management are seen in approximately 40 percent (16 out of 40) of states and localities with indicators for center-based programs.[82] Further, all existing statewide QRIS provide financial incentives to some extent for participating programs. These supports may include "subsidy payments at higher rates (i.e., tiered reimbursement), bonuses tied to quality levels, quality grants or merit awards for programs, loans linked to quality ratings, tax credits linked to quality ratings, provider wage initiatives, scholarships, or other professional development initiatives linked to QRIS participation."[83] This clear attention in QRIS to both the need for effective financial management and the opportunity to obtain additional resources suggests the importance of funding as an essential element of providing high-quality pre-K programming.

P–3 ALIGNMENT

While the increased investment in pre-K means more children are entering school with the skills and knowledge they need to be successful, studies find that for some children, gains may not be sustained into the elementary grades.[84] To address this issue, researchers, educators, school leaders, and policymakers are recognizing the importance of pre-K through third grade alignment.[85]

Alignment refers to the interrelated nature of education programs and practices across early learning and the early grades. It increases the consistency of children's experiences across and within grades in order to create a continuum of learning. It includes aligning standards, curricula, and assessment practices across levels/grades and incorporating them into a comprehensive plan to support development and learning across the age span.[86]

Studies on the impact of creating a more aligned approach to teaching and learning across early education and the early grades have found important benefits for children, such as improved academic achievement and higher educational attainment.[87]

Alignment of efforts across pre-K through third grade (P–3) classrooms creates the conditions for a seamless and effective pathway of learning for all children. Such efforts can "draw on child development and early education research, as well as best practices from early childhood and elementary school practitioners to ensure that schools are ready for children, as much as students are ready for schools."[88]

What Do We Know From Research?

Connecting the elements of high quality pre-K to full-day kindergarten and the early primary grades enables children to maintain and expand upon the gains they make in early childhood education.[89] Quality pre-K is linked positively to children's cognitive, emotional, and social development. However, academic gains seem to fade as children advance beyond kindergarten.[90] An educational approach that joins elements of high-quality pre-K and the early elementary grades into a cohesive system of teaching and learning helps ensure children acquire and sustain the knowledge and skills they need to be successful at every level.[91] When this P–3 approach includes a system of aligned standards, curricula, instructional practices, and assessments within and across levels, it has the potential to sustain positive outcomes and strengthen learning.[92]

The literature reveals a number of core attributes of successful P–3 programs. These include: a) promoting high-quality learning experiences grounded in research and developmental science,

geared to the age and developmental status of the child, and reflective of effective and appropriate instructional practices; b) using a multi-dimensional approach to address all aspects of child development; c) closing gaps in quality and access, including the provision of full-day kindergarten; d) supporting a professional development system for learning and collaboration across levels; and e) linking families, schools, and communities through effective transitions and family support services.[93]

Implementing a P–3 approach can be challenging. However, the potential benefits for both children and teachers make it a worthwhile endeavor. Schools and districts across the country are integrating a P–3 approach into their educational planning and programming. This work includes efforts to ensure access to full-day early learning opportunities for all children in pre-K and kindergarten:

1. support the preparation and development of P–3 teachers and administrators who are well grounded in child development and given the opportunity to engage in cross-level professional development and planning;

2. address accountability and quality assurance in schools (i.e., kindergarten entry assessments, student learning standards, third grade reading expectations, and educator effectiveness) and how these impact an aligned and coordinated P–3 continuum; and

3. create policies and structures to support and sustain a P–3 approach through coordination of disparate funding and governance systems.[94]

There is relatively little research focused on student outcomes related to implementing a P–3 approach. A study examining the impact of a state P–3 initiative on reading outcomes found that "more years of participating in the initiative raised student reading scores modestly but significantly and increased the likelihood of scoring proficient on the state reading test."[95] In another study, a district that integrated a P–3 model saw significant growth in student achievement, a narrowing of the achievement gap, and benefits for English language learners.[96]

