Degrees in Context:
Asking the Right Questions about Preparing Skilled and Effective Teachers of Young Children

by Marcy Whitebook, Ph.D. and Sharon Ryan, Ed.D.

Preschool teachers play a critical role in children’s development yet there is little agreement about how to codify teacher knowledge and skill. This brief argues that too much attention has been given to debating the baseline of qualifications required of preschool teachers (e.g., AA vs. BA), failing to take into account the precise nature of the education that teachers have received en route to their degrees, support for ongoing learning, and the effects of the workplace environment on their teaching practice. This brief is intended to illuminate these questions and provide recommendations that can lead to their resolution.

What We Know:
• There is a serious mismatch between the expectations we place on early childhood teachers, the quality and relevance of available preparation, the supports for learning on the job, and the compensation and benefits we provide them.
• Relatively little research has examined the content and quality of teacher preparation programs, making it difficult to identify aspects of formal education that lead to enhanced effectiveness.
• Teaching efficacy is shaped by the adult work environment, which is seldom considered in research about teacher quality. How well teachers interact with children requires attention to adult learning and well-being in the workplace.
• States vary considerably in the extent to which they have developed early educator competencies and whether their institutions of higher learning have incorporated them into their curricula and certification of teachers.
• There is an overall lack of capacity in teacher education, both in number of skilled teacher educators with experience related to children younger than 5 and ethnic, racial, and linguistic diversity among them.

Policy Recommendations:
• Support research and policy that connects what we expect in terms of teacher competencies with credentials and the quality of environments in which teachers learn and work.
• Revamp the content and structure of teacher higher education and professional development to include more practice-based opportunities and integrate a focus on areas related to brain research, language acquisition, and diversity.
• Strengthen the requirements for teacher educators to ensure their attainment of the necessary knowledge, experience, and skills to prepare teachers of young children prior to kindergarten entry.
• Help states develop longitudinal data systems that track workforce demographics and educational characteristics to identify challenges, track progress, and develop sound policies that address chronic problems like low wages, high turnover, and inadequate access to training and education.
• Expand workforce research focused on the effectiveness of higher education programs, professional development approaches, and work environments to support teachers’ ongoing learning.
**Introduction**

From parents to policymakers, everyone agrees that teachers are central to preschool program quality. Effective preschool teachers interact sensitively and responsively with a wide variety of young children, offering generous amounts of attention and support. They know how to construct an environment and activities that enhance and build children’s learning in multiple domains—cognitive, linguistic, social/emotional, and physical. Effective teachers are also intimately acquainted with children’s cultures and traditions, and can communicate with a diverse group of children and families. Without effective teachers, young children do not receive the kinds of educational experiences that have been linked to their ongoing academic and social success.

Despite the widespread consensus that preschool teachers play a critical role in the lives of young children, no such agreement exists about how to codify teacher knowledge and skill. Qualifications vary by program and setting for the same job title. Those referred to as preschool teachers are as likely to have earned a BA as to have completed a few college units in child development or early childhood education, depending on program and state standards. Even within programs, expectations for teacher education vary. While teachers in most publicly funded preschool and Head Start programs are now required to obtain a college degree and specialized training in early education, only 26 of the 38 states that have made a public investment in preschool have defined the BA degree and a credential in early education as the quality standard for classroom practice.

The dissension around qualifications is further exacerbated by the fact that many teachers lack encouragement, expectations or opportunity to continue building their knowledge and skills, often working in settings with little or no support to improve their practice. As Bowman, Donovan, and Burns wrote in *Eager to Learn*, there is a serious mismatch between the professional expectations we place on early childhood teachers, and the levels of compensation and professional preparation that are associated with their jobs.

Over the past decade, there has been passionate debate about teacher qualifications, specifically the optimal level of formal education, and the poles of the debate are set quite far apart. Many in the field continue to support having few or no barriers to entering the ECE workforce, and at the other end of the spectrum, a growing number of advocates and educators assert that a BA degree and a credential in early education should be the standard for preschool teachers.

Given an increasing emphasis on evidence-based policy and practice, many have turned to the research literature for answers about the most appropriate and effective types of educational preparation for ECE teachers. The available evidence has yet to resolve the issue definitively, offering insufficient guidance to those making hard choices about investments in early learning programs. This lack of clear resolution has led to overstating or misstating a relatively limited body of evidence, promoting anecdotes and opinions as fact, and disregarding professional wisdom and other sources of information that can inform policy, practice, and research.

