

Developing High-Quality PreK Educators and Leaders

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Executive Summary

The need for high-quality early childhood education and care programs in the United States has garnered increasing public support in recent decades. However, an uneven policy and funding landscape has resulted in a lack of consistent quality throughout the field, including inequitable development opportunities for members of the workforce and leadership.

A circumscribed review of research literature, seminal reports, and policy work examining the role of higher education in PreK teacher and leader preparation over the last 15 years indicates some movement toward achieving a broad consensus on the optimal competencies and education requirements for high-quality PreK teachers and leaders. However, issues persist related to (a) equity both within the workforce and in access to higher education, (b) the relevancy of the coursework offered, and (c) progress toward alternative approaches to professional development. Keeping this landscape in mind, we offer these goals and recommended actions:

- **Equity among children and families being served:** Actions associated with reaching this goal include supporting teacher preparation programs to provide relevant coursework and training that leads to improved quality and child outcomes.
- **Equity among PreK professionals:** Actions associated with reaching this goal include exploring innovative and alternative pathways to degrees and creating equity-focused, early childhood leadership development programs.
- **Ensure that PreK and other ECE professionals are treated as equal to those in the K-12 space:** Actions associated with achieving this goal include improving the retention of quality PreK professionals through increased compensation and benefits and supporting requirements to train elementary school principals to be early childhood leaders.

Keywords: PreK, prekindergarten, early childhood, professional development, leadership, policy.

Developing High-Quality PreK Educators and Leaders

In recent decades, the importance of high-quality early childhood education and care programs in the United States has been well-established. The quality of these programs is tied closely to the quality of their teachers and leaders. In contrast to the K-12 field of education, however, early childhood education is a relatively new field of study. In addition, historically lackluster funding efforts and patchwork policy developments have created an uneven terrain of program designs and opportunities for young children and their families carried out by a dedicated yet mostly underpaid, undersupported, and undereducated workforce.

In this paper, we focus on the role of higher education in PreK teacher and leader preparation and development. Findings demonstrate that there has been movement in the field toward achieving a broad consensus on the optimal competencies and education requirements for high-quality PreK teachers and leaders. However, issues remain related to equity both within the current workforce and in access to higher education, the relevancy of the coursework offered, and progress toward alternative approaches to professional development.

Looking at the current landscape, we see the need to push for increased equity on three levels in the field of PreK teacher preparation and leadership development. Furthermore, policymakers, researchers, and funders should consider the following goals and recommended actions as related to the three levels of equity described below and detailed further within this paper:

- **Equity among children and families being served:** This is especially applicable for historically marginalized populations, including but not limited to Black, Indigenous, and People of Color (BIPOC) communities. Actions associated with reaching this goal include supporting teacher preparation programs to provide relevant coursework and training that leads to improved quality and child outcomes.
- **Equity among PreK professionals:** This includes greater equity in education and job opportunities, including leadership roles, and having a voice in shaping the future of the field. Actions associated with reaching this goal include exploring innovative and alternative pathways to degrees and creating equity-focused, early childhood leadership development programs.
- **Ensure that PreK and other ECE professionals are treated as equal to those in the K-12 space:** Actions associated with achieving this goal include improving the retention of quality PreK professionals through increased compensation and benefits and supporting requirements to train elementary school principals to be early childhood leaders.

Overview

Prekindergarten (PreK), and the early childhood education field as a whole, is a wide and varied landscape in the United States and has been since its inception. *PreK* is often used interchangeably with *preschool*, but the term *PreK* explicitly refers to programs focused on getting children ready for kindergarten, typically serving four- to five-year-olds. Most states in the U.S. operate state-funded early childhood programs, including *PreK* programs, but the ages these programs serve vary across states. While Head Start programs serve children between three and five years old, children in a *PreK* program are generally around four years old, with some states offering state-funded programs for three-year-olds (Bassok, 2012). For example, in Washington State, Early Childhood Education and Assistance Program (ECEAP) and Head Start programs serve children between three to five years old, while in Georgia and Florida children are eligible to attend state-funded *PreK* programs at age four (Georgia Department of Early Care and Learning, 2020; New York City Department of Education, 2020; Washington State Department of Children, Youth & Families, 2020). Although the focus of this paper is on *PreK*, much of the research and policy discussed here have a bearing on the broader early childhood field. While the term *PreK* is often associated with *kindergarten-readiness*, it is important to note that there is still debate, namely about the purpose of *PreK* and whether the focus should be a generally joyful experience for children that supports their broad social and emotional skills rather than their early academic skills (Ang, 2014; Metaferia et al., 2020). *PreK* includes programs that vary in terms of the length of their day, funding and program delivery models, curricula, and who is responsible for the oversight of these elements. Some states offer universal state-funded *PreK* to all four-year-olds, and, increasingly, to three-year-olds.

Many others offer state-funded programs exclusively to children from low-income families (Friedman-Krauss et al., 2019). As of 2018, 29% of four-year-olds were enrolled in state-funded *PreK* programs, 13% in special education programs, 9% in Head Start, and the remaining 59% were in privately or locally funded programs or not enrolled in any program (Friedman-Krauss et al., 2019). These state-funded *PreK* programs may be in an elementary school and considered part of the local *PreK-12* school system. Location of *PreK* within the education system varies widely by state. For example, in Hawaii, all *PreK* classrooms are in public schools, which has implications on educational requirements for *PreK* educators, access to on-going professional development opportunities, and class size (National Institute for Early Education Research [NIEER], 2018a).

Early childhood is an even broader landscape which includes both home and center-based care, and programs focused on delivering early care and education for children ages birth to five years old, before they enter kindergarten. Although the early childhood field is increasingly moving toward

continuity in the education and care of children from birth to age eight, the current study focuses on the workforce serving children from birth to age five, before they typically enter kindergarten. Rationale for this focus is rooted in three issues. First, the workforce of teachers serving children from birth to age five is generally compensated differently than elementary school teachers. For example, according to the Early Childhood Workforce Index 2018 (Whitebook et al., 2018), the median hourly wage of teachers serving children under age 5 ranged from \$13.94 to \$22.54, which is much lower than kindergarten or elementary teachers with the median hourly wage ranging from \$31.29 and \$32.98. Second, the credentialing requirements for the preschool and early care workforce are inconsistent across states (see Table 1; Institute of Medicine [IOM] & National Research Council [NRC], 2015) resulting in navigational challenges for the preschool and early care workforce on the path to credentialing. Third, most studies included in our final review have been conducted with children younger than 5 to provide more in-depth suggestions based on the characteristics and needs of the workforce that serves children in this age range.

Over the last 15 years, many efforts have been undertaken to advance the early childhood education field in the United States. Although many pressing issues remain, one of the main accomplishments of the field has been to capitalize on the evidence that highlights the impact of the early childhood years on a child's long-term development and academic success. Positive outcomes for children who attend high-quality *PreK* include being more likely to succeed in kindergarten and graduate from high school, and reduced odds of being placed in special education, repeating a grade, or committing a crime (Lieberman, 2017). These research findings provide broad support for the critical role played by early childhood education in supporting children's optimal development and enhancing future academic and social outcomes (Camilli et al., 2010). However, research indicates that these positive impacts are dependent on high-quality programming (Meloy et al., 2019). Furthermore, the education and training of teachers are important indicators of program quality (Connors-Tadros & Horwitz, 2014; IOM & NRC, 2015; Son et al., 2013).

The early childhood workforce includes approximately two million adults who provide care and education to approximately 10 million children ages birth to five across the United States. These professionals are mostly women, and about 40 percent are BIPOC people (Whitebook et al., 2018). Those in lead teacher and leadership positions are more likely to be White and monolingual. More than 10 percent of *PreK* teachers are immigrants, and around 25% speak a language other than English (Whitebook et al., 2018). According to data from the National Survey of Early Care and Education (2013), a majority (53%) of center-based and almost one-third (30%) of home-based teachers and caregivers reported having college degrees; almost one-third of these individuals reported having a bachelor, graduate, or professional degree. The median hourly wage

for center-based professionals working with children ages birth to three was \$9.30; in contrast, the median hourly wages of center-based professionals working with children ages three to five was \$11.90 (National Academies of Sciences, Engineering, and Medicine [NASEM], 2018).

On average, PreK teachers in public school settings with bachelor's degrees earn three-quarters of the compensation of comparably educated women and less than half that of comparably educated men in the larger U.S. labor force (Whitebook et al., 2014). Furthermore, according to the *Early Childhood Workforce Index* (Center for the Study of Child Care Employment [CSCCE], 2019), around 50% of early childhood care workers and preschool teachers received some sort of subsidized assistance, such as food stamps. This allocation of assistance is twice that provided to the general U.S. labor force (Whitebook et al., 2014; Whitebook et al., 2018).

Although assistant teachers are fundamental to the functioning of the classroom, scant research explores the role of assistant teachers. Over the years, the role of the assistant teacher has grown from doing managerial tasks to supporting the lead teacher in classroom instruction. Some research indicates that assistant teachers do have an impact on the experiences of the children. For instance, according to Garner et al. (2015), lead teachers and assistant teachers evenly contribute to the classroom environment. Yet only 15 states require assistant teachers to have at least a Child Development Associate (CDA) credential or equivalent across all settings (Whitebook et al., 2018).

Although most states have established core competencies expected of early educators, there are no minimum requirements built for professionals working with younger children, resulting in the misconception that teaching in early childhood settings is easy, low-skilled work (Whitebook & Austin, 2015). While many programs now require lead teachers to obtain a bachelor's degree, the requirements to qualify for professional early childhood education practice across states remain inconsistent (IOM & NRC, 2015).

Workforce education and training are connected to developmentally appropriate teaching and improved child outcomes (Early et al., 2006; Goble & Horm, 2010; Goble et al., 2015; Harms et al., 2014; IOM & NRC, 2015; Pianta et al., 2005; Son et al., 2013). However, workforce training, requirements, and compensation vary widely. Given these inconsistencies, this paper will describe disparities around access to educational opportunities and the relevance of training and coursework in early childhood education preparation programs for PreK teachers and leaders.

Paper Focus and Terminology

In our effort to examine the state of the professional development of PreK teachers, we looked at how the professional development of PreK teachers and leaders aligns with experts' recommendations for best practices. We anchored our assessment of best practices to Recommendations 4 and 5 of the consensus document *Transforming the Workforce* (IOM & NRC, 2015, pp. 522–529).

Key terms and definitions used in this paper are also based on the definitions provided in *Transforming the Workforce* (IOM & NRC, 2015) and include:

PreK Teachers: educators who work in preschools, Head Start centers, or childcare settings that work with children ages four to five.

PreK Leaders: center directors, PreK-5 principals, and administrators of early childhood learning care and education settings who work with children ages four to five.

As we endeavor to illustrate in this paper, prekindergarten is a complex and dynamic field littered with inconsistencies. This paper is intended to provide a landscape review of this complex arena. Many topics briefly discussed in this work merit further in-depth, nuanced discussion beyond the scope of this paper.

Defining Quality

In this paper, the notion of *quality* in PreK has primarily been shaped by the *Transforming the Workforce* report (IOM & NRC, 2015), and we define *high-quality PreK educators and leaders* as professionals who have the foundational knowledge and core competencies needed to fulfill their respective professional roles in an ethical and effective manner. However, we want to acknowledge that there are diverse perspectives on what is or should be considered *quality* or *high-quality*. Furthermore, multiple systemic and contextual factors contribute to the achievement of quality (IOM & NRC, 2015), which we discuss in detail in this paper. As the early childhood field continues to move toward a consensus, we hope that the concept of quality or high-quality expands to include voices that have been marginalized in the field, in particular those of BIPOC communities.

The National Institute for Early Education Research (NIEER) tracks policy and trends, including quality standards, related to publicly funded preschool and PreK programs across the country, and provides benchmarks for high-quality PreK. The Institute's most recent benchmarks include comprehensive early learning and development standards; lead teachers having a bachelor's degree and specialized training in early childhood education and child development; assistant teachers having a CDA or equivalent; 15 hours a year of professional development and coaching for staff; maximum class sizes of 20 children; staff-to-child ratio of 1:10 or

lower; vision, hearing, and health screenings and referrals; curriculum supports; and continuous quality improvement systems (NIEER, 2018a).