Research also highlights professional benefits for teachers working in P–3 settings.[97] In a study examining the experiences of pre-K teachers, who often feel removed from the culture and operations in their schools, the implementation of a P–3 approach resulted in their increased engagement in the school community and feelings of being recognized as contributors to all students' success.[98] Teachers report that aligning curriculum and expectations across levels has resulted in shared accountability for common goals.[99] Teachers attribute improvements in their practice to opportunities to participate in cross-level professional development and to the addition of classroom materials that support more aligned environments and learning experiences for children across levels.[100]

P–3 alignment creates continuity for children as they transition between settings.[101] Ensuring that children make smooth transitions from one learning level to the next is a key element of an aligned P–3 approach. Studies show that children who experience positive transitions between learning levels are more likely to sustain and build on positive pre-K outcomes.[102] Effective transitions include: engagement of both children and families in the process; ongoing, multiple, and individualized opportunities to participate in transition activities; and communication and collaboration across learning levels, especially between pre-K and kindergarten teachers.[103]

In addition to the value of supporting transitions through improved communication and engagement among children, families, and educators, research also shows the importance of ensuring that transitions occur in an environment where standards, curricula, and assessments are aligned across levels. This vertical alignment increases the likelihood that children will make quick adjustments to new environments and expectations.[104] Elementary principals play a

Courtesy of Allison Shelley/The Verbatim Agency for American Education: Images of Teachers and Students in Action.

crucial role in easing transitions by supporting transition planning and serving as a catalyst for P–3 alignment. Their leadership is especially important in facilitating and implementing program coordination between early childhood programs and early elementary grades.[105]

How is this Reflected in Existing Pre-K Quality Standards?

While research suggests that P–3 alignment can lead to significant benefits for young children, support for such efforts is not as clearly reflected within existing pre-K quality standards. Our review examined a wide range of standards guiding pre-K program quality. (See Appendix for more information.) Indicators related to P–3 alignment are seen addressed to varying degrees in the standards, with particular emphasis on supporting transitions as children enter the K–12 system.

Requirements specific to P–3 alignment are relatively limited across existing pre-K quality standards. While P–3 alignment was highlighted as a core component of the Educare model, it was seen as more of a secondary factor with other pre-K quality standards. The Educare model was developed by the Ounce of Prevention Fund to "provide children from birth to age 5 with quality early education, support families, arm teachers with effective teaching practices and share research to elevate early learning nationwide." Key to this

approach is partnering with the community's educators and public school system. Each Educare school is built adjacent or close to an elementary school. This proximity underlines the program's long-term commitment to a public education system that begins at birth: "Public schools are essential partners and must be full participants in planning, financing and oversight of early childhood programs....Funds need to be blended; standards, curricula and assessment need to be mutually aligned; teacher training should be coordinated; and practices to engage families in children's learning at school, at home and in the community should be synchronized."[106]

P–3 alignment is not included in the specific requirements defining high-quality pre-K for Preschool Development Grants, although "Alignment within a Birth through Third Grade Continuum" was added as part of the selection criteria. Applicant states were required to provide evidence that they had "an ambitious and achievable plan to align High-Quality Preschool Programs supported by this grant with programs and systems that serve children from birth through third grade to, among other things, improve transitions for children across this continuum."[107]

A consistent trend across most of the existing pre-K quality standards was a focus on transitions as a bridge between early childhood and K–12 programs. Although indicators specific to P–3 alignment are limited, guidance to support children and families transitioning from pre-K into kindergarten is a common theme. For example, the Essential Elements of High-Quality Pre-K outlined by the Gates Foundation examined exemplar pre-K programs linked to sustained academic outcomes for children in low-income families. P–3 alignment was not highlighted as part of the 15 elements shared across exemplar programs. However, the Gates Foundation did mention other attributes of the exemplar programs that were less common, related to 1) high-quality kindergarten; and 2) evidence-based kindergarten transition practices.[108]

The National Association for Education of Young Children (NAEYC) include indicators related to transitioning within its 10 Accreditation Program Standards. For instance, as part of the "Families" standard, programs are required to "use established linkages with other early education programs and local elementary schools to help families prepare for and manage their children's transitions between programs."[109] Similarly, the Head Start Program Performance Standards require grantee and delegate agencies to support the transition of children and families into Head Start and from Head Start to public schools.[110]