This brief aims to broaden the discussion about what it takes to develop and maintain teacher instructional practices that effectively promote children’s development and success in school and life. We focus on how the limitations of the extant data constrain the debate, eclipse important considerations related to the quality of teacher education and their work environments, and divert attention from pressing research questions and policy interventions that can deepen our knowledge and enable us to better support a diverse ECE workforce that meets children’s needs effectively.
Decoding the Debate

Practitioners and policy makers who have embraced higher qualifications for ECE teachers express confidence that these will lead to better care for children. In particular, when qualifications are linked to resources that help current staff gain access to higher education, complete their degrees, and earn higher salaries, these policies are seen as a strategy to address persistent workforce challenges around recruitment, retention, ethnic and racial stratification, and an inadequate leadership. Yet others have questioned the value of additional education beyond a two-year degree. Some suggest higher qualifications could force a number of current members of the workforce out of their jobs and reduce workforce diversity; doubt whether higher education could absorb the new demands resulting from these added teacher requirements; and/or question whether the attendant costs are a valuable use of ECE funds, particularly when so many additional children are in need of services and parents struggle with affordability.

The evidence being used to inform this debate and make policy decisions is drawn from two bodies of research. The first of these is a group of rigorous studies of the short- and long-term impacts of preschool programs, many of which are targeted to ameliorating the effects of disadvantage on children’s learning. Many of these studies were designed as randomized trials, and in all the programs demonstrating long-term benefits for children, teachers have held BA degrees or higher levels of education. More recently, studies of publically funded preschools that require that teachers hold a bachelor’s degree and have specialized training in early childhood education, report positive child outcomes. Children attending Oklahoma’s preschools, regardless of racial, ethnic or socio-economic background, exhibited gains in language and cognition scores. Similarly, children attending New Jersey’s preschool program (formerly the Abbott preschool program) exhibited positive language and math outcomes lasting through second grade.

The other body of research consists of studies of child care programs that have statistically related natural variation in program features with program quality and child outcomes. From examining the clusters of characteristics found in high-quality programs that contribute to positive child development, researchers have concluded that in general children are more likely to show better outcomes when their teachers have higher levels of education. Studies within this category also suggest that the quality of care and instruction in center and home-based ECE programs is higher when teachers hold BA degrees than when they do not (e.g., Burchinal, Cryer, Clifford, & Howes, 2002). Based on these and similar studies, many reviewers have concluded that the best-quality ECE programs are those in which teachers hold BA degrees, especially in child development or similar fields.

Yet several recent studies of this latter type have led others to re-examine the emphasis on college degrees for ECE teachers. Some studies have shown relationships in publically funded preschool programs between teacher credentials and student gains in math but not in other areas, and even null or contradictory findings concerning the relationship between classroom quality, children’s educational outcomes, and the educational attainment and majors of their teachers. Such findings have led some to question whether the effects of a BA degree over an AA degree are so small or unpredictable that requiring any kind of formal degree for preschool teachers is unnecessary. However, these findings should be interpreted cautiously as closer examination of the results provides some evidence that a BA degree does produce positive results. Early et al. (2007) for example, found that 19 of 27 BA effects were positive for teacher practice and 16 of 20 BA effects for child outcomes were positive.

While it would seem that most of the evidence is in favor of teachers having some kind of education, the current research base does little to help resolve the debate about preschool teacher qualifications. The discrepancies in findings and interpretations can be attributed to three limitations of the available research. The first of these limitations concerns the wide variability of study designs and purposes that have been
used to support one side of the debate or the other. The second and third limitations reflect a lack of consideration of the contexts shaping teacher education and the environments in which practice occurs. That is, level of education is also related to the quality and content of preparation teachers have received and the environment in which they work with young children.

**Variation in design and research purposes**

The studies examined as evidence in the debate about teacher qualifications were not designed to explicitly answer the question of what is the baseline level of teacher education needed to ensure program quality that, in turn, ensures children’s learning and development. Some researchers asked which programs lead to the best long-term outcomes for children, and focused on intensive, multi-service, multi-year programs staffed by BA-level teachers. Early and her colleagues asked whether state-funded prekindergarten programs showed a relationship between teacher preparation and child outcomes. Other studies focus on early care and education programs broadly defined in which there is wide variation in teacher educational attainment, and then make comparisons across programs.