In recent decades, Quality Rating and Improvement Systems (QRIS) have become a standard measure of quality. According to the National Center on Early Childhood Quality Assurance (NCECQA, n.d.), "A QRIS is a systematic approach to assess, improve, and communicate the level of quality in early and school-age care and education programs" ("What is QRIS?" section). Most of these systems focus on structural measures as criteria for quality, including teacher education level. At present, results from research on the link between QRIS rating levels and increased quality have been mixed (Elicker et al., 2013; Elicker et al., 2007; Jeon et al., 2019; Karoly, 2014; Karoly et al., 2016; Lahti et al., 2014; Zellman & Perlman, 2008). However, some research has indicated that higher QRIS ratings are associated with positive outcomes, in particular developmental domains (Hestenes et al., 2015; Jeon & Buettner, 2015; Joseph & Soderberg, 2015; Karoly et al., 2016; Thornburg et al., 2009; Tout et al., 2011; Sabol & Pianta, 2015). These inconsistent results may be due to a high level of variations among states' QRIS systems and approaches to evaluation (Elicker & Ruprecht, 2019; Kirby et al., 2015), and limitations within the research, such as relatively small sample sizes of children and varying dosages of participation (Elicker et al., 2011). It remains possible that QRIS contribute to increased program quality and child outcomes (Karoly et al., 2016). The field would benefit from further research on the relationship between QRIS ratings and child outcomes.

Methods

The most current and cutting edge work in early childhood education does not only appear in the peer-reviewed literature, but in comprehensive early childhood reports, policy briefs, and presentations at relevant conferences. As such, our literature review considered peer-reviewed journal articles from the past 20 years as well as five seminal, early childhood research reports about the current state of the early childhood education field.

Accessing relevant literature involved a thorough search of three databases (EBSCO, ERIC, and PsychInfo). Keywords used in the search process included but were not limited to leadership development, professional development, teacher preparation, credentials, early childhood, and early learning. After eliminating duplicates, our initial search yielded 1,589 articles. Next, we conducted two rounds of article selection based on inclusion and exclusion criteria. For the initial article review, our inclusion criteria consisted of: (a) studies published in peer-reviewed journals 2000 through 2020; (b) studies of children ages birth to five; and (c) studies that took places in various care settings including center-based care, home-based care, and school-based programs in the United States. The initial exclusion criteria included: (a) studies that focused on kindergarten and beyond; (b) studies that conducted outside of the United States; and (c) studies not published in a peer-reviewed journal, with the exception of seminal research briefs from reputable research centers. Application of these inclusion and exclusion criteria yielded 175 sources.

Next, a second round of article review commenced based on additional exclusion criteria: (a) studies that focused on preparing special educators; (b) studies that focused on infants and toddlers, except for a few articles selected to provide context on a growing edge for the field; (c) studies that reported redundant data; and (d) studies that looked at ongoing professional development of in-service teachers.

There are two broad categories of professional preparation in the early childhood field, *pre-service* and *in-service*. Pre-service training is the education and professional development that occur prior to ECE professionals entering the workforce. In-service training refers to ongoing professional development once the professional is already working in an ECE program (Gomez et al., 2015). In-service training is a critical component for growing and maintaining a high-quality PreK workforce. However, because in-service refers to such a broad range of activities for individuals throughout their career, we chose not to include it as a search term. Instead, we focus our discussion primarily on *pre-service* endeavors who develop new and emerging professionals.

Special educators are an important part of the ECE workforce, but we have excluded them from this search because they have their own distinct educational and training requirements. While not a focus of this literature search, special education and ongoing professional development in the PreK space are both important topics in the ECE field and worthy of further exploration. Some scholars in the field have noted that because some individuals may enter the field with little or no pre-service training, providing quality in-service professional development is crucial (Ackerman, 2017; Gomez et al., 2015). Applying our second round of exclusion criteria yielded 61 peer-reviewed sources. Additionally, we conducted a comprehensive search of each issue of the *Journal of Early Childhood Teacher Education* from 2010 to 2019. This yielded an additional 34 relevant sources, resulting in a total of 95 peer-reviewed sources being included in our review.

Analysis and Research Questions

The following areas of inquiry guided us as we identified relevant themes in the literature in our research:

- Needs, challenges, and opportunities in developing high-quality PreK educators and leaders;
- Lessons learned in the last 10 to 15 years and their impact on the field;
- Key edges or most pressing questions; and
- Salient ongoing tensions or disagreements in the field.

Historical Context

This brief history provides context for the present state of inequitable access to high-quality PreK in the United States, and for how early education today compares with K-12. The current disparities and inequities in the field are embedded in the history of early childhood education in the United States, warranting an examination of the roots of these challenges and disparities. The devaluation of the early childhood workforce is linked to an association between working with young children and domestic labor. Domestic work has long lacked respect because of its association with unpaid household work historically performed by women, as well as its undesirable association in inequitable class and race-based hierarchy systems (Nadasen & Williams, 2010; Vogtman, 2017).

Official program offerings and related teacher preparation programs have been disparate and inequitable from the earliest history of the United States, when White families relied upon enslaved Black women to care for their young children (Michel, 1999). Yet a lack of options has defined the history of BIPOC and the early childhood field in America. BIPOC entered domestic service, including caring for young White children, because an inequitable system offered few alternative employment opportunities (Vogtman, 2017). In an ironic twist, a lack of opportunity for their own young children to attend programs and schools drove these women to create their own educational programming (Cahan, 1989).

Problematic social and racial hierarchies continued to be present as early childhood programs were established early in the nineteenth century. Day nurseries were established to provide care for children from low-income families, and nursery schools provided early education to children from middle-class and wealthier families (Cahan, 1989; Kamerman & Gatenio-Gabel, 2007). Throughout this history, conflicting notions about the role of women of different social classes persisted. Kamerman and Gatenio-Gabel (2007) describe the belief that low-income women should work and middle-class women should stay at home. Ideas about the potential benefits and risks of caring for and educating young children, especially any negative effects on the family unit, were also prevalent (Cahan, 1989).

Earliest Years: The Late Nineteenth to the Early Twentieth Century

In the nineteenth century, depending on what part of the country one was in, the women who served as domestic workers, including childcare providers, were primarily Irish immigrants (North), Asian or Latinx (West), or African American (South) (Nadasen & Williams, 2010). Domestic work was one of the few, if not the only, employment options open to these women (Nadasen & Williams, 2010; Vogtman, 2017). Day nurseries, primarily custodial programs for children of low-income families, became an interest

of wealthy philanthropists. Mink and O'Connor (2004) describe such a scenario in which Josephine Jewell Dodge, a prominent philanthropist and anti-suffrage activist, began her support of early childhood education and care by sponsoring the Virginia Day Nursery in New York City's Lower East Side. This nursery school provided childcare to working mothers. She founded the Jewell Day Nursery in 1888, to instill middle-class American values in children from immigrant and low-income families. To demonstrate the need for childcare and the approved methods of caring for young children, Dodge established a Model Day Nursery at the 1893 World's Columbian Exhibition in Chicago (Goodier, 2013). In 1898, she founded the National Federation of Day Nurseries (NFDN), the first national organization devoted to early childhood education (Goodier, 2013). These early day nurseries comprised part of a larger social welfare system designed to benefit White people. White people had founded many early day nurseries in large Northeastern cities. Some day nurseries in New York City would accept Black children, but only in very limited numbers (Cahan, 1989). In response, Black women began to organize in Black women's clubs to serve the needs of young children in their own communities (Cahan, 1989). In 1903, a committee of Black women in New York City opened the Hope Day Nursery, the first day nursery for Black children (Cahan, 1989).

During this same period, other wealthy reformers and activists were interested in the educational potential of early childhood programs. In fact, the movement in the United Kingdom had inspired the nursery school movement in the United States (IOM & NRC, 2015). In the United States, however, nursery schools were intended for children of the wealthy and middle-class families, not those from low-income families and marginalized communities (Cahan, 1989).

In 1916, Lucy Sprague Mitchell founded the Bank Street College of Education as the Bureau of Educational Experiments (BEE) in New York City (Bank Street College of Education, n.d.). Two years later, in 1918, Bureau of Educational Experiments opened a nursery school. In 1930, the school moved to a new location on Bank Street and established the Cooperative School for Student Teachers, along with eight experimental schools. The goal of the school was to develop a teacher education program that prepared teachers to support the development of the whole child (Bank Street College of Education, n.d.).

In the late 1920s, a separate child development movement led by Black women also connected to institutions of higher learning. In the years 1929 and 1930, nursery schools for Black children opened at Hampton Institute and Spelman College (Cahan, 1989). In 1931, Flemmie Kittrell, the first Black person to receive a doctorate in early childhood education, opened a laboratory nursery school associated with Bennett College (Cahan, 1989; Cunningham & Osborn, 1979).

White middle-class interest in aiding families from low-income backgrounds began to shift away from day nurseries to nursery schools with an educational component (Michel, 1999). In 1926, early childhood educators renamed the National Association for the Education of Young Children (NAEYC) as the National Association for Nursery Education (NANE) (Michel, 1999). In 1929, in keeping with their efforts to impose educational standards into early education, NANE published *Minimum Essentials for Nursery Education*. During the Great Depression, the Works Progress Administration (WPA) started Emergency Nursery Schools (ENS) to offer jobs to unemployed teachers. Unlike earlier nursery schools for the middle class, the government fully subsidized these schools—families attended for free (Michel, 1999). Leaders of the nursery school movement recommended that nursery school teachers have four years of college (IOM & NRC, 2015).

World War II through the 1960s

As women entered the workforce during World War II, the need for childcare reached unprecedented levels. Still, the government was reluctant to authorize it because of the prevailing sentiment at the time that mothers of young children should be at home (Kamerma & Gatenio-Gabel, 2007). Still, in 1943, Congress authorized the Lanham Act to subsidize childcare for the war effort (Kamerma & Gatenio-Gabel, 2007). The Lanham Act supported the only universal, comprehensive childcare program offered by the U.S. government, and it ended in 1946 when the government no longer sought women to participate in the workforce (Kamerma & Gatenio-Gabel, 2007). Recent analysis has found that this program had positive effects for participating children that lasted into adulthood (Herbst, 2017). The following decade, Congress introduced the childcare tax deduction in 1954. In this same year, the landmark Supreme Court ruling *Brown vs. Board of Education of Topeka, Kansas* desegregated U.S. schools in an effort to bring about greater racial diversity in education. However, racial inequities persisted, many Black teachers and principals lost their positions, and Black students lost these educators as role models (Lash & Ratcliffe, 2014).

In the 1960s, new research on child development led to increased interest in early childhood education, particularly its potential to aid children from low-income families (Cahan, 1989). In 1962, the Perry Preschool Project, an influential longitudinal study, began in Ypsilanti, Michigan. From 1962 to 1967, Dr. David Weikart studied the impact of high-quality preschool education on a group of 123 African American children. The curriculum was anchored in child development theory and research, and, as a part of offering a high-quality program, all teachers were required to have a bachelor's degree. Based on findings generated from the Perry Preschool Project, Dr. Weikart went on to found the HighScope method of study and the HighScope Educational Research Foundation (Heckman et al., 2010; HighScope, n.d.). Gains in academic achievement and economic development were found to be consistently higher among

participants when measured at age 27, and a follow-up at age 40. Associated with improved home environments, the program has even demonstrated intergenerational effects for children of Perry Preschool participants; these families live in similar or neighborhoods with diminished access to resources than the control families (Heckman & Karapakula, 2019).

Head Start was founded in 1965 as part of President Lyndon B. Johnson's War on Poverty. Head Start was designed to meet the holistic needs of preschool children—namely from low-income demographics and their families—in culturally responsive ways while meaningfully partnering with the communities it serves (Cahan, 1989). Launched in 1965 as an eight-week summer program, the government decided to expand the program into the fall, serving 560,000 children, including 34 American Indian and Alaskan Native programs (Cahan, 1989; IOM & NRC, 2015). Many of the early instructors were teachers who were off for the summer, but there were no educational or training requirements (IOM & NRC, 2015). As part of this goal of community-building, the Head Start manual from 1967 recommended giving priority for employment to adults of the same ethnic background as the children they would be teaching; within that group, priority was to be given to parents and local community members (United States Economic Opportunity Office, 1967).

Additional childcare funding, on a national level, was enacted in the early 1960s. In 1962 and 1965 Congress passed two welfare reform bills which linked federal support for childcare to policies designed to encourage low-income women to enter training programs or take employment outside the home.

