

New America | Education Policy Program

February 2014

Raising Arizona

Lessons for the Nation from a State's Experience with Full-Day Kindergarten

CJ Libassi



About the Author

CJ Libassi is a graduate student in the Gerald R. Ford School of Public Policy at the University of Michigan. He previously worked as an intern on the New America Education Policy Program

Acknowledgment

We would like to thank our reviewers, Bruce Atchison, Cathy Grace, and Kristie Kauerz, as well as the many state and district officials in Arizona who assisted us with this project.

About New America

New America is a nonprofit, nonpartisan public policy institute that invests in new thinkers and new ideas to address the next generation of challenges facing the United States.

The New America Education Policy Program's work is made possible through generous grants from the Alliance for Early Success; the Annie E. Casey Foundation; the Bill and Melinda Gates Foundation; the Evelyn and Walter Haas, Jr. Fund; the Grable Foundation; the Foundation for Child Development; the Joyce Foundation; the Kresge Foundation; the Lumina Foundation; the Pritzker Children's Initiative; the William and Flora Hewlett Foundation; and the W. Clement and Jessie V. Stone Foundation.

© 2014 New America

This report carries a Creative Commons license, which permits non-commercial re-use of New America content when proper attribution is provided. This means you are free to copy, display and distribute New America's work, or include our content in derivative works, under the following conditions:

Attribution. You must clearly attribute the work to New America, and provide a link back to www.newamerica.org.
Noncommercial. You may not use this work for commercial purposes without explicit prior permission from New America.

Share Alike. If you alter, transform, or build upon this work, you may distribute the resulting work only under a license identical to this one.

Foreword

By Laura Bornfreund

Deputy Director: New America Early Education Initiative

The notion that our country has a PreK-12 education system is a misconception; what we really have is a 1st-12th grade system of education. Neither pre-K nor kindergarten are fully woven into public education and are often treated as add-ons or afterthoughts. This means we are shortchanging our youngest learners.

Most Americans know that public pre-K is not commonly available to children who could benefit most, much less for any child whose parent would like him or her to attend. States have a lot of work to do to ensure that every child who wants it has access to high-quality pre-kindergarten experience. Now more than ever, though, the value of high-quality pre-K is gaining broad attention. Business leaders, law enforcement, retired military leaders, charitable foundations, and Nobel-winning economists have made novel new arguments for early education investments. Lawmakers in states red, blue, and purple have reignited interest in existing programs and sometimes pushed for new investments.

And, of course, improving access to and the quality of pre-K programs for 3- and 4-year-olds is crucial. It is not the whole education "race," though; pre-K helps children get a strong start and then passes the baton.

Most states and districts have all but ignored kindergarten, the next relay runner. While a seamless handoff helps, so do children's experience during the kindergarten year.

Right now, children's kindergarten paths vary considerably by children's zip codes, with some attending for a full school day and others offered only half-day classes at no cost. A mom and dad in North Carolina visit their local elementary school and easily register their little boy for kindergarten that lasts just as long as 1st grade. In Pennsylvania, a little girl's parents would like her to attend all day, but their school district only offers half-day classes. And, in Arizona, a family decided to pay tuition for the second half of the day so their youngest could have a full day of learning.

Despite this variability, the new national English/language arts and math standards for kindergartners are exactly the same for students in all of these

states. These standards, known as Common Core, were designed under the assumption that all kindergartners would have a day of learning equivalent to first grade.

Of the 45 states, and Washington, DC, that have adopted the Common Core, only 12 require that districts provide full-day kindergarten at no charge for all children. Five states do not require districts to offer kindergarten at all and 35 states do not require that children attend kindergarten. Further, the length of the kindergarten day varies, ranging from 2.5 to 7 hours. In some cases, kindergarten-funding levels are less than those provided for 1st grade.