While efforts related to Quality Rating and Improvement System are primarily focused on promoting systemic strategies to improve the quality of early childhood programs for children from birth to age 5, significant impacts on children, families, programs, and schools are all possible when QRIS and P–3 reform efforts are linked. Currently, many of the existing QRIS do not include indicators related to alignment with the early grades. However, there is growing recognition of the potential impact of aligning the two to increase quality early learning experiences and positive outcomes. According to the BUILD Initiative, together, QRIS, and P–3 alignment efforts can "create potent possibilities for providing the kind of high-quality programs and classrooms, coupled with effective teachers and supportive families and communities, that will close early achievement gaps and set students on a path to educational and lifelong success."[111]

PROGRAM IMPROVEMENT

Ongoing program evaluation and quality rating and improvement systems (QRIS) are two processes that help programs reinforce quality standards and support continuous improvement.[112]

Program evaluation can be defined as a systematic method for collecting, analyzing, and using information to answer questions about projects, policies, and programs, particularly about their effectiveness and efficiency.[113] Programs can use evaluation to assess quality and effectiveness in order to drive improvement, such as decision-making about program models and structures, and to attract participants and funding.

There are several approaches that can be used to evaluate programs, and multiple levels upon which evaluation might focus. Program *impact* or *outcome evaluation* assesses a program's success in supporting child outcomes as well as outcomes for other stakeholders such as staff and families. Impact can be analyzed by individual program or within the context of a larger initiative. It is often used when programs participate in "interventions" (i.e., professional development initiative, curriculum adoption, etc.) designed to improve program quality. *Implementation evaluation* informs program improvement in immediate ways, answering questions about what was intended in relation to services provided, and what is being done. A comprehensive approach to evaluation, which answers both outcome and implementation questions, is a critical ingredient in creating a high-quality pre-K program.[114]

In addition to program evaluation, many early learning programs participate in state QRIS. These systems evaluate program quality across a number of standards or elements, and assist the program in communicating with stakeholders. These systems also provide information to the state or locality about the types of quality supports programs might benefit from most.

Programs engage in evaluation and QRIS in order to identify what is and is not working, including identifying staff strengths and weaknesses, demonstrating to funders and stakeholders how the program is impacting children and families, and providing evidence of program effectiveness in order to garner new funds.[115]

Program evaluations and QRIS systems use multiple measures and approaches to collect data in order to inform evaluation and resulting program improvement strategies. For example, program quality assessments, which occur at the classroom level, can focus on structure (materials, schedules, and routines, etc.), process (interactions, relationships, etc.), or some combination. In the early learning field, there are several valid and reliable tools that can help program evaluators understand both the structure and process of each pre-K classroom, the overall management

and leadership of the program or school, and the specific academic and developmental outcomes of children.

Drawing from the information gleaned from program evaluation and QRIS rating, early learning programs should engage in a cycle of improvement focused on improving outcomes for children and families. Technical assistance, professional development and other supports, and resources for programs can be linked together and used by programs within a Continuous Quality Improvement (CQI) framework.

Programs can and should use opportunities within their evaluation structures to regularly review multiple data points and sources of quality evidence. This might include self-assessment, development of a team plan that focuses on improvement, and implementation of that plan while continuing the cycle of evaluation.[116]

What Do We Know From Research?

In the early learning context, program improvement includes a process of articulating the services and desired outcomes of a pre-K program. Program evaluation and participation in QRIS can help administrators make program improvement decisions, such as redirecting funds to more effective models, or tracking improvements in program quality over time.[117] Program evaluation can incorporate many methods of data collection, such as child assessment, observations of practice, measures of the environment, and surveys or interviews of teachers or parents.[118]

Program evaluation efforts help assess implementation of curricula and instruction and help gauge whether a program is effective in helping children achieve school readiness.[119] Programs can try to determine the extent to which they may not meet the expected standards of quality, and examine and implement strategies for improvement. A recent review of research on the effectiveness of a variety of early care and education programs revealed great variation in the quality and number of services that are received by the intended recipients.[120]

Quality rating and improvement systems are designed to rate individual programs. Results can help parents make decisions about enrollment and policymakers make decisions about funding. All states and territories in the U.S. either have or are working to develop a QRIS.[121] Development of each state's QRIS generally involves selecting measures of quality for indicators, categorizing indicators into different levels of quality, and establishing the process to combine indicators into composite ratings.