In 1965, both Black women and the federal government partnered to establish the Child Development Group of Mississippi (CDGM) as a Head Start program. Grassroots civil rights groups influenced the establishment of the CDGM, with a commitment to serve adults in low-income communities by providing jobs and leadership opportunities, in addition to providing childcare. The CDGM relied primarily on families to implement programs for their children, with support from central staff. CDMG programs employed hundreds of Black parents from low-income backgrounds (Sanders, 2016). White segregationist politicians, particularly Senator John Cornelius Stennis, were threatened by the success of the CDGM and its ties to Black activism eventually leading the program to lose its federal political support (Sanders, 2016). In October 1967, CDGM's Federal Head Start funding was cut off after two years (Sanders, 2016).

The 1970s to the 2000s

Efforts to support childcare through national initiatives continued through the 1970s and 1980s. Between 1969 to 1971, a coalition worked to pass universal childcare policy but President Nixon vetoed the Comprehensive Child Development Act of 1971 (IOM & NRC, 2015). The Child Development Associate (CDA) National Credentialing Program was founded in 1973, becoming the first nationally recognized early childhood education (ECE) credential, accepted in all states and U.S. territories (IOM & NRC, 2015). In 1985, a new nonprofit organization, the Council for Professional Recognition, was created to administer the CDA Credential (Council for Professional Recognition, 2019). As of 2015, more than 300,000 educators have earned a CDA credential (IOM & NRC, 2015).

The Child Care and Development Block Grant Act of 1990 authorized funding for the Child Care and Development Block Grant (CCDBG), the primary federal grant program providing families with financial assistance for childcare and funding childcare quality initiatives (Child Care Aware of America, 2013; U.S. Department of Health & Human Services, n.d.). The CCDBG Act was reauthorized in November 2014. Congress approved an increase in funding for the CCDBG in 2018, followed by additional funding increases in 2019 and 2020. The CCDF mandates teacher training requirements for programs that accept CCDF family assistance vouchers. Currently, states are required to spend 7% of their CCDF allocation on improving program quality, including workforce development (Child Care Aware of America, 2013; U.S. Department of Health & Human Services, n.d.).

In 1994, Early Head Start was established to serve pregnant mothers and children from birth to age three. The first Early Head Start grants were awarded in 1995 (Office of Head Start, 2019). In its earliest years, no early education training was required of Head Start teachers (IOM & NRC, 2015). In 1997–1998, as part of the Head Start reauthorization, it was mandated that by the end of 2003, the majority of Head Start classrooms would have one teacher with at least an associate's degree and that all other classrooms have a teacher with at least a CDA or some form of state certification in early childhood education (H.R.4241, 1997–1998). In 2007, the Improving Head Start for School Readiness Act (H.R.1429, 2007) mandated that at least half of Head Start lead teachers obtain a bachelor's degree. Statistics show that half of all Head Start teachers held bachelor degrees with training in early childhood education by Fall 2013. By 2017, more than 70% of Head Start teachers across the country had obtained at least a bachelor's degree. (NAEYC, n.d.).

This is a cumulative average for all Head Start teachers nationwide and is not reflective of each program. Patterns in the data suggest that there are regions of the U.S. (primarily in the Southeast) that have lower degree attainment among Head Start teachers (NAEYC, n.d.).

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA), requires that low-income women with children age three months and older to work within two years of claiming assistance. This means that the majority of low-income single mothers are expected to work while their children are young. This has led to increased Congressional recognition of the need for childcare, but not for consistent childcare quality; the persistent tension between availability and quality persists (Kamerman & Gatenio-Gabel, 2007).

In the late 1990s, states began to develop Quality Rating and Improvement Systems (QRIS) as a way for states to direct higher subsidy reimbursement rates to childcare programs with higher-rated quality. Oklahoma implemented the first statewide QRIS in 1998 (NCECQA, n.d.). Statewide QRIS is now in 38 states (QRIS National Learning Network, 2019). In 2012, the Tribal Early Learning Initiative (TELI) began as a partnership between the Administration for Children and Families (ACF) and American Indian tribal entities. The purposes of the program are to: “support tribes to coordinate tribal early learning and development programs, create and support seamless, high-quality early-childhood systems, raise the quality of services to children and families across the pregnancy-to-kindergarten-entry continuum, identify and break down barriers to collaboration and systems improvement” (Tribal Early Learning Initiative, n.d.).

Current Context

The history of the early childhood field in the United States is the history of a two-tiered system (Cahan, 1989). These inconsistencies and inequalities continue to play out in the field today. Programs serving more middle- and upper-class families, such as experimental lab schools, have long held policies and practices linked to teacher education. Yet, programs serving children from low-income families such as State PreK, Head Start, and general childcare have lagged in policies requiring formal education and supporting education attainment for their providers (Connors-Tadros & Horwitz, 2014). Overall, there are myriad requirements, credentials, and pathways in the field (see Appendix A). Across states, licensing requirements and credentials for the ECE workforce vary widely, including whether PreK teachers are required to be licensed by the state (Connors-Tadros & Horwitz, 2014).

Many early childhood programs remain racially segregated today. According to one nationwide study using data from 2011 to 2012, racial segregation in early childhood programs is even more pronounced than in K-12 schools (Fram & Kim, 2012). Today, early childhood programs with public funding typically serve children from low-income families. In contrast, private programs are more likely to serve children from a mix of backgrounds, and the focus is more on the needs of the child than on supporting their family (Kamerman & Gatenio-Gabel, 2007).

Although some states offer universal state-funded PreK, most offer only state-funded programs to children from low-income families (Friedman-Krauss et al., 2019).

Summary of the Historical Context

This brief history of early education in the United States provides meaningful context for the present state of inequitable access to high-quality PreK and for how early education today compares with K-12 (see Table 1). Although elements of Table 1 break down requirements for center-based as compared to state-funded PreK and home-based programs, it should be noted that because of the complexity of funding streams, public PreK funding and public PreK certification requirements apply to some center-based programs.

Table 1
K-12 as Compared to Early Childhood Educators

	K-12	ECE (Early Childhood Education)
Licensure/Certification	<p>All states require teachers to pass a teacher licensure or certification exam for the particular grade ranges they teach via traditional or alternative programs that are approved by the state (e.g., preschool through Grade 3 [P-3] certification) (IOM & NRC, 2015, Table 10-1).</p> <p>Licensure or certification is mandatory for all public school teachers. Teachers can be certified through state recognized programs. Licensure may not be necessary for private or charter school teachers (IOM & NRC, 2015, Table 10-1).</p>	<p>Teacher qualifications vary based on program types (Whitebook et al., 2018, Table 4.2).</p> <p>State-funded PreK programs: Fifteen states require assistant teachers to have a CDA credential.</p> <p>In many states, certification is not a component of degree completion. Most of the state-funded PreK programs require certification, licensure, or endorsement (IOM & NRC, 2015, Table 10-1).</p> <p>Center-based program: Only four states (including the District of Columbia) require assistant teachers to have a CDA credential.</p> <p>Home-based settings: Two states (including the District of Columbia) require assistants to have a CDA credential.</p>
Qualifications	<p>All public school teachers are required to have a bachelor's degree as well as provisional or actual certification (IOM & NRC, 2015, Table 10-1).</p> <p>The completion of an approved degree or program represents the requirement of certification.</p> <p>Education requirements vary little across states (IOM & NRC, 2015, Table 10-1).</p>	<p>Teacher certification varies based on program type. Presently, 28 states require lead teachers in public PreK programs to have a bachelor's degree.</p> <p>None of the states require lead teachers to have a bachelor's degree in center-based or home-based settings (NIEER, 2018a).</p>

	K-12	ECE (Early Childhood Education)
Administration	The public education system administers K-12 education (IOM & NRC, 2015).	Multiple agencies manage early childhood (PreK) programs (IOM & NRC, 2015).
Funding	K-12 education is funded by federal, state, and local governments (IOM & NRC, 2015).	Early childhood programs are funded by federal, state, and local government sources as well as non-governmental organizations (e.g., philanthropic organizations) (IOM & NRC, 2015).

Note: Adapted from *Transforming the Workforce for Children Birth Through Age 8: A Unifying Foundation* (IOM & NRC, 2015).

Developing Educators

Moving toward a Consensus in the Field

Competencies of Early Childhood Educators

Currently, early childhood or PreK learning standards are established by different entities and agencies, under state or federal oversight. However, all standards or core competencies share commonalities, as identified by the report *Transforming the Workforce* (IOM & NRC, 2015), including: (a) knowledge of subject matter and early childhood learning principles and practices; (b) ability to engage in these practices that support children’s learning; (c) ability to work with diverse populations of children; (d) ability to develop and use partnerships with families, coworkers, and other early childhood professionals; and (e) continuous improvement of the quality of teaching practice through professional development (IOM & NRC, 2015, p. 328). Although the *Transforming the Workforce* report has identified these common competencies, there is still a need for agencies across states to unify and align these competencies to facilitate access to educational training and solidify the early childhood education workforce.

Need for Standardized Education and Credential Requirements

Ongoing discussions continue about the qualification requirements for PreK teachers since specialized educational training can help PreK educators to learn and apply established education standards and competencies (Pianta et al., 2005; Vu et al., 2008; Williford et al., 2017). Based on the recent seminal early childhood reports included in this paper, there seems to be agreement that PreK teachers should earn a credential (certification or degree) to practice in preschool programs. However, debate persists regarding the optimal type of credential required for high-quality educators. For instance, the *Power to the Profession* report (NAEYC, 2019) suggests that PreK teachers should earn a state-issued credential (or early childhood licensure), which means completing an approved professional preparation program and passing a national assessment that demonstrates knowledge and competency in the area of practice. *Transforming the Workforce* (IOM & NRC, 2015) suggests that PreK teachers and other early childhood lead educators obtain a bachelor’s degree with role-specific (e.g., PreK, birth-3 educator) specialized training that aligns with the early childhood competencies. However, several improvements in the quality of early childhood higher education programs are recommended, including relevant course content and field-based learning experiences (IOM & NRC, 2015). As referenced earlier, NIEER Quality Standards Benchmarks also recommend that lead teachers hold a bachelor’s degree, with specialized training in ECE and child development. Assistant teachers should hold a CDA or equivalent credentials (NIEER, 2019).

There are varying qualification requirements across agencies under state and federal oversight. For instance, in 2007 the Office of Head Start mandated that half of all Head Start teachers have a bachelor's degree by 2013 (Office of Head Start, 2009). Furthermore, currently, 23 states require lead teachers in public PreK programs to have a bachelor's degree; however, none of the states require lead teachers in center- or home-based childcare settings to have a degree (Whitebook et al., 2018, Table 4.2). In addition, 25 out of 40 city-led PreK programs require educators to have a bachelor's degree (CityHealth & NIEER, 2017).

Findings from one study indicate that individuals who were working on or had completed a college degree had greater knowledge of child development, and developmentally appropriate behavior and practice, than those working on completing a CDA (Goble et al., 2015). Another study examining teacher's self-perception found that educators with college degrees in early childhood education, compared with those having a CDA, gave themselves higher ratings for developmentally appropriate interactions with children (Wilcox-Herzog, 2004).

This is not to say that research indicates that CDA training itself does not boost teacher quality. There are findings that suggest CDA training can increase developmentally appropriate beliefs (Heisner & Lederberg, 2011). Other studies found that having a CDA consistently impacted observed quality (Torquati et al., 2007) and children's development of basic skills (Early et al., 2006).

While findings are mixed regarding the impact of early childhood education preparation programs on child and classroom outcomes (Early et al., 2006; Pianta et al., 2005; Son et al., 2013; Williford et al., 2017), compelling evidence suggests that receiving early childhood training is positively related to teachers' increased knowledge of child development (Goble et al., 2015), developmentally appropriate and effective pedagogical practices (Lake et al., 2015; Wilcox-Herzog, 2004), teachers' sense of self-efficacy on teaching practices (Ciyer et al., 2010), and even teacher identity construction (Woitte & Prochner, 2015). Furthermore, promoting PreK teachers' educational training can help solidify the early childhood education field by teaching and reinforcing early childhood professional standards or competencies (Castle, 2009) and increasing access to better compensation (Whitebook et al., 2018). The *Transforming the Workforce* report suggests that holding lower educational expectations for early childhood educators compared to K-12 educators can perpetuate the belief that educating young children requires less expertise than educating early elementary or older students (IOM & NRC, 2015). Therefore, although debate continues as to the type of credential early childhood educators should pursue, there seems to be agreement that requiring educational training will boost high-quality instruction and consolidate fragmented workforce expectations and requirements.