A half-day allows less time for teacher instruction, especially in the way kindergartners learn best: inquiry-led learning, child-centered play, exploration, and hands-on activities. There is also less time for teachers to help students develop and practice social-emotional skills, such as understanding feelings, managing emotions, regulating behavior, and developing empathy. These non-academic skills are important to children's success throughout their schooling and later in life. While the Common Core only sets out expectations for skills in reading and math and not how these skills are taught, teachers in half-day programs may feel pressured to limit what they teach and resort to more direct instruction and worksheets rather than employ strategies that match how young children best learn.

High-quality full-day kindergarten and pre-K are important components of the PreK-3rd grade continuum, laying the foundation for children's learning and development.

Change is on the horizon. In the last few years, at least four states began expanding the provision of full-day kindergarten. These states, though, have not made it a statutory requirement, leaving it vulnerable to cuts during difficult financial times. Additionally, school districts across the country continue to discuss expanding full-day kindergarten to meet the expectations of the Common Core.

This brief describes the kindergarten landscape across the country and research supporting a full day of learning. It zooms in on one state, Arizona, to provide an illustrative example of what can happen when the availability of free full-day kindergarten to all students is not a statutory obligation. The brief also offers lessons from Arizona for policymakers across the country who are considering whether, and how, to expand the provision of and funding for full-day kindergarten.

Introduction

Though recently much attention has been given to the importance of early childhood education, one stubborn shortcoming of education in the early grades remains largely ignored: Unlike every other grade in the K-12 system, some students in the United States still do not have access to free, full-day kindergarten at their local public schools.

In fact, just 11 states and the District of Columbia require their public schools to provide free, full-day kindergarten by law. Alternatively, six states have no statute requiring any kindergarten at all. And though the remaining states require at least a half-day be provided, 12 allow for districts to require parents to pay for the second half of the day.¹

These statutory minimums, however, provide only a limited picture of full-day kindergarten provision nationally, as many districts throughout the country exceed their state requirement. As Lisa Guernsey and Alex Holt have outlined², data on the number of students in full- and part-day kindergarten are remarkably sparse. The best estimates range from 74.8 percent³ to 77 percent⁴ of students in full-day classes nationwide. However, these numbers obscure the fact that

districts and states often have vastly different requirements for the number of classroom hours that define “full-day.”⁵ Also missing from the data is the reality that some percentage of students nationwide must pay tuition for the second half of the kindergarten day at their public schools. Still, even these estimates find that nearly 1 in 4 American kindergartners receive only half-day classes, a fact worthy of action in its own right.

One useful way to understand the opaque and variegated landscape of kindergarten in the United States is through the experience of individual states. The case of Arizona illustrates especially well the potential for, rationale behind, and impact of cuts to full-day kindergarten funding in a system that has not wholly recognized full-day kindergarten as part of a basic public education. Arizona's choice to promote full-day kindergarten in the state through budgetary incentives alone rather than requiring it through legislation left it vulnerable to cuts. Taking advantage of this vulnerability, Arizona policymakers and interest groups opposed to full-day kindergarten called into question the academic value of all-day classes. When all funding for full-day kindergarten in the state was ultimately rescinded, district officials had tough calls to make, which in many cases led to reductions in the number of full-day classes or cuts to other programs in order to maintain full-day classes.

Full-Day Kindergarten in Congress's and the President's Early Ed Plan

Beginning with the president's State of the Union call for universal pre-kindergarten and the resulting White House plan, full-day kindergarten has been given renewed, if quiet, focus from policymakers. Under the president's plan, states would be able to use a portion of their funding for expanding full-day kindergarten programs throughout the state, provided that all low- and middle-income children are provided with preschool. However, the House and Senate legislation, the Strong Start for America's Children Act, each remove this potential source of funding for full-day kindergarten, instead giving states discretion to direct a portion of their funds to early education and care programs for infants

and toddlers. Given both bills' requirement that the pre-K classes established under the law be full-day (specifically, at least 5 hours per day and equal to the length of day in public elementary schools in that state), such a retreat on full-day kindergarten funding raises the possibility of important continuity concerns for students who might graduate from high-quality full-day pre-kindergarten into a half-day kindergarten class. Still, the Senate bill does require states to report on their funding schemes for full-day kindergarten, if they exist at all. It also requires states to explain how they plan to either create, or expand their full-day programs, to all children participating in the state's pre-K program.