Similar to program-level evaluation, QRIS can assess process and structural indicators like teachers' qualifications. However, unlike program evaluation, QRIS typically do not assess child outcomes in the pursuit of understanding program quality.[122] By focusing on indicators with demonstrable links to children's learning, the validity of QRIS ratings likely will improve.[123] Currently, there is still limited research around the validity and reliability of QRIS. Several states are learning from validation work with funding from Race to the Top–Early Learning Challenge, which placed a large emphasis on QRIS, but more research is needed.

How is this Reflected in Existing Pre-K Quality Standards?

With benefits linked to program evaluation as part of a continuous quality improvement cycle for early learning programming, support for such efforts is reflected within existing pre-K quality standards. Our review examined a wide range of standards guiding pre-K program quality. (See Appendix for more information.)

Requirements for program evaluation are a consistent trend across existing pre-K quality standards. Linking evaluation to continuous quality improvement planning is also a common thread across some of the standards examined. For example, the Gates Foundation's "Essential Elements of High-Quality Pre-K" identified

Courtesy of Allison Shelley/The Verbatim Agency for American Education: Images of Teachers and Students in Action.

independent program evaluations as "essential contributors to success." The foundation described the significant role of evaluation and the connection to promoting continuous quality improvement, saying, "a systematic plan for program evaluation—including monitoring program implementation—is critical. The essential elements of high-quality early learning don't matter if implementation of these elements is poor. The exemplars recognize this and use program evaluation data to drive continuous improvement at all levels."[124]

The Educare model also includes program evaluation linked to continuous quality improvement as a core element of its approach. Each Educare school works with a local evaluation partner to collect data to contribute to both a national implementation study and to inform continuous quality improvement for the local program.[125]

The National Association for Education of Young Children (NAEYC) includes indicators related to program evaluation and continuous quality improvement within its 10 Accreditation Program Standards. As part of the "Leadership and Management" standard, programs are required to "establish goals for continuous improvement and innovation using information from the annual program evaluation."[126] Indicators supporting program evaluation and continuous quality improvement are also included as part of the Head Start Program Performance Standards and specific requirements defining high-quality pre-K for Preschool Development Grants.[127]

Program improvement is integrated into Quality Rating and Improvement Systems as a support for all participating programs, and about half of QRIS also have indicators related to continuous quality improvement as part of the rating process. Quality improvement is part of the primary purpose of QRIS, and many states provide quality improvement resources to programs. For example, states may offer technical assistance to develop and implement quality improvement plans for participating programs. States also may include indicators of continuous quality improvement processes as part of their ratings determination.[128]

As of 2015, about half of states and localities explicitly included indicators of continuous quality improvement activities in the QRIS rating process. Indicators represented a range of requirements with varying levels of specificity, such as "a written improvement plan based on evaluation tools" and "Program Improvement Plan is required and is informed by ERS/CLASS assessments, program priorities, school readiness goals, and objectives."[129] In addition to explicit standards related to quality improvement, QRIS efforts include improvement supports to participating programs such as incentive payments for improvement, free or discounted trainings, and teacher scholarships.[130]

WORKFORCE SUPPORT

Early care and education professionals dictate program quality by providing a safe and stimulating classroom environment and by interacting with children in ways that support their physical, cognitive, linguistic, and social-emotional development.[131] To do this work well, educators require specialized knowledge and skills, such as strategies for effective instruction and positive behavioral supports.[132]

Early childhood educators are given opportunities to develop their knowledge, skills, and abilities via a complex array of workforce supports that fall into three categories: 1) initial training, higher educational degree attainment, and teaching certification (i.e., pre-service); 2) ongoing professional development opportunities and incentives (i.e., in-service); and 3) competitive compensation and benefits.