As teacher education and qualifications are only one of several variables being studied, it is not possible to determine from the data presented whether it is the degree itself or the cluster of variables within a program that contribute to program quality. For example, specific features of such programs, such as length of day or curriculum content, may interact with teacher background so as to impact program quality and child outcomes differently that in preschool versus other types of early care and education services. Because publicly-funded preschool shares as many characteristics with early elementary school as it does with child care in terms of structure and goals, different lines of investigation may be required to answer questions around appropriate teacher education in different types of programs. In short, without research that directly examines the question of teacher education disentangling it from other program variables, it is not possible to answer the question of optimal level of education.

**Quality and Content of Teacher Education.**

Research examining the relationship between teacher education, program quality, and child outcomes has tended to focus narrowly on the quantity of teachers’ formal education. Studies typically examine whether more education or training makes a difference, but do not systematically explore how the BA or higher degrees with different foci compare to one another and/or contrast to other levels of education, such as the AA degree. Relatively little work has examined the content and quality of this teacher preparation, thus confounding the clarity of what we are actually learning about the BA per se, and the benefit in teacher effectiveness we derive from formal education.

Available research indicates several important lines of inquiry that influence the quality of teacher education. The first of these is the content and experiences offered in the program in which early childhood teachers receive their education. The second concerns the capacity of an institution to deliver a curriculum that reflects research wisdom and is relevant to the needs of the field.

**Content of programs.** Early childhood teacher education takes place at the community college or four-year institution level, in schools of education—typically geared more toward teaching children in the early elementary grades than preschool—but also in other schools or departments, which also often cover a much wider age span, such as child development, human development, psychology, or family and consumer sciences. Further, although some have a specialized, applied focus on working with young children, such programs are not necessarily geared to teacher preparation at all, making them ineligible.
to seek such indicators of quality as national teacher education accreditation. Additionally, states vary considerably in whether they have developed early educator competencies and the extent to which such competencies influence or are even considered in higher education curricula and certification for early childhood teachers.31

The few studies exploring the academic content of these different approaches to teacher education curricula identify insufficient attention to issues related to language acquisition and dual language learning; understanding and working with infants and toddlers, children with special needs, and those from diverse cultural and economic backgrounds; as well as working with co-workers, families and colleagues across disciplines and from varied cultures and communities.32 Thus, we know more about what content is missing from programs of preparation but little about the nature or depth of teachers’ professional courses of study and how these courses of study impact on performance.33 For example, we know little about how the scope and sequence of a teachers’ education, including whether specialization in early childhood occurred at the two- or four-year level, as piecemeal classes, or part of a comprehensive program, influences teacher effectiveness.

Similarly, there is almost no mention of student teaching or field experiences in studies examining the relationships among early childhood teacher characteristics, practice, and child outcomes, yet a growing body of evidence suggests that longer student teaching experiences, especially coupled with concurrent theoretical coursework, are associated with teachers’ increased ability to apply learning to practice for older children.34 The National Council on Accreditation of Teacher Education35 has issued recommendations calling for greater emphasis on clinical practice in teacher education programs as a key strategy for improving effective practice among P–12 teachers.

However, teachers in most early care and education settings, unlike those in K–12, are often not required to complete student teaching as a pre-requisite for completing their degrees or for employment.36 In part, this is due to the low expectations for education and training necessary to work effectively with young children; it also reflects the reality that most early care and education practitioners do not participate in pre-service preparation, but pursue education and training after they are employed in the field. Once on the job, however, field experiences become logistically difficult, often requiring changes in paid work schedules or foregoing pay. Onsite student teaching, while more convenient for the working student, can also be problematic. When students working full-time as early childhood teachers while enrolled in a BA completion cohort program were permitted to complete their practice in their own classrooms or centers, more than half strongly or somewhat agreed, that they would have preferred to do their practicum somewhere other than their own classroom. Many also expressed concern about their onsite supervisors and the time allotted for reflection.37