Needs, Challenges, and Opportunities

Increased Access to and through Formal Education

Efforts to advance the qualification requirements of PreK teachers through various pathways continue. However, there are still concerns regarding the level of support provided to existing early childhood educators and PreK teachers to obtain these formal degrees (Whitebook et al., 2018). That is, pursuing higher education credentials might pose challenges for PreK teachers if the appropriate financial, educational, and mentoring support are not provided. This is especially true for BIPOC and multilingual teachers and teacher candidates. Accordingly, this shift toward professionalization is hindered by inconsistent and inaccessible training opportunities.

Barriers

Degree and program affordability. Affordability is a significant factor impacting aspiring teachers' access to education degrees and credential programs. More than half of the states provide scholarships to aspiring teachers in public and private PreK programs (National Institute for Early Education Research, 2018a). However, most teacher candidates have difficulty finding funding to complete their courses or degree program (Sandall et al., 2019). Seminal reports in the field call for financial support, including scholarships, and funding for textbooks and other school materials (NAEYC, 2019; Whitebook et al. 2018).

While several state and local programs provide scholarships, strict guidelines regarding who may qualify for funding limit accessibility to the funds. Candidates are required to work "in certain types of programs, serving particular groups of children, earning below a certain wage, or participating in particular initiatives" (Whitebook et al., 2018, p. 72). For example, the T.E.A.C.H. federal student grant program requires that to receive funding, "teachers must agree to remain at their jobs for 6 months to one year following completion of their contract, after which they typically receive a bonus or raise from their employer and a bonus from T.E.A.C.H." (Adams et al., 2003, p 3).

As an additional outcome of QRIS, Zaslow and Tout (2014) recommend increasing the professionalization of the early childhood workforce through providing scholarships, as well as career advisors and clear professional development paths. California's Child-Care Retention Incentive (CRI) exemplifies this effort. CRI offers participants a combination of wage supplements and professional development. Particularly for Latinx aides and teachers, and the low-wage members of the workforce, participation in this program was associated with the successful completion of college units (Bridges et al., 2011). The efficacy of these efforts are especially meaningful, as illustrated by an Oregon State QRIS study that found that BIPOC and bilingual teachers accessed scholarships at a higher than average rate (Lipscomb et al., 2015).

In addition to scholarships (Huss-Keeler et al., 2013; Ryan & Ackerman, 2005; Whitebook et al., 2008; Zaslow & Tout, 2014), many aspiring teachers require financial support for textbooks and other school expenses, including requisite childcare (NAYEC, 2019; Whitebook et al., 2018). Adding to financial woes is the debt accumulated by many teachers who obtain higher education degrees in early childhood education. In a study done with New York's QRIS, 74 percent of the teaching staff who had a bachelor's degree or higher reported having student loan debt of \$25,000 or more (Whitebook et al., 2018). Concerns about the high rate of debt default have reduced enrollment and as a result, in some cases, completely closed the college programs intended for early childhood teachers. For example, Western Governors University (WGU) started an early childhood online degree in 2009; the program closed in 2013 due to the scarcity of available jobs and low wages for teacher candidates (Cook, 2017). The lack of financial resources makes it difficult for many qualified candidates to begin and complete degree and credential programs.

Access to degree and credential programs. Even when funding is not an issue, accessibility remains a pressing concern in higher education. Barriers to degrees include geography, long work hours, lack of professional community, access to affordable childcare, and clear articulation agreements. Additionally, institutional racism and a lack of equitable policies hinder students from diverse communities from applying to programs (IOM & NRC, 2015; Olsen et al., 2010).

Higher education programs can be strengthened by making comprehensive efforts to better understand the unique needs of the early childhood education workforce. Special attention is warranted concerning family childcare and home-based care providers, who may view themselves as a distinct part of the early childcare workforce but are less likely than their center-based colleagues to access professional development (Lanigan, 2011; Rusby et al., 2013). Degree programs that offer flexibility increase the likelihood that early childhood professionals will pursue college coursework (Early & Winton, 2001). For these busy professionals, it is particularly important that professional development opportunities are regarded as relevant to their work (Rusby et al., 2013). Courses that are available during non-traditional hours make attendance more accessible (Lo et al., 2017), but may create insurmountable obstacles for student parents who must secure childcare. In their study of 106 early childhood teachers and teacher aides, Deutsch and Riffin (2013) explored the issue of motivation to pursue higher education. Study participants reported lack of childcare as one of the most common challenges preventing them from pursuing additional education. Furthermore, many early care and education providers do not live near colleges and universities that offer classes and degrees they want or need (Gelfer & Nguyen, 2019; McLaren & Rutland, 2013; Sandall et al., (2019).

Online learning. The growth of online learning opportunities in recent decades offers another route to increasing access and lowering systemic barriers. Online learning can be a cost-effective option that enables PreK educators to further their education and professional development while allowing more flexibility for those with work and family obligations (Barnes et al., 2018; Ciyer et al., 2010; Durden et al., 2016; Gomez et al., 2015; Olsen et al., 2010; Whitehead et al., 2011). Research indicates that online learning programs support PreK educators' level of education and specialized training and that there should be more of these opportunities for PreK teachers (Barnes et al., 2018; Durden et al., 2016; Olsen et al., 2010).

Online courses enable students to create community and network with colleagues from all over the world, making it a valuable way for educators to work together to develop new practices and methods (Olsen et al., 2010; Whitehead et al., 2011). One example of an effective online teacher preparation is the fully online Child Development Associate credential (eCDA) (Whitehead et al., 2011). Offering CDA preparation in high school is an additional pathway to making this credential more accessible and to recruit new PreK teachers. In 2011, the Council for Professional Recognition began to welcome students who are under the age of 18 and enrolled in early childhood education programs to apply for the CDA credential test if they met all of the certification requirements, allowing high schools to realign their child development curriculum to meet CDA requirements (Langlais, 2012).

Although online learning is a promising tool to increase access to education and training opportunities, ensuring that these programs are of comparable quality, and just as, if not more affordable, is critical to the online endeavor. As online learning becomes more prevalent, the field would benefit from research on best practices. In general, research examining online learning as a general practice has strongly indicated that quality online education requires regular, substantive interaction between students and instructors (Protopsaltis & Baum, 2019). Similarly, technology-mediated professional development strategies, such as remote coaching via live or recorded video, online courses, and live group courses, have shown promise (Snell et al., 2019; Williford et al., 2017). Providing training on computer literacy for PreK teachers with low computer proficiency is also crucial as part of this initiative (Chen & Chang, 2006).

Streamlined systems and alternative pathways.

The developing workforce requires training and educational opportunities that are flexible and transferable. Research also suggests that students are hindered by a lack of academic policies, guidelines, and efforts to establish articulation agreements which allow credits to transfer from one type of credentialing system to another (Couse & Recchia, 2015). More than 75 percent of the nation's 1,047 community colleges offer early care and education or family studies degree programs. Some students graduate from community college programs with technical associate

degrees that qualify them for specific roles in the early education workforce. However, those degrees do not routinely transfer to 4-year degree programs, which may limit career opportunities and leadership positions in early childhood education (Early & Winton, 2001). This may also limit professional expertise as some research suggests that higher levels of educational training is associated with greater knowledge of child development (Goble et al., 2015). States can help ensure that credits are transferable to 4-year institutions within their state (Gardner et al., 2019). For example, through the Student Transfer Achievement Reform Act (STAR Act) (Senate Bill 1440, California Education Code sections 66746-66749), the state of California has established an ECE associate degree for transfer that guarantees placement at any 4-year California State University (CSU) (Gardner et al., 2019; Padilla, 2010).

Stackable credits are “a sequence of credentials that can be accumulated over time to build up an individual’s qualifications and help them to move along a career pathway or up a career ladder” (Ganzglass, 2014, p. 2). Stackable credentials can be a way to encourage nontraditional students, such as those already working full-time in ECE settings, to continue with their education incrementally over an extended period of time without becoming discouraged (Hao & Syed, 2018; Kaplan, 2018). In Washington state, Early Childhood Education Stackable Certificates are available at the state’s community colleges and can lead to an associate degree in early childhood education (Limardo et al., 2016; Washington State Department of Children, Youth & Families, n.d.). Coursework has been standardized across the state and designed to align with standards from professional ECE organizations (Kaplan, 2018).

There is a growing trend toward apprenticeship models that give college students credit for prior learning experiences, expertise, and skills they have gained in training programs outside of higher education environments. In registered apprenticeship programs, participants complete early childhood coursework while immersed in hands-on training. As of 2018, registered early childhood apprenticeship programs exist in eight states (Lutton, 2018). Pennsylvania’s Early Childhood Education Apprenticeship Program created a pathway that includes obtaining a CDA credential, which may be earned during or after high school or while working in an early childhood program. Completion of the CDA credentialed is followed by completion of an associate degree in early childhood that has articulation agreements with bachelor’s degree programs. Most of these 4-year programs may lead to Pennsylvania’s PreK and early grade teacher licensure (Lutton, 2018).

Conferring credit to educators with hands-on experience through Prior Learning Assessment (PLA) or Credit for Prior Learning (CPL) is a way to boost the professional qualifications and knowledge of the workforce without losing experienced teachers who may lack formal credentials (National Association for the Education of Young

Children, 2019a). A 2010 nationwide survey of community college students found that those with PLA credits graduated at higher rates and in less time than students without PLA credits (Brigham & Klein-Collins, 2010). Since 2016, at least 19 states have grown programs for conferring college credits to students for prior learning; as of 2019, 12 states have considered bills to expand prior learning programs (Smalley, 2019).

In K-12 schools “Grow Your Own” (GYO) programs have been used across the country to address teacher shortages, and increase the number of BIPOC and multilingual teachers. Research in the K-12 space indicates that GYO programs may effectively address the lack of multilingual educators (Garcia & Muniz, 2019). These programs also offer an opportunity to increase workforce diversity in PreK. In 2018, Kennedy Children’s Center, a public special education preschool in New York City, began a GYO program to train teacher assistants, who may then go on to earn their special education certification (Alter, 2020).

Retention of students. Due to the unique needs and characteristics of the PreK workforce (Whitebook et al., 2018), it is pivotal to tailor educational preparation programs to support the various needs of PreK educators as students.

Cohort models are just one example of an effective educational preparation model for PreK teachers. Cohorts provide teacher candidates with a supportive peer learning community, enabling them to work and engage in reflective practice collaboratively (Kipnis et al., 2012; Lo et al., 2017; Whitebook et al., 2008; Zinsser et al., 2019). Support for cohorts as an effective means of student retention is emerging in the literature. In their longitudinal study of a cohort program with structural supports (such as financial aid) for transfer students from 2-year colleges, Kipnis et al. (2012) found that 81 percent of students in the cohort graduated with a bachelor’s, more than double the average rate of non-cohort transfer students.

Creating an asset-based culture and pedagogy that intentionally draws on the unique and meaningful contributions of lived experiences of non-traditional students returning to college can enhance a sense of connectedness and potentially increase retention (Exposito & Bernheimer, 2012). Additional promising supports include retention coaches and program advisors, who proactively connect with students either onsite or online (Cook, 2017). These same principles apply to bilingual and multilingual teacher candidates who benefit from bilingual-bicultural learning communities, such as teacher preparation programs that capitalize and reaffirm multilingual candidates’ lived experiences and identities, promote the use of their native languages during collaborative learning opportunities, and have multilingual coaches or program staff that guide financial aid and completion of coursework (Lo et al., 2017; Weisman et al., 2007).

It is also important to consider that some students in early childhood teacher preparation programs get stuck advancing their degree due to lack of confidence and struggles with general education requirements, in particular math. Contextualized math courses and interventions addressing math identity are promising practices to address math anxiety and competence (Heffernan & Newton, 2019).

Establishing a national PreK certificate. Challenges related to early childhood educators securing positions because of inconsistent education, certificate, and licensure requirements could be ameliorated with a nationally standardized PreK certificate. National PreK certification would also ensure the consistency of workforce quality across states. The establishment of a standardized national PreK Certificate, incorporating stackable credits and PLA/CPL, would allow students to train for a lead teacher position at any PreK program in the country.