Research suggests that comprehensive preparation, training, and support for teachers is linked to high program quality and positive effects on child outcomes. Adequate workforce support has therefore become a key focus for policymakers, institutions of higher education, and the early learning community as a whole.[133]

What Do We Know From Research?

A substantial body of research indicates that workforce supports matter for providing high-quality classroom environments, enhancing quality teacher-child interactions, and producing positive cognitive benefits and child outcomes.[134]

Pre-service training and qualifications can support high-quality instruction, but research is mixed on the optimal qualifications for pre-K teachers. Professional preparation of the early childhood education workforce provides a foundation for high-quality services to children and their families.[135] Pre-K educators vary in their degree attainment and in the amount of pre-service training or teaching practice they receive.[136] Studies have examined the effect of teacher education level and other teacher qualifications. A substantial body of research suggests that teachers with specialized training in early childhood and a high level of education, typically a bachelor's degree or higher, are most likely to provide high-quality instruction and supportive classroom environments.[137]

However, some studies find no differences in program quality according to teacher degree level or degree field, especially in publicly-funded pre-K programs in which the importance of teacher degrees may be limited by other contextual

factors.[138] A meta-analysis found divergent results across 32 studies. The overall average effect of a teacher with a bachelor's degree on program quality outcomes was small but positive.[139] Research is inconclusive on the relationship between teacher degree and specialization and children's school readiness outcomes.[140]

Studies find benefits of some types of in-service professional development, particularly for high-intensity supports such as coaching. In-service professional development includes a variety of supports for teacher learning such as trainings, workshops, coaching, mentoring, and peer learning communities.[141] These activities help improve curriculum implementation, support high-quality student-teacher interactions, and help lessen teacher burnout, increasing teacher retention.[142]

Studies find that coaching and mentoring can lead to higher program quality and is linked with positive child outcomes in some studies, although the quality of the coaching is important and more research is needed on the specific types of coaching that best support child learning and development.[143] Studies also suggest that training and workshops can support program quality, but training may be most effective when combined with individualized supports such as coaching.[144]

Effective professional development has several key features. These include, but are not limited to: 1) support for improvement of knowledge, skills, and competencies; 2) regular in-classroom coaching that facilitates dialogue with an expert teacher; and 3) community-oriented professional learning experiences rather than stand-alone professional activities.[145]

Competitive compensation and benefits can help to attract high-quality staff. Competitive compensation also plays a crucial role achieving quality early education.[146] Compensation has been linked to teacher morale and teaching behaviors that directly contribute to educational effectiveness.[147] Poor compensation may lead early childhood teachers to seek other jobs, contributing to high turnover rates and deterring qualified professionals from entering the field.

A seminal 1989 study found staff wages to be the most important predictor of the quality of care children received.[148] The early childhood education landscape has changed dramatically since 1989, but more recent studies have also found that early childhood professionals receiving higher compensation (wages and benefits) are more likely to a provide higher quality care, with nurturing interactions and positive developmental experiences through instruction.[149]

Educational leadership in schools and child care settings has been positively linked to program quality and improved child outcomes.[150] Yet, support for leadership development through preparation programs, professional development, or public policy has not kept pace with the need.[151] The rapid expansion of publicly funded pre-K programs and increased interest in creating more seamless systems of learning that span early learning and the early grades (P–3) has resulted in a new early learning landscape and new roles, responsibilities, and expectations for those holding leadership positions. Mixed delivery systems mean that early learning leaders today include elementary school principals, Head Start directors, and child care center administrators, among others.