Arizona's Experience

In May of 2004, then-governor Janet Napolitano (D-AZ) concluded a long battle⁶ for one of her most important policy priorities by signing into law Senate Bill 1405.⁷ This plan altered the state budget to increase funding for full-day kindergarten in Arizona⁸ in a phased fashion. It was designed to begin with schools with over 90 percent of enrolled students receiving free and reduced-priced meals in 2005, add schools with at least 80 percent of their students receiving free- and reduced-priced meals in 2006, and finally expand to all schools in the state in 2007.

Although the legislation did not change the state's school funding formula,⁹ which gave both full- and half-day kindergartners half the weight for funding calculations as children in other elementary grades, the bill did create a full-day kindergarten fund to supplement the money allocated through the traditional formula. The bill was enacted by a legislature with a majority of Republicans in both houses. In the House of Representatives, where Republicans held 39 seats to Democrats' 20 and Independents' 1, the bill passed narrowly with a 35-25 vote in favor, with 19 Republicans and the 1 Independent opposing. In the Senate, where Republicans outnumbered Democrats 17 to 13, the bill passed 23-6, with all 6 votes in opposition coming from Republicans and one Democrat not voting.

In 2006, House Bill 2874¹⁰ modified the original bill in a few important ways. First, the new legislation eliminated the phasing plan and immediately expanded full-day kindergarten to the entire state. Second, it eliminated the full-day kindergarten fund and instead increased the funding weight for kindergartners, although still not to the level of older grades.¹¹ Finally, the bill eliminated funding for capital improvements, which helped schools pay for the increased classroom space necessary to provide full-day kindergarten. In contrast to the earlier bill, this weakening of the state's support for full-day kindergarten passed the House, which was composed of 39 Republicans and 21 Democrats, with just five votes in opposition, all of which came from Democrats. In the Senate, where

Republicans held 18 seats to Democrats' 12, two Republican Senators were the only votes against the adjusted full-day kindergarten plan.

Despite Napolitano's landslide reelection in November 2006, for which she highlighted the passage of full-day kindergarten in campaign ads,¹² Republican opposition to the program remained strong. Then in 2009, when Napolitano was tapped to direct the Department of Homeland Security, Republicans in the state were granted a unique opening to roll back kindergarten funding as then-Arizona Secretary of State Jan Brewer (R-AZ) succeeded Napolitano to the governorship. At the time, the threat of repeal was so potent that Napolitano warned against such a move in her final State of the State speech, remarking,¹³ "If this legislature cuts classroom spending, the people of Arizona will recognize such a cut for what it is—not a budget necessity, but a willful and unwise choice." Ultimately, though, her admonition proved futile; in 2010, facing a \$4.6 billion budget shortfall and criticizing¹⁴ "the heavy-handed Democrat-led government, whose spending priorities seemed to focus on things people neither want nor really need," Governor Jan Brewer proposed¹⁵ the elimination of full-day kindergarten funding. When passed by the legislature, the measure cut \$218 million¹⁶ from school district ledgers statewide.

The Potential For Cuts

Though Arizona's strategy for expanding full-day kindergarten through budgetary incentives rather than statutory requirements was hardly unique, it did leave the state vulnerable to cuts. Additionally, the funding choices the state did make, funding full- and half-day kindergarten at the same levels and leaving both funded at a lower level than grades 1-12, failed to provide an especially strong incentive for full-day kindergarten adoption. This already minor incentive was further weakened when the state adjusted its full-day kindergarten legislation in 2006 to no longer include either a special full-day kindergarten fund or capital monies to provide the necessary space to accommodate a kindergarten expansion. Overall, the lack of statutory protection for full-day kindergarten and a weak incentive for expansion through the budget left the state especially vulnerable in the tenuous budget climate following the 2008 financial crisis. State spending on education following the crisis diminished considerably and still remains quite low compared to pre-crisis levels. In Arizona, per-student

spending¹⁸ for fiscal year 2014 is 17.2% lower than it was in fiscal year 2008. Just two states, Alabama and Oklahoma, have lower per-pupil expenditures than Arizona.¹⁹