Capacity issues. In addition to the content of programs, the quality of teacher education programs is also impacted by institutional capacity. Current research indicates that the number and expertise of faculty mediates the content and delivery of programs of preparation. Because early care and education teacher preparation, to a far greater extent than K–12, serves both a traditional and a nontraditional student clientele,38 experts have questioned whether there are sufficient skilled teacher educators and trainers with current knowledge in ECE, recent teaching experience in ECE classrooms, and experience with teaching diverse adult learners to meet current workforce need.39 There is a striking lack of ethnic and racial diversity among teacher educators, in stark contrast to the students they serve.40 Nearly one-third of faculty members in upper-division and graduate ECE teacher preparation programs have no experience working with children prior to kindergarten, and many do not have specific academic preparation in early childhood education. Early childhood programs within institutions of higher education also employ fewer full-time

Degrees in Context:
Asking the Right Questions about Preparing Skilled and Effective Teachers of Young Children
Asking the Right Questions about Preparing Skilled and Effective Teachers of Young Children

In addition to faculty expertise, studies of higher education have also examined the capacity of institutions of higher education to support full-time working adults from diverse cultural and linguistic backgrounds. This body of research has identified financial assistance, conveniently scheduled and located classes, academic counseling and tutoring as effective supports, particularly when combined with a cohort model in which a group of perhaps 10 to 25 students begins a program of study together, takes classes together, and ends the program at approximately the same time. Research about BA completion cohort programs, combined with targeted financial, academic, and technological supports for adults working in ECE settings have enabled early childhood teachers—some of whom had previously tried unsuccessfully to complete a college degree—to enter and succeed in earning four-year degrees. Self reports of increased efficacy by graduates suggest such approaches may also contribute to greater teacher effectiveness, but the lack of standard indicators of student competency upon completion of educational benchmarks makes it difficult to assess the quality of the early childhood teacher education enterprise.

**Quality of the work environment and effective teacher practices.**

The research base on teacher qualifications has tended to look at a range of program variables like curriculum, class size etc, that impact the learning environment for children. Conspicuously absent is any consideration of the adult work environment in which teachers operate and the extent to which it supports or undermines their ability to apply their knowledge and skills. Although early childhood classrooms are staffed by more than one adult, and classrooms within a program operate in concert to various degrees, few studies explore how variations in staffing patterns and the background of other teachers and the director impacts teacher behavior and program quality. Other important contextual information too often overlooked in research examining the benefits of teacher education involves the degree of support in the workplace for ongoing teacher development through policies related to mentoring, professional development opportunities and paid planning and meeting time, as well as the level of compensation and benefits that support adult-well being.

**Support for ongoing, on-the-job learning.** In the K–12 sector it is widely recognized that regardless of experience or qualifications, teachers require ongoing professional development to continue to improve and be effective. Models of professional development have shifted from one-shot, decontextualized workshops to approaches such as learning communities and coaching that are more teacher- and context-specific and that provide supports for teachers to try out new ideas in practice. The use of mentor teachers who model, co-plan, provide frequent feedback, and repeated opportunities to practice strategies undergirds policies supporting induction programs for new teachers and has been associated with better retention of new teachers. Similarly, the use of coaching where experienced teachers work with a consultant or coach who provides supportive feedback and technical assistance is also considered key to the effective implementation of curricula reform. While less research is available on the effects of mentoring and coaching in early childhood, recent studies suggests that ECE professional development that involves coaching leads to more changes in teacher behavior than programs implemented without coaching.

Yet, mentoring and induction opportunities are much less available for ECE teachers, despite considerable investment of federal, state and private dollars in early childhood professional development activities, much of which is short-term and has been found to be of limited value. Even teachers working in the better-resourced publically funded preschool sector do not all benefit from mentoring support.
Additionally, many work environments do not offer the supports that encourage and allow for more effective teacher practices, such as paid planning time and professional development opportunities. Paid opportunities for early childhood teachers to meet with other teachers, at times not requiring simultaneous child supervision—as well as guidance from experienced and trained mentors and supervising teachers—are identified by teachers themselves as necessary scaffolding for best practices. Yet, the kinds of professional development and mentoring opportunities teachers receive while on the job are seldom considered in the research or debate about preschool teacher qualifications.

While the research base has focused solely on the education of individual teachers, the reality is that most work in early childhood settings is collaborative. In addition to mentors, research on K–12 and ECE indicates that leadership style and preparation of directors and principals contribute to the climate of professional learning in a school or center and related teacher development. At the classroom level, Leanna, Appelbaum, and Shevchuk found that teacher performance, particularly for those less experienced, is positively related to opportunities to make decisions about their practice in collaboration with their coworkers.