Much of the current research addressing leadership development and what is needed to build capacity is focused either on child care administrators or on school principals. While the scope of responsibilities for elementary principals and center administrators is the same in many regards, different qualifications and training programs exist and currently neither address the diversity of needs and expertise in mixed delivery systems.[152]

With regard to child care administrators, level of formal education, experience, and specialized training in both early childhood education and program administration are recognized as strong

Courtesy of Allison Shelley/The Verbatim Agency for American Education: Images of Teachers and Students in Action.

predictors of overall program quality.[153] Directors who receive leadership training that includes a formal curriculum linked to mentoring or coaching were found to be able to perform their duties more effectively.[154] The creation of administrator credentials and the implementation of quality rating and improvement systems are recognized as effective strategies for supporting leadership development.[155]

The rapid expansion of school-based programs coupled with increased accountability has raised the urgency of the dialogue about the capacity of principals to serve as instructional leaders for early childhood teachers in their buildings.[156] The National Principal's Survey on Early Childhood Instructional Leadership reports that 40 percent or more of principals leading pre-K programs had no specialized education or training in early childhood. Few states have standards regarding certification in place, and only 25 percent of the respondents were certified in early childhood education. Researchers say that these findings suggest the intention to place principals with some early childhood background in schools, but standards requiring specialized training are "nearly non-existent."[157]

The literature shows the importance of workforce supports in early childhood programs. More research is needed on the optimal combination of pre-service qualifications, in-service professional development, and compensation needed to ensure high quality teaching and support child learning. Still, the research to date provides strong evidence for workforce supports as a key policy lever to expand high quality pre-K.

How is this Reflected in Existing Pre-K Quality Standards?

Early education policies and practices have been influenced by research that demonstrates the benefits of adequate preparation, training, and compensation for early childhood educators. For example, workforce supports are incorporated as a key component in pre-K quality standards impacting different types of early learning programs. Our review examined a wide range of standards guiding pre-K quality. (See Appendix for more information.) Workforce supports are addressed to varying degrees in existing standards.

Requirements guiding teacher qualifications are a consistent trend across existing pre-K quality standards. For example, benchmarks are set at a minimum of a BA for lead teachers with specialized early childhood-related training, according to standards in the *2015 State of Preschool Yearbook* by National Institute for Early Education Research (NIEER), the "Essential Elements of High-Quality Pre-K" identified by the Gates Foundation, and in requirements for Federal Preschool Development Grants.[158,159,160] The Educare model, developed by the Ounce of Prevention Fund, requires lead teachers to hold a BA degree in early childhood.[161]

This requirement is also seen in some respects with the National Association for the Education of Young Children (NAEYC) Accreditation Program Standards (all teachers must have a minimum of an AA, with at least 75 percent of teachers having a minimum of a BA in an early childhood-related field) and in the Head Start Program Performance Standards (at least 50 percent of Head Start teachers nationwide in center-based programs are required to have a BA or advanced degree in early childhood education; or a BA or advanced degree *and* coursework equivalent to a major in early childhood education, with experience teaching preschool-age children).[162]

A 2015 review of Quality Rating and Improvement Systems showed that 35 out of 40 states included requirements for teacher qualifications and education, along with 36 states that included requirements for training. (See Figure 10.) However, it is important to note that the level of required education and the content of trainings varied greatly by state.[163]