The closest Arizona came to a statutory requirement for districts to provide full-day kindergarten was a stipulation in the original legislation requiring that money distributed under the law was to "be spent only for full-day kindergarten instruction."²⁰ However, when legislators amended the bill in 2006, they dropped that requirement. As Tom Horne, Superintendent of Public Instruction at the time, told the East Valley Tribune, "School boards are allowed to decide whether to spend [the money] on full-day kindergarten or something else."²¹

This was not the only change that weakened the incentive to provide full-day kindergarten. Under the original plan, the state's funding formula gave equal weight to full- and half-day kindergartners,

and gave both less weight than it afforded grades 1-12, a policy the Education Commission of the States already deemed a disincentive to provide full-day kindergarten.²² The 2006 change eliminated the full-day kindergarten fund, which provided extra funding for full-day kindergarten programs, and also zeroed out all funding for capital improvements, which helped schools provide adequate classroom space to implement full-day programs. The new plan somewhat compensated for these cuts by increasing the weight of full-day kindergartners in the funding formula. However, the new funding amounts still did not equal those for public school students in grades 1 through 12.

Ultimately, the chance of expanding full-day kindergarten was not especially strong in the years leading up to the financial crisis, and because it lacked much legislative protection, cuts to the program remained a potent threat.

Full-Day Kindergarten in Arizona

In the summer of 2013, New America conducted an informal survey of the school districts in Arizona that serve kindergartners. Of the 161 such districts, we were able to gather data from 102 districts. Of that subset, we found that 87 school districts offered free full-day kindergarten.¹⁷ Of those 87, 77 were able to tell us the type of kindergarten they provided and estimate the number of students enrolled in half- or full-day programs. About 39,000 kindergartners attended school in those 77 districts. Eighty-four percent of those students were in free full-day kindergarten programs, 8% were in paid full-day programs and 7% were in half-day programs.

These numbers are both rough estimates and the result of an informal survey but do give a snapshot of at least part of Arizona's experience with full-day kindergarten. And while these numbers capture the types of kindergarten being provided, they do not address the quality of programs, which may have been jeopardized by cuts or class size increases. Unfortunately, this type of rough estimate is necessary because no official data on full-day kindergarten enrollment exist at the state level in Arizona. One state official was unable to provide even a rough estimate of the distribution of full- and half-day classes because no reporting requirements exist for districts in the state. Both the need for this survey and the limitations to its findings underscored for us once more the lack of even raw enrollment data, let alone data measuring quality, on children's kindergarten experiences.

87

The number of school districts in Arizona, from a total of 102 providing data, which offered free full-day kindergarten

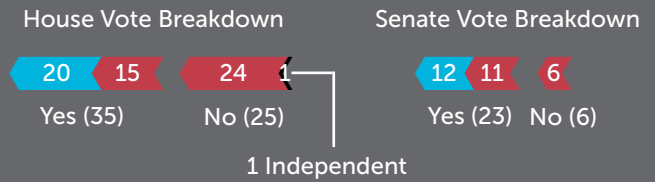
Arizona Full-Day Kindergarten Key Dates

January 6, 2003

Janet Napolitano sworn in as Governor of Arizona

May 24, 2004

Legislature passes and Napolitano signs SB1405, creating a full-day kindergarten fund available to schools who provide full-day kindergarten. The legislation planned to extend availability of these funds to schools with over 90 percent of enrolled students receiving free and reduced-priced meals in 2005, adding schools with at least 80 percent of their students receiving free and reduced-priced meals in 2006, and finally to all schools in the state in 2007.



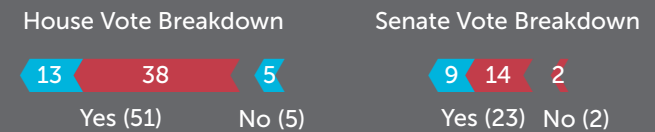
Note: One Democratic NV in Senate.