Currently, there is renewed interest in mentoring and coaching approaches for early childhood, as reflected in recent federal encouragement of mentoring approaches for Head Start and childcare teachers and providers and other professional development strategies. While some of these new policies are being promoted as alternatives rather than supplements to formal education for early childhood teachers, without further research that examines the relationships within a workplace that contribute to job performance as well as the interaction between targeted professional development strategies like coaching and teacher education, there is no guarantee that these policies will have their intended effect.

Compensation policies and support for adult well-being. Wages and benefits for early childhood professionals remain among the lowest of any occupation, contributing to a host of problems that impact the quality of services, such as high turnover and declining educational levels among teachers. Initiatives to reward and support the workforce often suffer from insufficient and undependable funding; even in the better-resourced publically funded preschool sector, most programs operating outside of school districts fall short of comparable salaries to K–12 teachers.

Low income levels are also associated with lower rates of health coverage and greater incidence of health problems. Early childhood work environments may exacerbate health problems because of the lack of paid sick leave and a system of substitute teachers. New evidence of the relationship between child and adult well-being has shone a light on the importance of healthy, responsive adults to children’s optimal development and ability to learn. While most of the research has focused on children and their parents, the well-being of children’s teachers with whom they often spend the majority of their waking hours is of increasing interest and importance. Many early childhood teachers experience persistent poverty, ill health, and depression, all conditions that can prevent adults from meeting the needs of young children. Higher than average indicators of depression have been found among early care and education teachers and providers and associated with compromised interactions with the children they teach.

Strikingly, many of the studies examining teacher education did not control for the wage effect, which has been repeatedly linked to program stability and quality, teacher behavior, and child outcomes. Early and colleagues (2008) suggested that the higher wages offered in the state-funded preschool program (vs. community-based child care) may attract the exceptional teachers without a bachelor’s degree; on the other hand, the relatively lower preschool wages (as compared to elementary school) may not attract the highest-quality teachers with a bachelor’s, who can earn more in a K–12 classroom. As likely an explanation is the variability in wages across preschool settings, and their contribution to turnover,
higher rates of which have been linked to poor program quality and child outcomes.  

In summary, while focusing on whether or not teachers need a BA or an AA appears to be a straightforward policy question, the debate has reduced a complex issue to a narrow question failing to take into account the precise nature of the training that teachers have received en route to their degrees, and the effects of the workplace environment on their teaching practice, or to consider the connection between adult and child well-being.

The Making of Effective Teachers: Adding More Ingredients to the Mix

The qualifications argument in the field of early education masks some serious underlying issues in the ECE field. Instead of a debate about resources and opportunity, the argument about degree requirements is playing out long-held, deep-seated attitudes about the nature of ECE teaching itself—an argument that reflects a persistently lingering culture of low expectations about higher teacher status, resulting in large measure from decades of predominately least-cost policy approaches to retain or expand early education at all.

To realize a new vision for young children—highlighting the importance of nurturing, structured, age-appropriate early education as a solid foundation for lifelong learning—requires connecting what we expect in terms of teacher competencies and education qualifications with the quality of the environments in which teachers live, learn, and work. For a quarter of a century or more, the negative consequences of low paying early childhood jobs has been well documented, with high turnover and recruitment and retention problems viewed, more or less, as endemic and permanent features of the field. Higher educational qualifications and more professional development to improve performance have been largely decoupled from attention to the work environment or the pay of teachers, issues too often viewed as secondary to addressing the needs of young children.

Insufficient consideration of the complexities of education and the work environment in the extant literature and debates calls for new directions in research and policy directed toward teacher performance as identified below.