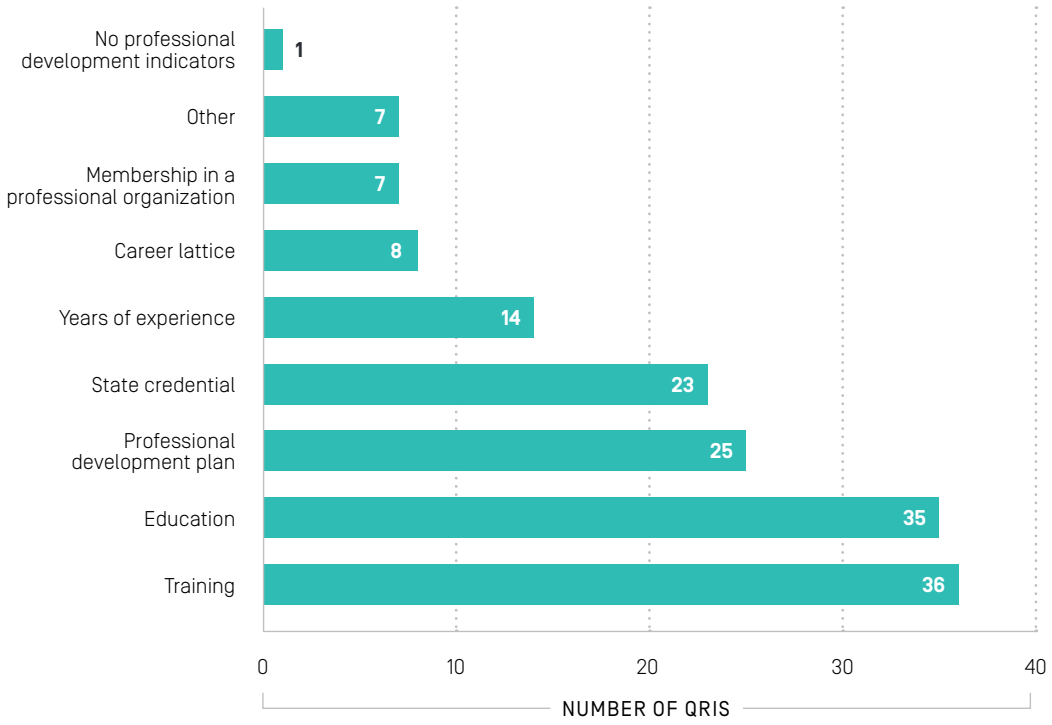
Existing pre-K quality standards also include requirements for ongoing professional development (i.e., in-service training). Professional development highlights as a key component to high-quality pre-K programming. For example, the Gates Foundation, as part of its "Essential Elements," referrs to professional development as a "cornerstone" of exemplar early learning programming, and, as reflected in the research, noted observation and one-to-one-in-classroom coaching as the most effective form.[164]

The Educare model includes staff support as a core component, with "an infrastructure that includes regular, reflective supervision, in-class coaching from Master Teachers, on-site consultation by health, mental health, and speech and language specialists, and ongoing opportunities for training and professional development."[165] NIEER's *2015 State of Preschool Yearbook* includes "at least 15 hours/year of in-service professional development and training" for teachers as a benchmark of program quality, which is similar to requirements in the Head Start Program Performance Standards (i.e., "each Head Start teacher shall attend not less than 15 clock hours of professional development per year").[166]

More generally, "high-quality professional development" was included as a broad requirement defining high-quality pre-K for Federal Preschool Development Grants.[167] Finally, the 2015 QRIS Compendium revealed that 25 states out of 40 require some form of professional development plans to guide continuous quality improvement for teachers and, as a result, pre-K programming.[168]

However, requirements related to competitive compensation and benefits are more varied among existing pre-K quality standards. Mirroring

Figure 9 | Features of Professional Development in State QRIS



Source: The BUILD Initiative & Child Trends, "A Catalog and Comparison of Quality Rating and Improvement Systems (QRIS) [Data System]," 2015, http://qriscompendium.org/.

the significance of compensation parity as seen in research, the Gates Foundation, in its "Essential Elements for High-Quality Pre-K," said that "lead teacher compensation must be set at or very near K–3 teacher compensation in a teacher's respective state."[169] The Educare model also highlights "well-compensated staff" as key to its approach, and accordingly many Educare programs "pay their staff the same as public school teachers."[170]

Requirements for the Federal Preschool Development Grant include "instructional staff salaries that are comparable to the salaries of local K–12 instructional staff."[171]

However, recent studies unfortunately continue to reflect the low wages and absence of a rational wage structure for the early childhood workforce. For example, although not part of its initial quality standards, NIEER for the first time in the *2015 State of Preschool Yearbook* included supplemental information intended to shed light on teacher compensation and benefits in states across the country. Data showed that a majority of states do not have policies supporting compensation parity for the pre-K workforce, and of the 17 states that do have policies, most applied only to lead teachers working in public school settings.[172]

Although these issues are becoming increasingly more evident through select pre-K standards, efforts are fragmented, with varying levels of existing policies supporting competitive compensation and benefits for the early childhood workforce.