June 21, 2006

Napolitano signs HB2874 the new legislation eliminated the phasing plan and immediately expanded full-day kindergarten to the entire state.

Second, it eliminated the full-day kindergarten fund and instead increased the funding weight for kindergartners, although still not to the level of older grades. Whereas SB 1405 counts all kindergartners at half the weight of their older elementary peers, HB 2874 counts any student who attends kindergarten at least 356 hours over the course of a school year as 62 percent of a full time student. This number of hours serves as a minimum for all kindergartners, which schools can exceed. By comparison, the state requires upper elementary grades (which are considered full-day) to provide 696 hours of schooling.

Finally, the bill eliminated funding for capital improvements, which helped schools pay for the necessary increased classroom space necessary to provide full-day kindergarten.



Note: Three Democratic NVs in House, Three Democratic NVs in Senate, 1 Republican NV in House, Three Republican NVs in Senate.

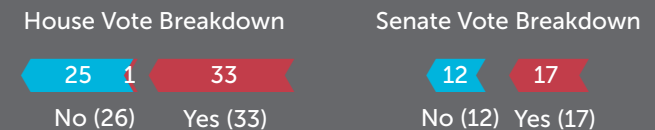
January 20, 2009

Janet Napolitano is confirmed as Secretary of Homeland Security. Jan Brewer (R) succeeds Napolitano as Governor of Arizona the following day.

March 18, 2010

Brewer signs a bill eliminating \$218 million from the education budget by modifying the funding formula to eliminate all funding for full-day kindergarten.

This vote occurs almost exclusively on party lines, with Democrats universally opposed and all but one Republican in favor.



Note: One Republican NV in Senate.

Research on Full-Day Kindergarten

The most comprehensive examination of full- and half-day kindergarten programs in the United States today comes from the NCES Early Childhood Longitudinal Study, Kindergarten Class of 1998-99. The report, which tracked a nationally representative sample of some 22,000 students and 1,200 schools, outlined many differences between full- and half-day programs and outcomes with which the programs were associated. The study found full-day kindergarten enrollees to have modestly greater gains in both reading and math over the kindergarten year than their counterparts in half-day classes.²³ Another study of an analytical sample of the same data found the difference in learning gains to be statistically significant.²⁴ A third study, also using a portion of the same NCES data, confirmed that students in full-day programs had greater gains on academic measures, however they also showed that the scores of those students converged with other students by the third grade.²⁵

The trend of a modest testing advantage for students in full-day programs by the end of kindergarten which largely converges with the scores of other students by later grades is fairly consistent across the literature. One review of the literature, which looked at 11 high-quality studies, with 6 drawing on the NCLS-K data, found this tendency as well. As the authors explain:

The studies are consistent in suggesting a relationship between attendance in full-day kindergarten and higher levels of early reading skills as measured at the end of kindergarten. Studies that examined other reading outcomes at later points in time did not find the same association.²⁶

RAND, in its own review of the literature, agrees. Authors explain: "The existing literature on the effects of full-day kindergarten on student achievement finds positive outcomes in the proximal years but little difference as children progress through school."²⁷ This broad consensus on the modest gains, though, tends to focus on the short term academic outcomes of students. A considerable body of literature in early childhood education suggests that many of the benefits of early learning experiences are not reaped until much later in life.

The most famous of the studies showing this effect are the Perry Preschool Project²⁸ and the Carolina Abecedarian Project²⁹, both of which used a randomized trial design to account for the effect of attending high quality preschool programs. Both found significant differences in adult outcomes for students, including greater earnings, a lower arrest rate, and greater

educational attainment. Similarly, a quasi-experimental study of the Chicago Child Parent Centers (CPC) that assessed the well-being of former students at age 28 found that, compared to a matched group of students who had not attended the program, attendees had higher levels of educational attainment, socioeconomic status, and health insurance coverage and lower levels of substance abuse and involvement with the criminal justice system.³⁰

Though the first two studies featured relatively small sample sizes and all three provided atypically intensive resources, other studies that focused on larger, less resource-intensive programs found a similar trend.