Attracting, supporting, and retaining a more diverse workforce. As the ECE field considers change to boost the quality and qualifications of teachers and leaders, researchers and policymakers must take care to not exacerbate the existing opportunity gap for BIPOC (Austin et al., 2019; NAEYC, 2019a).

While the early childhood workforce is more diverse (racially, culturally, and linguistically) than their K-12 counterparts, it still does not reflect the diversity of the children they serve. This is especially true of leadership roles (see “Developing Leaders” section of this paper). BIPOC and dual language learners (DLLs) benefit from being in classrooms with quality teachers who reflect their racial, cultural, and linguistic identity (Equity and Early Childhood Education Task Force of the National Council of Teachers of English, 2016; Limardo et al., 2016; Whitebook, 2018).

Similarly, teacher candidates benefit from seeing their own racial, cultural, and linguistic identity reflected in the faculty in their higher education programs (Bornfreund, 2011; Early & Winton, 2001; IOM & NRC, 2015; Lim et al., 2009; Lo et al., 2017; Maxwell et al., 2006). However, most faculty members in higher education programs are White, non-Hispanic (Bornfreund, 2011; IOM & NRC, 2015). To note, BIPOC faculty members serve as role models to BIPOC students (Bornfreund, 2011; Early & Winton, 2001; Maxwell et al., 2006). Increasing the number of multilingual faculty members enables higher education programs to offer better support to multilingual students (Petig & Austin, 2018). In turn, the lack of diverse faculty representation also impacts who has access to leadership positions.

To achieve more significant equity in the field, BIPOC and multilingual teacher candidates may also need additional supports. As discussed previously, a study done using data from the Oregon State QRIS found that BIPOC and multilingual teachers accessed scholarships at a higher rate (Lipscomb et al., 2015). However, this same study also

found that these scholarships did not reduce the gap in qualifications for these marginalized groups and that additional supports beyond scholarships, such as academic advising and cohort programs, may be needed to reduce inequities in professional qualifications (Lipscomb et al., 2015).

Once professionals from marginalized groups enter the workforce, they must have equitable access to compensation and professional opportunities. Currently, on average, Black ECE professionals earn less than Latinx and White professionals and they are also likely to be paid less than other racial groups for equivalent work. On average, Latinx professionals earn somewhat more but still less than their White peers. Black and Latinx professionals are less likely than their white peers to be a lead or head teacher; rather, they are more likely to be in a lower-paid supporting position (Austin et al., 2019).

Equitable pathways must be forged for all educators to foster and enhance the diversity that enriches the early learning field. Continued research examining effective strategies to welcome, support, and build on the strengths of a diverse cadre of ECE professionals is warranted, including Native Americans and Asians (Austin et al., 2019).

Relevant Content: What Do Teachers Need to Know?

Working with and Supporting Diverse Children and Families

The cultural and linguistic diversity of young children in the United States (U.S. Census Bureau & U.S. Bureau of Labor Statistics, 2019), require high-quality PreK teachers to be well-versed in culturally sustaining teaching practices (Early & Winton, 2001; Hardin et al., 2010; Lim et al., 2009; Zinsser et al., 2019). Cultivation of culturally sustaining teaching practices is underscored in *Transforming the Workforce*, which recommends that higher education programs provide field experience to enable aspiring educators to “gain experience working with populations of children and families that are diverse in family structure, socioeconomic status, race, ethnicity, culture, language, and ability” (IOM & NRC, 2015, p. 526). Diversifying higher education faculty by hiring more BIPOC candidates can help boost these efforts. In addition to serving as role models to BIPOC teacher candidates, the presence of full-time faculty of color has been correlate to teacher education coursework that is more directly focused on working with BIPOC children and families (Lim et al., 2009).

Because of the significant number of dual language learners (DLLs) in schools (NIEER, 2018b), there is a strong need to train PreK educators to support DLLs language and academic learning (Equity and Early Childhood Education Task Force of the National Council of Teachers of English, 2016; Jacoby & Lesaux, 2019; Zepeda et al., 2011). While there is general agreement in the field that DLL refers to children who are learning two or more languages simultaneously, the term does not adequately capture the fluid dynamic of multiple-language learning and development (Bauer et al., 2017; Otheguy et al., 2019). High-quality early childhood programs warrant teacher education programming that prepares aspiring teachers to support the unique and dynamic developmental needs of DLLs.

However, the present landscape related to preparing teachers to work with DLLs is bleak. One 2018 report looked at higher education programs across 13 states. Only one-quarter of the programs required working with DLLs as part of student teaching or practica and approximately one-quarter of faculty members said they were not capable of preparing teachers to support the needs of DLLs in the early childhood classroom (Petig & Austin, 2018). To date, only nine state preschool programs have a policy requiring specialized qualifications for teachers of DLLs (NIEER, 2018b).

As this research convincingly shows, coursework focused on how to best support young DLL children in the classroom are needed urgently. Meaningful DLL coursework for PreK educators should focus on (a) understanding language development and the relationship between language and culture, (b) developing skills to effectively teach DLLs, (c) learning to use assessment in a responsive and appropriate

manners for DLLs, (d) developing a sense of professionalism, and (e) understanding how to work with DLL families (Zepeda et al., 2011).

There is also a need to increase PreK educators' cultural self-awareness and knowledge of culturally responsive practices. Specifically, there is a need to educate PreK teachers on how their cultural and personal biases about different children and family groups can impact their interactions with them (Baumgartner & Buchanan, 2010; Kintner-Duffy et al., 2012). When teachers lack cultural self-awareness and responsiveness, they have “limited intercultural knowledge or sensitivity. They are not aware that students' cultures can influence students' learning in significant ways” (Monroe & Ruan, 2018, p. 2). Lack of cultural-self-awareness and knowledge of culturally responsive practices can lead to deficit-oriented approaches when working with diverse children and families, such as immigrant children, children with special needs, or children from LGBTQ families (Adair et al., 2017; Kintner et al., 2012). Research examining the unique strengths of these communities and how teachers in the PreK classroom can best support them is warranted (Rogoff et al., 2017). Additional research should include examining BIPOC children in ECE settings that utilize a strengths-based approach rather than emphasizing a deficit approach (Cabrera & Hennigar, 2019; Equity and Early Childhood Education Task Force of the National Council of Teachers of English, 2016; National Black Child Development Institute, 2013).

The need for educators to intentionally facilitate cohesive anti-bias and anti-racist practices is essential to meet the needs of children and families (Derman-sparks & Edward 2019). Implementing an anti-racist and anti-oppressive practices curriculum can help educators reflect deeply on their lived experiences and how their experiences shape their perspectives on diverse children and families' lives (Blanchard et al., 2018). This self-reflection is an effective way to increase cultural self-awareness (Blanchard et al., 2018; Monroe & Ruan, 2018). Additionally, professional development for early childhood educators should help educators understand how to incorporate the standards of specific subject matter into their classrooms using culturally appropriate teaching practices that address the needs of diverse children (Katz et al., 2010).

Training for PreK educators should include the development of an understanding that racial groups are not culturally homogenous. Acknowledgment of diversity within groups is also a growing edge for research, which often treats the Black, Latinx, and Indigenous communities as homogeneous groups rather than individuals who come from many different countries, cultures, and tribal groups (Cabrera & Hennigar, 2019; National Black Child Development Institute, 2013). For example, foreign-born Black children are a rapidly growing demographic in the United States.

At the time of the 2010 U.S. Census, approximately 16 percent of Black children under the age of five were foreign-born or had at least one foreign-born parent. However, Black immigrant children and families remain woefully underrepresented in the research literature (National Black Child Development Institute, 2013).

Building close partnerships with these families and communities can help educators appreciate these nuances. The field must work in partnership with families and communities to design teacher education programs (National Black Child Development Institute, 2013; U.S. Department of Education, 2011). Families and communities should be valued for their expertise on the best ways to serve their children (National Black Child Development Institute, 2013; Cabrera & Hennigar, 2019; Equity and Early Childhood Education Task Force of the National Council of Teachers of English, 2016; Hampshire et al., 2015; Ishimaru et al., 2015; Paris & Alim, 2017; U.S. Department of Education, 2011). According to Moll et al. (1992), funds of knowledge acknowledge that people are experts due to their lived experiences. *Funds of knowledge* and leadership of communities are vital to children's well-being and teacher education programs (Ishimaru et al., 2015; Ishimaru et al., 2016; Moll et al., 1992).

With the understanding that home life is vital to a child's school success, teachers' education programs should be training educators to incorporate content that is relevant to their students' home cultures (Schoorman, 2011). Integrating culturally sustaining pedagogy (CSP) into PreK teacher preparation is a way to frame this kind of support for diverse students and families. Building on Ladson-Billings's (1995) framework of culturally relevant pedagogy (Machado, 2017), CSP "links a focus on sustaining pluralism through education to challenges of social justice and change in ways that previous iterations of asset pedagogies did not. We believe the term, stance, and practice of CSP is increasingly necessary given the explicit assimilationist and antidemocratic monolingual/monocultural educational policies emerging across the nation" (Paris & Alim, 2014, p. 88). At present, very few research studies have centered culturally sustaining pedagogy in the context of early childhood settings (Machado, 2017).

Relevant service-learning experiences can provide opportunities for PreK educators to work with culturally, socio-economically, and linguistically diverse children and families (Lin & Bates, 2015; Szente, 2008). These experiences can reduce deficit views of children and families and shift educators toward a strengths-based perspective in which families feel engaged and supported (Knight-McKenna et al., 2019; Lake & Jones, 2008; National Black Child Development Institute, 2013; Park et al., 2019; Reyes et al., 2016; Vesely et al., 2017). Caution is warranted, however, with the use of service-learning opportunities as a means to interrupt social and cultural bias, as it can serve to reinforce negative stereotypes without the appropriate educational guidance. For instance, in a small-scale study of early childhood teacher education

students assigned to service-learning in communities different from their own, a small percentage of the students deepened their bias and negative perceptions of children and families from minoritized groups (Dunn-Kenney, 2010). Further research on effective service-learning approaches is warranted.

Infants and toddlers. While this paper focuses on serving children in PreK programs (ages three to five), PreK teachers benefit from a thorough knowledge of child development during the birth to three years. Understanding child development in the first three years of life provides a firm foundation for the seamless, interdisciplinary care and developmentally appropriate education of children throughout early childhood. The importance of establishing this foundation is reflected in recommendation four of *Transforming the Workforce*, which calls for higher education programs to "build an interdisciplinary foundation in higher education for child development" (IOM & NRC, 2015, p. 522) that should include "requirements for core coursework that are designed to establish a more continuous and comprehensive understanding of child development" (IOM & NRC, 2015, p. 523).

Historically, caregivers of infants and toddlers have been perceived as being of lower status than those of older children (Recchia et al., 2015). However, best practices for working with infants and toddlers is an important growing edge in the early childhood field, especially considering the notable growth of out-of-home care for this age group in the past 20 years (Horm et al., 2013; IOM & NRC, 2015).

Inclusion of courses focusing on birth to age three development is inconsistent in early childhood education programs. In 2001, Early and Winton found that only 29% of U.S. colleges or universities offered a program that included content on children four years of age and younger; only 40% of these programs offered even one course focusing on infants and toddlers. A follow-up study in 2006, indicating some movement on this front, found that 46% offered stand-alone courses on infants and toddlers (Horm et al., 2013). Even when included in a program, birth to age three content may still not touch on the cultural influences on child-rearing practices, and how to provide infants and toddlers with care that considers families "values, aspirations, expectations, and practices" (IOM, 2000, p. 25; Rogoff, 2003).

Some knowledge of infant-toddler development is often included in courses covering child development from birth to eight years old (Chu, 2016). But without focusing on the unique developmental features before age three, teachers cannot gain a deep understanding and adequate practice to develop their teaching skills. Consequently, teachers are not effectively prepared to work with infants and toddlers and are missing foundational child development content that is beneficial for educators in all early childhood settings (Horm et al., 2013; Rogoff, 2003).

Social and emotional support and trauma-informed care.

Adequate training to support children's social and emotional learning is another area for growth in early childhood teacher education. Specifically, many early childhood education programs lack ample coursework, of meaningful depth or breadth, on how PreK teachers can support children's social and emotional learning (SEL) and executive functioning skills (Buettner et al., 2016; Durlak, 2015; Hallett et al., 2016; Korfmacher, 2014; Neitzel, 2018). Social and emotional development is a transdisciplinary area at any age, but as Korfmacher (2014) notes, this is especially true in early childhood. Still, no one professional organization has established standards or requirements for the early childhood workforce around social and emotional well-being. However, learning about behavior management is a high priority for early childhood teachers (Barnes et al., 2018; Clark & Byrnes, 2015).