Standards addressing early childhood leadership are emerging in early childhood and the K–12 sector. NAEYC's program standards and accreditation criteria include components addressing leadership and management. Criteria focus on skills and abilities necessary to function as both an operational and instructional leader. NAEYC also has developed a specific set of core competencies for program administration that address both management and early childhood education. The National Association of Elementary School Principals (NAESP) has developed a set of competencies specifically designed to address principals overseeing pre-K to third grade programs in their buildings.

Nearly all states have adopted some form of the Interstate School Leaders Licensure Consortium (ISLLC), which lays out a set of competencies focused on improving instruction. Neither the standards, nor the states (with the exception of Illinois) have included early childhood content in their licensure, accreditation, mentoring, or evaluation processes.[173] Some states are now transitioning to the Professional Standards for Educational Leadership (PSEL), which also do not appear to specifically address issues related to preschool.

STUDIES & STANDARDS REVIEWED

Figure 1 | List of Reviewed Pre-K Quality Standards

To conduct this review, we analyzed findings from more than 75 studies on indicators of quality in pre-K. Citations for those studies are available in the notes on the following pages. We also examined a range of benchmarks and standards that currently guide pre-K program quality around the country, such as requirements linked to national accreditation, federal initiatives, state-level programming, and exemplar program models. A list of those standards is below.

Standards Document	Developed By	Citation
National Quality Benchmarks in State of Preschool Reports	National Institute for Early Education Research (NIEER)	W. Steven Barnett, Allison H. Friedman-Krauss, Rebecca Gomez, Michelle Horowitz, G. G. Weisenfield, Kirsty Clarke Brown, and James H. Squires, *The State of Preschool 2015: State Preschool Yearbook* (Brunswick, NJ: National Institute for Early Education Research, 2016), http://nieer.org/sites/nieer/files/2015%20Yearbook.pdf.
15 Essential Elements of High-Quality Pre-K	Gates Foundation	Jim Minervino, *Lessons from Research and the Classroom: Implementing High-Quality Pre-K that Makes a Difference for Young Children* (Washington, DC: Bill & Melinda Gates Foundation, September 2014), https://docs.gatesfoundation.org/documents/lessons%20from%20research%20and%20the%20Classroom_September%202014.pdf.
Quality Standards for Accreditation	National Association for the Education of Young Children (NAEYC)	National Association for the Education of Young Children, "NAEYC Early Childhood Program Standards and Accreditation Criteria & Guidance for Assessment," 2015, http://www.naeyc.org/files/academy/file/AllCriteriaDocument.pdf.

Head Start Program Performance Standards	Office of Head Start	Office of Head Start, "Head Start Program Performance Standards and Other Regulations," 2015, https://eclkc.ohs.acf.hhs.gov/hslc/standards/hspps.
Preschool Development Grant Requirements	U.S. Departments of Education and Health and Human Services	U.S. Department of Education and U.S. Department of Health and Human Services, "Applications for New Awards; Preschool Development Grants–Development Grants," notice, 2014, https://www.gpo.gov/fdsys/pkg/FR-2014-08-18/pdf/2014-19426.pdf.
State Quality Rating & Improvement Systems	N/A	The Build Initiative & Child Trends, "A Catalog and Comparison of Quality Rating and Improvement Systems [QRIS] [Data System]," 2015, http://qriscompendium.org/.
Educare Model	Ounce of Prevention Fund	Council of Chief State School Officers, "Educare: Re-envisioning Education Beginning at Birth," 2010, http://www.ccsso.org/Documents/Educare-booklet-03_07_12.pdf.

Notes

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3 Terri Purcell, *Differentiating Instruction in the Preschool Classroom: Bridging Emergent Literacy Instruction and Developmentally Appropriate Practice*, (n.d), http://www.stcloudstate.edu/tpi/teachersupport/documents/differentiatinginstruction-earlychildhood.pdf.

4 Ibid.

5 Diane T. Dodge, Laura J. Colker, and Cate Heroman, *The Creative Curriculum for Preschool* (Washington, DC: Teaching Strategies, 2002).

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