One study that investigated the impact of Head Start attendance found, despite test score convergence by ages 11-14, significantly better performance on a summary index of adult outcomes. As the study explains, these gains amount to about 80 percent of gains seen in the Perry Preschool and Carolina Abecedarian studies, even without the same intensive resources.³¹

Another study, which focused specifically on kindergarten quality, confirms the same fade out and reemergence effect for a large, randomized sample. In this study, a group of researchers at Harvard, UC Berkeley, and Northwestern University mined the records of over 11,000 students from Tennessee's STAR Project and found that differences in classroom quality had a profound effect on student outcomes in the long term.³² The researchers took advantage of the STAR Project's design, which randomly placed students into classrooms from kindergarten through third grade, to see how class size, teacher quality, and other metrics related to adult outcomes such as college attendance, earnings, savings, home ownership, and marriage.

As one way to measure the difference in kindergartners' experiences, the Tennessee STAR researchers also developed a broad measure of classroom quality – "classroom effects." This aggregate measure includes the broad array of unobservable features of a given class, which the authors say might include "the effects of teachers, peers, and any class level shocks," and is approximated with student test scores. The researchers found that moving students to a class one standard deviation better meant an estimated earnings increase of more than \$39,000 over a child's lifetime. These findings suggest what might seem obvious: Differences in the quality of child's kindergarten class do make a difference in his or her life, especially in the long term.³³

The Rationale Behind Cuts

The opposition from Republican legislators that eventually boiled over and wiped out full-day kindergarten funding in Arizona had been long simmering. Those interested in eliminating full-day kindergarten found in research that compared full- and half-day student outcomes reasons to challenge the efficacy of the full-day design. Especially important to the argument against expanding kindergarten was a trend in the research that showed test score convergence between full- and half-day kindergarten students as they progressed through school. Citing data from the National Center for Education Statistics that showed the convergence of reading, math and science scores by the third grade, the Goldwater Institute, a conservative policy, advocacy, and research organization based in Arizona, argued³⁴ in 2005 that full-day kindergarten was not worth the investment.

This perspective was shared by then-State Representative John Huppenthal (R-20), who currently serves as Arizona's Superintendent of Public Instruction. As one representative recalled to Elizabeth Hargrove in 2006,³⁵ "Sen. Huppenthal, on [a] consistent basis, points out that the other children can catch up with all-day kindergarten kids by the third or fourth grade." Huppenthal's opposition shaped the debate over the original passage of full-day kindergarten in important ways. As Hargrove explains, "Several interviewees referred to Sen. Huppenthal and the research he cited to refute or question the merit of full-day kindergarten, as a major obstacle to the passage of full-day kindergarten legislation in Arizona."

Although Huppenthal's opposition wasn't sufficient to prevent initial passage of the bill, it ultimately won out with the repeal of all full-day kindergarten funding in early 2010. Huppenthal continued to express serious doubts about the value of full-day kindergarten in the run up to his election as Superintendent of Public Instruction. As he remarked in a debate just a few months after cuts to full-day kindergarten passed the legislature,³⁶ "If the miraculous results of all-day kindergarten were to have been in place we would have seen some dividends in our test scores in 2009. We saw no dividend on the all-day kindergarten investment when the reading scores came through in 2009."

This concern over the academic impact of full-day kindergarten, though important, ignores the trend in many studies of early education programs that despite the convergence of test scores, finds important differences in adult outcomes between those who do and do not attend such programs. The most famous of the studies showing this effect are the Perry Preschool Project³⁷ and the Carolina Abecedarian Project,³⁸ both of which found significant differences in adult outcomes

for students, including greater earnings, lower arrest rates, and greater educational attainment. Similarly, a quasi-experimental study of the Chicago Child Parent Centers (CPC) that assessed the well-being of former students at age 28 found that, compared to a matched group of students who had not attended the program, attendees had higher levels of educational attainment, socioeconomic status, and health insurance coverage and lower levels of substance abuse and involvement with the criminal justice system.³⁹