Providing appropriate and specific SEL (social and emotional learning) training to PreK educators is crucial since it can lead to improved social and emotional skills for the children they serve. For example, one study found improved social skills and a reduction in children's challenging behaviors after educators had been trained in The Pyramid Model for Supporting Social Emotional Competence in Infants and Young Children, a school-wide SEL intervention (Snyder et al., 2013). Supporting children's executive function development through the introduction, for example, of activities that support children's ability to follow rules and shift their attention effectively, is also pivotal (Schmitt et al., 2015), as research has shown that executive function skills are predictive of children's positive social and emotional and academic outcomes (Montroy et al., 2014).

Finally, given the alarming percentage of young children in the U.S. who have experienced trauma, from child abuse or neglect to structural racism (Sabo et al., 2014; U.S. Department of Health & Human Services, 2019), it is imperative to train and continue training PreK educators on the impact of trauma on young children's development and learning as well as trauma-sensitive strategies they can use to support the well-being of these children in the classroom (Capo et al., 2019; Honsinger & Brown, 2019). Trauma-sensitive strategies can include positive behavior support and relationship-based strategies that promote predictability and safety for children (e.g., visual schedules and co-regulation strategies) (Nicholson et al., 2019). Lastly, providing training opportunities on trauma-informed care or trauma-sensitive practices also need to address providers' self-care and issues related to implicit biases that, left unchecked, might contribute to the disproportionate suspension and expulsion of children of color (Meek & Gilliam, 2016).

Exclusionary practices and positive behavior support.

A critical goal for training in behavior support is the reduction of exclusionary practices in PreK settings. Exclusionary practices, such as expulsion and suspension, take children out of the classroom and increase their exposure to many adverse effects (U.S. Department of Education/U.S. Department of Health and Human Services, 2014).

A 2005 study revealed that children in PreK were expelled at three times the rate of K-12 students (Gilliam, 2005). These practices are imbued with significant equity issues. Children experiencing exclusionary practices are disproportionately Black and male, and boys account for three out of four out-of-school PreK suspensions (Gilliam, 2005; U.S. Department of Education Office for Civil Rights, 2014). One study found that Black PreK teachers noted fewer increases in behavioral problems for Black boys in their class than did White teachers (Downer et al., 2016).

In 2014, the U.S. Department of Health and Human Services and the U.S. Department of Education jointly released a policy statement to prevent and limit exclusionary practices in early childhood settings. Recommendations designed to bring exclusionary practices to an end are outlined in the policy. They include using evidence-based practices to promote social-emotional learning, working toward by engaging in self-reflective practice as a means of preventing and eliminating potential biases, and providing appropriate behavioral supports to children with disabilities (U.S. Department of Education/U.S. Department of Health and Human Services, 2014). Positive behavior intervention and support (PBIS) is an approach that has shown promising results in early childhood programs. PBIS is a systems approach to establishing the culture and behavioral supports needed for the success of all children in a program, both socially and academically. Successful implementation of PBIS requires appropriate staff training (U.S. Department of Education/U.S. Department of Health and Human Services, 2014).

STEM content. Developmentally appropriate curriculum that includes attention to important academic subject matter can boost teaching quality (Lieber et al., 2009). The inclusion of STEM (science, technology, engineering, and math) subjects in PreK curriculum is a particular area of concern (Copeman et al., 2018; Fenty & Anderson, 2014; Lake & Kelly, 2014; Lippard et al., 2018; Parks & Wager, 2015; Pelkowski et al., 2019; Roehrig et al., 2011; Saçkes et al., 2012; Thornton et al., 2009).

In the past 20 years, both national associations of mathematics and early childhood education have released position statements calling for a strong foundation of early mathematics (Parks & Wager, 2015). Engaging with math from a young age is correlated with higher levels of later math achievement. However, many teachers are not confident about instructing young children in math and do not view it as necessary to early childhood development

(Lake & Kelly, 2014; Pelkowski et al., 2019). Teaching math to young children requires teachers to have knowledge of math content and the skills to teach it in a developmentally appropriate way (Thornton et al. 2009). A study by Copeman et al. (2018) found that only half of early childhood education degree programs required math topics to be included in their curricular requirements. Research on early childhood mathematics curricula rarely examines how these curricula are taught to teacher candidates and understood and implemented by preservice teachers (Parks & Wager, 2015). Teaching early mathematics is an area of growth for future research. Math in elementary schools (Parks & Wager, 2015) and middle and high schools (Saçkes et al., 2012) receive far more attention than early childhood settings in the research literature. In an analysis of the current research on early math education, Parks and Wager (2015) found that without an active effort from researchers, recognizing the specific context and needs of educators in early childhood settings, this focus was unlikely to shift.

Science is another subject area where ECE teachers feel lack confidence. This proves a concerning variable in light of findings indicating that young children are primed for and benefit from science learning. Early science learning is linked to the development of children's executive function skills, how they approach learning, and later science success and opportunities (Lippard et al., 2018, Roehrig et al., 2011). Improving science teaching practices in a meaningful way can take time. A study by Roehrig et al. (2011) found that teachers began to demonstrate best practices in science instruction only during their second year of professional development.

Saçkes et al. (2012) found a lack of research around preservice and in-service teachers' beliefs around efficacy for integrating math and science. Their study demonstrated that an integrated science and mathematics methods course could impact preservice teachers' beliefs and sense of self-efficacy about teaching science and math. However, the study only addressed work in their methods courses, not impact on teaching. Future studies should incorporate the preservice teachers' classroom placement (Saçkes et al., 2012).

Additionally, pre-service early childhood educators may need more support to integrate technology into classrooms (Barnes et al., 2018). Because lessons on the use of technology for educators have shown to be optimized when they incorporate pedagogy and content (McCannon & Crews, 2000), it is important to provide integrated instruction, where technology is a part of lesson planning and curriculum. (Fenty & Anderson, 2014).

Nature-based preschools and other outdoor early learning experiences have been growing in popularity in the United States. According to a 2017 survey from the North American Association for Environmental Education (NAAEE), there are at least 250 nature preschools and forest kindergartens programs in 43 states, with the most significant rate of

growth in the most recent five years. There is a growing body of research to support the benefits of outdoor learning experiences for young children (Torquati & Ernst, 2013; Tremblay et al., 2015). However, the children participating in these nature-based programs do not reflect the cultural and linguistic diversity of the U.S. population, with BIPOC and DLL students largely underrepresented. Young children receiving special education services are also vastly underrepresented in these programs (NAAEE, 2017). Presently, national statistics on the workforce demographics of these nature-based early childhood programs do not exist. Research on how educators can best support diverse student populations in these settings is also absent from the literature. The ability of early childhood teachers in all settings to meaningfully incorporate a nature curriculum into their classrooms depends in part on each teacher's perceptions (Torquati & Ernst, 2013). One study of preservice teachers and nature education found that the teachers' nature relatedness connected to their intention to incorporate natural environments in future teaching, suggesting that teacher preparation programs seek to scaffold teachers' connections with nature (Torquati & Ernst, 2013).

Overall, the training and education needed to provide high-quality teaching of STEM-subjects in early childhood warrants further research. However, while we found limited research covering STEM subjects, it is worth noting that there is even less in the research literature examining high-quality teaching of social studies or the arts and humanities.

Effective classroom preparation. Teachers need better preparation for the classroom. Nicholson and Reifel (2011) found that many of the teachers they interviewed felt like they had been "thrown into the classroom" because they had come into the field with so little training, and then received minimal preservice and in-service training. The following practices have demonstrated promise for improving teacher preparation for the classroom.

Supervision and feedback on teacher practices:

Video review. Video-based coaching embedded in courses has been effective at improving teaching practices and addressing the gap between theory and practice (Joseph & Brennan, 2013; La Paro et al., 2012; Xiao & Tobin, 2018). For example, having teachers review annotated video demonstrations has shown to help teachers explicitly identify effective strategies and improvement (Crawford et al., 2017).

Job-embedded coaching. Embedded coaching support shows promise for increasing the quality of teaching and the use of evidence-based teaching practices (Crawford et al., 2017; Diamond & Powell, 2011; Skiffington et al., 2011). For instance, Diamond and Powell (2011) found that implementing a coaching professional development intervention in schools helped Head Start teachers improve their language and literacy instructional practices. Another example includes the Texas School Ready program, which

provides coaching support to teachers using a data-based approach and via one-to-one mentoring (Crawford et al., 2017). Providing online coaching consultation also seems to be effective at bridging teachers' understanding and application of curriculum guidelines into their everyday teaching practices (Kinzie et al., 2006).

Additional promising practices. Professional development practices that use performance or acting as a way to learn, identify, and engage in effective teaching practices with children and families have some promise (e.g., Performance Methodology [Maude et al., 2011] and Early Childhood Educators at Play [Kilinc et al., 2016]). However, further research is needed to determine the efficacy of these innovative professional development tools. More research is also needed related to supervised practicum and other teacher preparation experiences that have the potential to help train high-quality educators (Hobbs & Stovall, 2015; La Paro et al., 2014).

Preparation to pass teacher credential assessments.

To practice in the field, it is critical that early childhood education preparation programs adequately train PreK educators to pass the certifications or assessments required by each state (Brown, 2016). It is also important to note that BIPOC teacher candidates and home-care providers face additional access barriers to certification. For instance, Moffett et al. (2014) found that a lack of tailored support to pass certification examinations posed a challenge for African American teacher candidates. They suggest that teacher education programs for African American teacher candidates provide tailored assistance to candidates to successfully complete their program (Moffett et al., 2014). The quality of early childhood education preparation programs matters. If teacher candidates are not successfully prepared to pass their exams, it creates an employment barrier and can undermine efforts to professionalize the field.

Improving teacher retention. Attrition is a significant concern in the early childhood field. Compensation for the workforce is a salient factor in attrition rates. PreK, along with other early childhood education programs, has received increased interest as a funding priority. Between 2013-2018, states have increased their funding for PreK programs by 47 percent. In 2016-17, 44 states contributed to these programs (Parker et al., 2018). But based on data from 2017-2018, when adjusted for inflation, state spending per child also has decreased, and funding models and rates of teacher compensation vary widely across states and programs (NIEER, 2018a).

While increasing access to educational opportunities may lead to better compensation, there is evidence that as PreK teachers obtain new educational credentials, they may move on to other job opportunities they newly qualified for, which offer better compensation and benefits (Huss-Keeler et al., 2013; O'Connor et al., 2011; Ryan & Ackerman, 2005; Totenhagen et al., 2016; Whitebook et al., 2018). Bridges

et al. (2011) found that PreK teachers working in federally funded or Head Start programs were more likely to leave their centers two years after obtaining college-level course units, which was part of an early childhood workforce retention initiative in California. A similar outcome was found in the analysis of a New Jersey court mandate to increase the educational training of preschool teachers in the Abbott districts by requiring a teaching certification (Ryan & Ackerman, 2005). In their analysis of the impact of this mandate, Ryan and Ackerman (2005) found that 33 percent of PreK teachers who were enrolled in some type of teacher preparation program expressed that they intended to leave their positions once they became certified.

Fair Compensation. Adequate wages and monetary incentives have emerged in the research as being particularly important for retaining a high-quality workforce (Gable et al., 2007; Gable et al., 2010; Huss-Keeler et al., 2013; King et al., 2016; Totenhagen et al., 2016; Whitebook et al., 2018). This is especially meaningful given that most state preschool programs lack pay parity with early elementary school teachers (K-3), even if their teachers are required to have the same qualifications (NIEER, 2018a). Furthermore, about half of the workforce relies on food stamps or some other sort of federal assistance, making lackluster salaries an additional barrier to attracting a qualified workforce to early education (Whitebook et al., 2018). Even more concerning are unequal policies related to PreK teachers' access to healthcare and retirement benefits, and paid planning time, being dependent on whether or not they employed by programs within public schools (NIEER, 2018a). Furthermore, sustainable wages for educators are beneficial for children as well. For instance, the results of a study by King et al. (2016) suggest that teachers' financial status, which includes wages and their level of concern for being able to pay basic expenses, relate to children's emotional expressions and behaviors in the classroom.