First, it is necessary to expand the debate beyond the baseline of qualifications needed for teachers to how to improve the quality of higher education programs in 2- and 4- year institutions of higher education. This work should include considering who prepares preschool teachers as well as the content and delivery of such programs and their linkages to the field. Resources and policies should be directed toward:

- Revamping the content and structure of higher education and professional development opportunities to include more practice-based opportunities and to integrate essential focus areas related to the latest brain research, language acquisition, with emphasis on dual language learners, cultural and economic diversity, and working with families and colleagues across disciplines and from varied cultures and communities.
- Strengthening the quality of early childhood teacher education through greater support and professional development for teacher educators as well as recruitment of more faculty from under-represented populations.
- Expanding services and supports, such as cohorts, for access to and success in higher education for all interested potential students.
Second, it is also critical that closer attention is paid to developing workplace policies that support teachers to be able to consistently perform well and to continue to learn and improve. Policymakers and administrators should consider therefore:

• Promoting better work environments as a critical ingredient in providing high-quality care and education services.
• Identifying and testing strategies to increase the compensation of professionals working with our youngest children.
• Supporting professional development opportunities and workplace practices that support on-going, on-the-job learning, such as adequate paid planning and meeting time, opportunity to visit other classrooms and programs, and access to a mentor or other professional expert.

Finally, moving beyond qualifications requires also ensuring that policy initiatives reach their target goals by initiating careful programs that enable data-driven improvements. Resources and policies should be directed toward:

• Helping states develop, maintain, and expand longitudinal data systems, such as registries, that track workforce demographics and educational characteristics to identify challenges, track progress, and develop sound policies that address chronic problems like low wages, high turnover, and inadequate access to training and education.
• Expanding federally funded workforce research focused on the effectiveness of higher education programs, professional development approaches, and work environments to support teachers’ ongoing learning, which is necessary for continual quality improvement.

Conclusion

Bolstered by our new understanding of the consequences of adult emotional and physical health on children’s development, and the importance of quality early education for children’s academic success, new policy solutions must be generated that not only expect and require more of teachers, but reward the current and emerging ECE workforce with employment practices and salaries commensurate with their education. Developing workforce strategies that address the well-being of teachers and that recognize teacher development as an ongoing process will ensure that children are not just taught by qualified teachers but by practitioners who are consistently supported and rewarded to enact the best possible education for all.
Endnotes

1 This paper will primarily discuss preschool head teacher qualifications, since these are the focus of most current policy discussion—as opposed to assistant teachers, or teachers working in other programs or with other age groups in the wider field of early care and education. But we also note the vital importance of skilled and well-educated teachers for children from birth to age three, and for preschoolers who are in out-of-home care before and/or after a part-day pre-kindergarten program.


Degrees in Context: Asking the Right Questions about Preparing Skilled and Effective Teachers of Young Children


13 Fuller et al. (2006).


22 Bogard et al. (2008); Early et al. (2008); Fuller et al. (2006).

23 Early et al. (2007).


26 Early et al. (2007); Early et al. (2006).


40 Whitebook et al. (2005).

41 Maxwell et al. (2006); Whitebook et al. (2005).


43 Agnew, Mertzman, Longwell-Grice, & Saffold, 2008; Chu et al. (2010); Coehran-Smith & Zeichner (2005); Whitebook et al. (2008).

44 Chu et al. (2010); Whitebook et al. (in press).


54 Barnett et al. (2009).

55 Lobman et al. (2005); Whitebook et al. (2009b).


Barnett et al. (2009).


Early et al. (2008).

Barnett et al. (2009).


Bogard et al. (2008); Calderon (2005); Early et al. (2008); Fuller et al. (2006).
by Marcy Whitebook, Ph.D., and Sharon Ryan, Ed.D.

Marcy Whitebook, Ph.D., is the director of the Center for the Study of Child Care Employment at the University of California at Berkley. Sharon Ryan, Ed.D., is an associate professor at Rutgers University, Graduate School of Education and a research fellow at NIEER.

The Center for the Study of Child Care Employment’s contribution to this work was made possible through the generous support of the W. Clement and Jessie V. Stone Foundation. The conclusions and views presented in this report are those of the authors only, and not of the report’s funders.

Degrees in Context: Asking the Right Questions about Preparing Skilled and Effective Teachers of Young Children is issue 22 in a series of briefs developed by the National Institute for Early Education Research. It may be used with permission, provided there are no changes in the content.

Available online at nieer.org.

This document was prepared with the support of The Pew Charitable Trusts. The Trusts’ Advancing Pre-Kindergarten for All initiative seeks to advance high quality prekindergarten for all the nation’s three-and four-year-olds through objective, policy-focused research, state public education campaigns and national outreach. The opinions expressed in this report are those of the authors and do not necessarily reflect the views of The Pew Charitable Trusts.