These resource intensive programs are not the only studies to see such a trend, however. One study that investigated the impact of Head Start attendance found, despite test score convergence by ages 11-14, significantly better performance on a summary index of adult outcomes.⁴⁰ As the study explains, these gains amount to about 80 percent of gains seen in the Perry Preschool and Carolina Abecedarian studies, even without the same intensive resources.⁴¹ Another examination of a large program with a more typical investment of resources used data from Tennessee's STAR Project. This study, which mined the records⁴² of over 11,000 students who were randomly assigned to classrooms of different sizes in grades K-3, also found that, despite the convergence of test scores by 8th grade, differences in kindergarten classroom quality had a profound effect on student outcomes in the long term. For example, the researchers found that children of different levels of classroom quality earned vastly different incomes over their lifetimes.⁴³

These life-course effects were not part of the debate in Arizona and too often fail to enter into debates throughout the country over the value of early childhood education. Although none of the studies showing these long-term effects studied full-day kindergarten directly, a consistent pattern across the research on early childhood education shows modest academic benefits in the short term, but profoundly positive impacts over a child's lifetime. That suggests that a significant portion of the benefits of full-day kindergarten is not accounted for in current analyses of the comparative value of full-day classes. Though we certainly care about short-term academic gains for children, we often value those gains because we believe they predict future life outcomes. Therefore, to leave out of the discussion direct measures of the effect of early childhood experiences on lifetime outcomes, whether those outcomes are mediated by academic gains or not, would be to miss a vital effect of such policies.

The Impact of Cuts

In interviews, officials from districts in Arizona largely reported having maintained their free full-day programs despite cuts, often necessitating some sort of budget offset. This economic reality underscores an important fact: The adverse

impact of cuts to full-day kindergarten can come in many forms. The most obvious consequence of cuts is the possible reduction of the number of full-day kindergarten classes. Arizona's experience shows that often districts can only maintain full-day kindergarten by displacing the cuts. Some districts compensated by increasing revenue, either by charging tuition for the second half of the kindergarten day or by raising local property taxes. Others compensated through cuts: raising class sizes or trimming other areas of the school budget. Some examples include:

Gilbert Unified School District (Gilbert, AZ - 38,086 students)

Minutes⁴⁴ from Governing Board meetings in the Gilbert Unified School district show a board for which budget concerns were particularly relevant to discussions over full-day kindergarten. During one work session devoted specifically to determining the question of full-day kindergarten funding, officials discussed the impact of a proposed \$0.01 increase in the sales tax, with some arguing that the program's continuation should only be allowed if the tax passed. As with all budget issues, though, the potential for compromise came not just from the prospect of increased revenue, but also from possible cuts. The cost savings the board contemplated included increasing student/teacher ratios in all grades and instituting cuts to tutoring, special education funding, instructional aide hours, elementary paraprofessionals, art, staffing for English language learners, and/or athletics.

Scottsdale Unified School District (Phoenix, AZ – 26,235 students)

A similar laundry list of cuts was necessary for Scottsdale Unified School District to balance its district budget. Along with money from a K-3 tax override that required its funds be used to pay for full-day kindergarten in the event that the state reduced funding for the program, the district announced at a board meeting on March 23, 2010 that the funding for full-day kindergarten would also have to come from a variety of cuts.⁴⁵ These cuts included raising class sizes by three students per teacher at every grade level, eliminating the positions of classroom aides, using assistant principals and counselors as substitute teachers 22 days per year, moving various levels of administration to 11-month contracts, changing to a two-bell schedule, reducing custodial cleaning two days per week, reducing department budgets, reducing the number of librarians, raising athletic fees, changing the structure of the special education program, and closing school facilities for a month during the summer each year.

The examples of the Gilbert and Scottsdale districts reveal the importance of both spending cuts and tax increases for funding full-day kindergarten programs. These tax overrides cannot

always be depended on, however. Though Gilbert was ultimately able to rely on the statewide \$0.01 sales tax increase for funds, the district rejected local tax increases that would have further helped the budget outlook, preferring, as the Arizona Republic reported⁴⁶ at the time, to balance the budget "through cuts or by using cash reserves."