Student loan debt is a concern for many who obtain degrees in early childhood education. In 2018, nine states offered some sort of student loan forgiveness program to teachers in public Pre-K programs; three of these states offered loan forgiveness to teachers in private Pre-K programs as well (National Institute for Early Education Research, 2018a). The recent report *Transforming the Financing of Early Care and Education* (NASSEM, 2019) articulates a vision for a financing structure that will support the total cost of a high-quality ECE system and will give ECE providers access to the resources they need to recruit and retain a highly qualified workforce.

Additional support in the workplace. Supportive work environments are also essential for keeping PreK teachers in the field (Totenhagen et al., 2016). A study by Lieber et al. (2009) found that in addition to low rates of compensation, many teachers may have additional work responsibilities (e.g., head teachers' supervision responsibilities) and lack the institutional support they are seeking, such as feedback and classroom materials. As part of a supportive work environment includes adequate mental health support for teachers (Roberts et al., 2019). In a recent survey of early childhood teachers from a Midwestern state, Roberts et al. (2019) found that 86.3 percent of the 1640 survey participants reported experiencing some depressive symptoms in their work. Additionally, teachers who did not have health insurance, had lower hourly wages, and fewer resources tended to have more depressive symptoms. Improved mental health for teachers may also be beneficial for their students. Jeon et al. (2019) found that teachers' stress levels were associated with children demonstrating higher levels of externalized behavior problems, and teachers' emotional exhaustion was related to children's internalized behavior problems. In addition to mental health support, investment should be made in supporting the physical health of teachers. A survey of women working in Head Start and Early Head Start in Pennsylvania showed that, compared to women with similar sociodemographic characteristics in the U.S., these professionals had poorer physical and mental health (Whitaker et al., 2013).

Developing Leaders

Consensus: Core Competencies for PreK Leaders

There is consensus in the field that high-quality leaders are needed and that current standards of leadership training and qualifications are inadequate (IOM & NRC, 2015; Lieberman, 2017). However, there is a dearth of research on how to develop them, which substantially lags behind K-12 (see Table 2). There is a general agreement in the research literature that leaders play an important role in program quality (Bloom & Abel, 2015; Bloom & Bella, 2005; Huss-Keeler et al., 2013; Ramgopal et al., 2009; Talan et al., 2014) and as the field continues to grow, there is a need for an increased number of qualified leaders (Couse & Russo, 2006; Ramgopal et al., 2009; Ryan et al., 2011). Transforming the Workforce recommends that all childcare center directors have at least a bachelor's degree while also recommending improvements to existing early childhood degree programs (IOM & NRC, 2015). This report also states that beyond the standard competencies of early childhood educators and care providers, those in leadership positions must possess competencies in: (a) practices to help children learn, (b) assessment of children, (c) fostering a professional workforce, (d) assessment of educators, (e) developing and fostering partnerships, and (f) organizational development and management (IOM & NRC, 2015). However, like teacher requirements, current requirements for leaders vary widely.

While Table 2 differentiates between requirements for leaders in K-12 schools and leaders in preschool and childcare centers, it is important to note that a growing number of PreK programs are part of public elementary schools, thus under the leadership of a K-12 principal.

Table 2
K-12 vs Preschool and Childcare Center Directors

	K-12 Principals	Preschool and Childcare Center Directors
Average Salary	\$95,310 annually	\$47,940 annually \$23.05 per hour
Typical Entry-level Education Qualifications	A Master's degree in education administration or leadership; teaching experience.	Range from no requirement to a bachelor's degree with some programs also requiring directors to have a nationally recognized credential, such as the Child Development Associate (CDA) credential.
Typical Entry-level Work Experience	At least 5 years	Less than 5 years
Projected Job Growth, 2018-2028	4%	7%

Note: Information from the Bureau of Labor Statistics, U.S. Department of Labor (2019), and Institute of Medicine (IOM) & National Research Council (NRC) (2015).

Need for Leadership Development Programs

Transforming the Workforce (IOM & NRC, 2015) notes that as PreK is increasingly included in public school systems, elementary school leaders should also possess training in research-supported early childhood competencies.

However, many elementary school principals do not understand developmentally appropriate practices for young children (IOM & NRC, 2015; Lieberman & Cook, 2016). Shore et al. (2012) found that few elementary school principals felt like they had adequate experience or training to supervise PreK, and a 2015 national survey found that only one in five principals supervising a PreK program felt that they had adequate training in early childhood education (Education Week, 2015). These findings are not surprising when considering that only nine states require early childhood learning and development coursework for pre-service principals (Lieberman, 2017). Illinois is currently the only state that requires PreK coursework and field placement to qualify for principal licensure (Brown et al., 2014; Lieberman et al., 2018). As of 2017, only twelve states offered professional development opportunities around early childhood education to aspiring elementary school principals (Lieberman, 2017).

Some legislation has proposed to address this knowledge and experience gap in elementary school leaders. In Autumn 2019, the bipartisan Creating Early Childhood Leaders Act was introduced by Senators Bob Casey (D-PA), Doug Jones (D-AL), and Mitt Romney (R-UT). The bill amends Title II of the Higher Education Act (HEA) to require:

1. Higher education programs receiving federal grants must provide instruction to pre-service school leaders to engage and involve parents, community members, the local educational agency, businesses, providers of early childhood education programs, and other community leaders, to leverage additional resources to improve student academic achievement.
2. School leaders to understand child development and appropriate leadership skills for children from birth through age eight. (Creating Early Childhood Leaders Act, 2019)

Requirements included in the proposed Creating Early Childhood Leaders Act highlight the need for comprehensive research—there is much to learn as we work to effectively scale quality early childhood education and training for principals. Like many other aspects of PreK, there is broad variance in how PreK is administered within different public school systems. In some districts, PreK programs are consolidated in specific buildings. In other districts, PreK classrooms are scattered throughout the district's elementary schools. Optimal administrative structures for quality PreK programs calls for future research (Abel et al., 2016). Beyond principals, other instructional leadership team members play an important role in public PreK programs, such as curriculum directors and coaches.

But their roles, and the organizational structure of the program, are seldom clearly defined (Abel et al., 2016).

Even if principals receive more appropriate education and training in early childhood development, their now evidence-based decisions must be supported by leadership at the district and state level. For example, while some principals do not understand the value of play-based learning, others may want to allow more time for it but feel pressured by increasingly rigorous academic standards for even the youngest students (Lieberman & Cook, 2016). As more public schools move to greater PreK to third-grade alignment (Abel et al., 2016), leaders must be trained and prepared to support the needs of PreK children. Quality professional development for principals in early learning must be ongoing and may be expensive, but it is best viewed as an investment against more costly future interventions (Lieberman et al., 2018).

Standard qualifications for early childhood education center directors differ significantly from elementary school principals. A recent report from New America found that 40 states require elementary school principals to have at least a master's degree, yet only nine states require early childhood center directors to have an associate degree (Lieberman, 2017). Like PreK teachers, consistent training requirements and qualifications for PreK leaders can help boost quality in the field.

Increasing Diversity in Leadership

Leadership in the early childhood space does not accurately reflect the demographics of the field. People of color are not proportionately included in leadership roles (Couse & Russo, 2006; Early & Winton, 2001, Whitebook et al., 2008; Whitebook et al., 2018). In 2012, 80 percent of school principals were White (Hill et al., 2016). As more PreK programs are housed in elementary schools, it is increasingly essential to the principles of racial equity in PreK that increasing numbers of BIPOC individuals fill leadership positions.

Among other factors, diversity in early childhood leadership is also limited by homogeneity among higher education faculty, particularly the lack of BIPOC faculty members. Students from underrepresented racial, cultural, and linguistic backgrounds lack role models among faculty members, and so are less likely to pursue the advanced degrees they need to assume leadership positions (Bornfreund, 2011; Early & Winton, 2001). This dynamic is unlikely to change until more BIPOC students earned advanced degrees and become faculty members.

Innovating education offerings to better serve diverse future leaders, non-traditional students, and especially BIPOC, must then be a goal of the field. As we addressed earlier in this paper, articulation agreements allow the more diverse student populations at community colleges increased access to the 4-year degrees they need to move

into faculty and other leadership positions (Early & Winton, 2001; Huss-Keeler et al., 2013). Online learning also provides new opportunities to offer mentorship to aspiring leaders from underrepresented communities (Couse & Russo, 2006). Offering leadership training in multiple languages is also necessary to bring linguistic diversity into leadership in the field (Ramgopal et al., 2009). Zepeda et al. (2011) calls on institutions of higher education to develop coursework to meet the needs of DLLs, and professional organizations to create initiatives to diversify the early childhood workforce leadership. Directors have an important role in guiding interactions with families (Bloom & Abel, 2015). Teachers must be able to work with diverse families, and leaders must be prepared to support and guide this work (Zepeda et al., 2011). Therefore, it is beneficial to the field to train and retain not only high-quality teachers, but also leaders who reflect the diverse communities within which they work.

Boosting Leadership Quality

Quality leadership in early childhood settings is dependent on adequate training. Leaders should be supported in their efforts to advance their professional development (Ryan et al., 2011). Appropriate training in management is vital for early childhood leaders (Nicholson & Kroll, 2015), however, studies indicate that the majority of childcare center directors had no management training prior to taking on their leadership roles (Talan et al., 2014). Service-learning is just one possible avenue that provides meaningful opportunities for experienced teachers to build leadership skills and move into leadership roles (Couse & Russo 2006).

Leaders in the field stand to benefit from having the professional development opportunities available to teachers. That was the finding of Ryan et al. (2011) in their examination of New Jersey's mixed delivery preschool system. Huss-Keeler et al. (2013) found that in contrast with teachers, directors were less likely to pursue a degree to advance their career options, but by the desire to remain credible to their staff, to improve as effective leaders and role models, and their commitment to the early childhood field. This study also found that directors served as a motivation for teachers to pursue their degrees (Huss-Keeler et al., 2013). Experienced teachers can play a valuable role in guiding preservice and new teachers as mentors, but the teachers acting as mentors also need support in this role (Hobbs & Stovall, 2015). Hobbs and Stovall (2015) suggest that teacher preparation programs seek new ways to provide better support to mentoring teachers and consider how they may receive professional development credits themselves for serving as a mentor.

Providing current early childhood professionals with leadership experiences through service learning is another way to develop more leaders who better reflect the field (Couse & Russo, 2006). While social justice has been identified as an important topic in the early childhood literature, few studies have examined social justice and early childhood leadership (Nicholson et al., 2018). Examining the

intersections of equity and social justice in early childhood education leadership could lead to the field moving in ways that espouse its social justice values.

Well-structured leadership can be a way to boost PreK teacher retention, a concern we identified earlier in this paper. Distributed leadership, a leadership model in which many staff members act as leaders, can effectively improve staff morale and retention and ensure program longevity (Bloom & Abel, 2015). The value of distributed leadership is supported by a shift in the literature toward more inclusive definitions of leadership, moving away from hierarchical leadership models (Nicholson et al., 2018).

Much like the inconsistent policies and requirements regarding PreK teachers, a shared understanding of what is needed and expected from a high-quality PreK leader should reach across states and programs (Lieberman, 2017). Like PreK teachers, pay parity for leaders (who are not part of a PreK-12 system) is also an issue. Early childcare center director salaries remain low across most states and lower than K-12 principals in all states. And unlike K-12 principals, states do not set standards for center director compensation (Lieberman, 2017). As the early childhood field continues to grow, the need to train and retain high-quality leaders will become even greater (Couse & Russo, 2006; Ramgopal et al., 2009; Ryan et al., 2011).

Growing Edges and Recommendations

Based on our review of the research, we have identified some of the growing edges of the field and suggest the following recommendations.

Increase Equity Among Children and Families Being Served

The field must incorporate marginalized voices, including but not limited to Black, Indigenous, and Latinx communities, and particularly those from the BIPOC community, in how quality in PreK is conceptualized.

Training in Anti-racist and Anti-oppressive Practices and Culturally Sustaining Pedagogy

Programs should provide instruction in best practices for working with and supporting diverse children and families via training on anti-bias content, culturally sustaining practices, and appropriate service-learning experiences (Blanchard et al., 2018; Capó et al., 2019; Chu, 2016; Hallett et al., 2016; Katz et al., 2010; Knight-McKenna et al., 2019; Zepeda et al., 2011).

Teachers should be trained to work with families using a strengths-based approach, rather than a deficit lens. This is particularly true for White, English-speaking teachers interacting with BIPOC and DLL students and their families.

Support Teacher Preparation Programs to Provide Coursework and Training on Relevant Content that Leads to Improved Classroom Quality and Child Outcomes

There is a need to provide coursework in early childhood education programs focused on birth to age three development, subject-specific instructional practices, implementation of trauma-informed care practices and a positive discipline approach, and social and emotional classroom supports. While research indicates that higher and more specialized levels of educational training seem to be positively associated with classroom-level outcomes (Pianta et al., 2008; Vu et al., 2008; Williford et al., 2017), more research is needed related to children's performance in specific subjects. Further research in this area can help support efforts in increasing access to specialized levels of training and professional development for early childhood educators.

Increase Equity Among PreK Professionals

Efforts to increase equity in education should include areas of job opportunity, leadership roles, and having a voice in shaping the future of the field.

Increase Access to High-Quality and Affordable Educational and Professional Development Opportunities

It is essential to provide access to a diverse array of early childhood professional preparation programs that offer flexibility in modalities, locations, and time that support candidates. This is especially important for BIPOC and multilingual teacher candidates to ensure a more diverse workforce at all levels.

Efforts related to increasing access should include:

- **Partnerships with higher education programs.** Institutions of higher education play a critical role in ensuring the access for candidates to become qualified early childhood educators. Early childhood preparation programs in colleges and universities should receive support to develop and maintain high-quality programs of a consistent standard (IOM & NRC, 2015). For instance, support is needed to hire more faculty members from racially, culturally, and linguistically diverse backgrounds, increasing institutional recognition of the value of these programs for the early childhood workforce, providing more financial support and professional development opportunities for faculty, and enhancing institutional understanding of the larger context of early childhood education (Hyson et al., 2009).
- **Comprehensive funding support packages.** Financial concerns may limit many candidates from pursuing the training, degrees, or credentials needed to become a qualified early childhood educator. We must also work toward consistency in availability of funding

and the administrative agencies that oversee funding parameters (IOM & NRC, 2015). Providing financial support—such as scholarships and economic support for the cost of transportation, books, course materials, childcare, and more—help ensure aspiring professionals in the field obtain licensure to become early childhood educators (NAEYC, 2019). Offering student loan forgiveness programs for PreK teachers is another way to encourage candidates to pursue early childhood degrees and credentials.

- **Online degree program options and technology-mediated professional development.** We recommended increased access to online degree programs. Effective virtual programs must provide appropriate online academic and technical support, a straightforward course design, and relevant content with practical assignments (Barnes et al., 2018). One goal of online programs should be to advance equity. However, without proper oversight and regulations that consider, for example, cost and accessibility to highspeed Internet, online learning can exacerbate equity issues (Protosaltis & Baum, 2019). Given this, we also recommend that policymakers ensure that online programs are high-quality, affordable, and easily accessible for students who need them most. Improved support for student retention in higher education programs. The presence of supportive and multilingual staff—such as retention coaches, academic advisors, and mentors—are particularly helpful for supporting aspiring teachers' ability to complete their programs and obtain credentials (Garner et al., 2015; Lo et al., 2017). Some students need additional support with general education requirements and require additional forms of structural support (such as financial aid).
- **Improved support for student retention in higher education programs.** The presence of supportive and multilingual staff—such as retention coaches, academic advisors, and mentors—are particularly helpful for supporting aspiring teachers' ability to complete their programs and obtain credentials (Garner et al., 2015; Lo et al., 2017). Some students need additional support with general education requirements and require additional forms of structural support (such as financial aid).
- **Explore innovative and alternative degree pathways for current educators.** When alternative pathways are created, jobs become open to a diverse pool of candidates who have ties to the communities they are serving (Zinsser et al., 2019). This includes Credit for Prior Learning/ Prior Learning Assessment (CPL/PLA), Grow Your Own (GYO), and apprenticeships programs. Despite the growing popularity of these alternative pathways to credentials and jobs in recent decades, there has been little research on the efficacy of such programs. This gap warrants for a comprehensive examination of the issue.

- **Continue to explore efforts to develop national core competencies and certification in early childhood education.** As a larger goal, we recommend continuing to judiciously explore the optimal degree for early childhood educators (e.g., associate, bachelor's, graduate, or credentialing) and standards to earning licensure. Students frequently encounter challenges obtaining accreditation across various degree requirements. A unified, coherent, and well-resourced system that allows candidates to the trainings and courses required to become high-quality early childhood educators would ameliorate these challenges (NAEYC, 2019). With these goals in mind, we recommend continuing research efforts that explore establishing a national PreK certification program.

Create and Evaluate Equity-Focused Early Childhood Leadership Development Programs

There is a dearth of information on the development of effective, high-quality early childhood leadership in the research literature. Further research is needed around all aspects of leadership, including studies to examine how policies around pay are established that seemingly continue to reproduce the status quo of racially homogenous leadership.

Increase Parity Among All Education Professionals, So that PreK and Other ECE Professionals Are Treated as Equal to Those in the K-12 Space

Improve Retention of Quality PreK Professionals through Increased Compensation and Benefits

There is discussion in the literature around pay parity and retention for PreK teachers, but further research is needed on what this means for PreK leaders. Research in early childhood education financing can inform state and municipal leaders with models of how to increase access and quality in early childhood education. We recommend that principles and recommendations from *Transforming the Financing of Early Care and Education* (NASSEM, 2019) be implemented and evaluated. To support the total cost of a high-quality ECE system and give ECE providers access to the resources they need to recruit and retain a highly qualified workforce.

Support Requirements that Train Elementary School Principals as Early Childhood Leaders

Supporting legislation that would lead to ECE education requirements for elementary school principals can allow them to lead PreK programs in public schools more effectively. However, there is still much to learn related to effectively scaling quality early childhood education and training for principals.

Impact of COVID-19

In the course of writing this paper, the world has been upended by the effects of COVID-19. COVID-19, and the government's response, has proven to exacerbate the inequalities described in the body of this paper. Access to high-quality programs for BIPOC and DLL children and families has been further compromised (Malik et al., 2020).

The effects of COVID-19 have also highlighted how the ECE workforce *othered* compared to their K-12 counterparts. The majority of states are not holding in-person school for K-12 students, but the ECE workforce has generally been declared essential workers. ECE programs have been required to remain open, putting the lives of teachers and other ECE professionals at grave risk (Center for the Study of Child Care Employment, 2020). PreK teachers and leaders may be treated as essential workers, depending on whether they are a part of a public school system. Both public and private PreK programs are included in the CDC's guidelines for childcare programs that remain open (Center for Disease Control and Prevention, 2020).

The economic effects of the pandemic have pushed the issue of the high childcare costs and the low margins earned by ECE providers to the brink. In April 2020, it was estimated that without intervention, the U.S. could permanently lose almost half of its licensed childcare capacity, about 4.5 million childcare slots (Jessen-Howard & Workman, 2020). These closures will have a disproportionate effect on low- and middle-income communities, Black and Latinx families, and rural families (Malik et al., 2020). Many of these families already live in childcare deserts—areas without enough licensed childcare slots to meet the needs of the community—a pervasive problem that will only be worsened by COVID-related closures (Malik et al., 2020).

An April 2020 survey of California childcare centers and programs found that 66% had families who were no longer able to pay tuition or who had suffered job loss (Whitebook, 2020). Simultaneously, leaders of privately owned programs have been forced to take on personal debt to maintain new safety measures required by law. A July 2020 survey by NAEYC found that without more public assistance, two out of five respondents planned to close their program permanently, half of which are BIPOC-owned businesses. One in four ECE professionals reported applying for or receiving unemployment (NAEYC, 2020). The Paycheck Protection Program (PPP) has allowed some providers to remain in business for now. Of further concern, according to the NAEYC survey, only 50% of BIPOC-owned providers received PPP funds (NAEYC, 2020).

The education and childcare workforce, birth to Grade 12, deserve respect and fair compensation under ordinary circumstances. During these extraordinary circumstances, if PreK teachers, leaders, and other ECE professionals are to be treated as essential workers, they should be compensated with commensurate pay, health benefits, and safe places of work (Center for the Study of Child Care Employment, 2020). Researchers and policymakers should also consider that the effects of the pandemic mean that specific trends in the field, such as online learning for teachers and outdoor PreK programs, may now be the only option available. Time will tell what the long-term effects of the pandemic will be, but without deliberate efforts by policymakers, the PreK workforce and the young children and families they serve will suffer immensely. These effects will be felt most keenly by those populations traditionally underserved by the field—families and children within the BIPOC, DLL, and low-income communities.

Conclusion

Comprehensive and ongoing efforts are needed to address and ameliorate the deep inequities embedded within early childhood education's vast and varied landscape—inequities deepened during the pandemic. Dependent largely on zip code and family income, a young child could spend their early childhood with a PreK teacher who has a graduate degree and a teaching license, or a provider with a high school degree or equivalent. And the early childhood field does not exist in isolation. While the current paper thoroughly explores issues related specifically to PreK, research indicates that the realized and sustained benefits of high-quality PreK are dependent on a transition to high-quality K-3.

Despite the many inconsistencies which remain in the field of early childhood education and care, this is an exciting time as the field moves forward to improve the services offered to young children and their families. We must also push the field forward in improving access, quality, affordability, and equity to the PreK workforce, both teachers and leaders, for the benefit of all.

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Appendix: Current Pathways for Early Childhood Educators

Two- and Four-Year Programs. More than 1,200 institutions of higher education (IHEs) in the United States offer early childhood education programs designed to prepare early educators to work with children prior to kindergarten entry (Early & Winton, 2001). Of these 1200 IHEs, 56% are 2-year institutions, and 44% are 4-year institutions (Maxwell et al., 2006). Offerings include bachelor's degree, associate degree, and CDA training, and almost one-half offer an early childhood teacher preparation program with fewer requirements than an associate degree (Early & Winton, 2001). The requirements and expectations of these programs vary significantly. Most of the programs offer coursework and practica in various content areas, such as literacy, child development and learning, teaching, and observation and assessment of young children (Couse & Recchia, 2015). Additionally, field-based experience—including student teaching and practica—is a widely accepted preservice requirement in most of the programs (Whitebook & Austin, 2015). Early childhood candidates have the option of the associate degree or bachelor's degree track on the path to becoming early childhood educators.

Child Development Associate credential (CDA).

The CDA is a nationally recognized credential program for educators working with children ages birth to 5 years in the early educational field. Professionals who earn a high school diploma (or equivalent), or those enrolled in junior or senior high school, or technical program in early childhood education are eligible to apply for the CDA credential. To qualify for the credential, candidates must complete 120 hours of formal education training and 480 hours of direct experiences working with young children. The CDA credential offers four different tracks: center-based preschool, center-based infant and toddler, family childcare, and home visitor. The credentialing process includes an exam, a professional portfolio, and competency statements provided by the candidate, as well as a mentoring and coaching system. Additionally, candidates can obtain a bilingual specialization if they are able to speak both languages in a bilingual setting. The CDA is regarded as an initial and foundational credential for educators interested in working in center- or home-based settings (Whitebook et al., 2018).

Certified Child Care Professional. Certified Child Care Professional (CCP) is a two year nationally recognized credential for teachers who are interested in furthering their understanding of the early learning field as well as those who are interested in pursuing professional development. This credential is an option for teachers who do not have a college degree or have completed a degree in another field.

To enroll in the program, candidates must have a high school diploma or GED, be at least 18 years of age, and be able to speak, read, and write English in a capacity that will allow them to perform their duties as a CCP (NECPA, n.d). While it typically takes about six months to complete, the program allows students to pursue the required coursework at their own pace. To maintain the CCP candidates are required to renew their credential every two years.

Child Development Permit. Child Development Permits provide pathways to various qualification levels, including teaching assistant, associate teacher, teacher, master teacher, site supervisor, and program director. All the permits have school-age emphasis authorization, enabling teachers to work in before-school, after-school, and with other school-age children. The course for the requirement of the Child Development Permit must be degree applicable (California Commission on Teacher Credentialing, 2016).

Alternate Certification Opportunities.

Alternative pathways to early childhood education professional development are plentiful (Couse & Recchia, 2015; Gelfer et al., 2015). Example, The HeadsUp! Network offered by the National Head Start Association (Couse & Recchia, 2015), an electronic CDA (E-CDA) program (Gelfer et al., 2015). Lastly, some states require only a General Educational Development (GED) credential to teach in preschool (Friedman-Krauss et al., 2019).

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