Other School Districts

Aside from cuts and tax increases, some districts have sustained full-day kindergarten programs through fees charged to parents for the second half of the school day. In speaking with districts across Arizona, quoted rates for attending the second half of the day ranged from \$150 to \$290 per month. The effect of these charges on enrollment also seemed to vary greatly. For example, Catalina Foothills School District, a district that serves some 2,000 kindergartners and with 7.6% of its students eligible for free- and reduced-price meals,⁴⁷ charges \$290 per month and estimates that between 70% and 80% of its students still enroll in full-day kindergarten.

By comparison, Deer Valley Unified School District, which also served around 2,000 kindergartners and had 18.8% of its student population eligible to receive free- and reduced-price meals,⁴⁸ charged \$235 per month for the second half of the day and had between 950-980, or just under half, of its kindergartners choose the full-day program. And each of these districts sits in stark contrast to Chandler Unified School District, which was able to maintain its full-day kindergarten program without cuts or tax increases thanks to a rapidly growing and deep tax base, and Gadsden Elementary District, where 99.5% of students are eligible for free- and reduced-price meals⁴⁹ but no full-day program exists, so all of its approximately 450 kindergartners attend a half-day program.

Many local officials also expressed concern over teachers' ability to prepare students properly for first grade classrooms that would use the new, higher standards set by the Common Core State Standards without a full day of teaching in kindergarten.⁵⁰ This concern, several explained, played a role in their decision to maintain full-day kindergarten in the face of cuts. The change in state standards is just one example of important national changes relevant to full-day kindergarten. As Kristie Kauerz has outlined in *PreK-3rd: Putting Full-Day Kindergarten in the Middle*, another such change is the increasing prominence of pre-kindergarten programs throughout the country. Kauerz explains, "...with increasing numbers of children attending full-day pre-K, the shift to [full-day kindergarten] will also ensure both continuity and a consistent schedule for children and their families."⁵¹ Nevertheless, these important shifts still do not seem to have changed legislators' discussion of full-day kindergarten in Arizona.

The National Full-Day Kindergarten Landscape

Perhaps the most notable characteristic of the national landscape of kindergarten provision is its opacity. As Lisa Guernsey and Alex Holt have outlined,⁵² data on the number of students in full- and part-day kindergarten are remarkably sparse. Especially vexing for those looking to compare data throughout the nation is the question of dosage, or the number of hours students attend their kindergarten program. Arizona here is again illustrative. HB 2874 counts any student who attends a kindergarten at least 356 hours over the course of a school year as 62% of a full time student.⁵³ This dosage serves as a minimum for all kindergartners, which schools can exceed. By comparison, the state requires upper elementary grades to provide 696 hours of schooling. Not only does this reveal a wide gap in hours between kindergarten and other grades, but it also shows substantial latitude that schools have to provide classes of idiosyncratic length. Such requirements are not uncommon throughout the United States and pose a significant challenge to researchers interested in understanding and comparing kindergarten programs throughout the nation.

Nevertheless, there have been a variety of attempts to estimate the number of kindergarten students throughout the United States enrolled in full-day classes. Data from the 2001 nationally representative Early Childhood Longitudinal Study, Birth Cohort (ECLS-B)⁵⁴, found that of 74.8 percent of students born in 2001 entered full-day kindergarten programs when they came of age in either 2006-07 or 2007-08. Compare these estimates, then, with data from the Census Bureau's Current Population Survey (CPS), which put full-day kindergarten enrollment in the United States as of October 2011 at roughly 77 percent. However, these estimates obscure the fact that districts and states often have vastly different requirements for the number of classroom hours that define "full-day" and that some percentage of students nationwide must pay for the second half of the kindergarten day.⁵⁵

The most detailed data, those from the Current Population Survey, reveal some differences in kindergarten provision across different subgroups. Among racial groups, black kindergartners were most likely to be enrolled in full-day programs, with 88.7% of black children in a full-day class. They are followed by Hispanic children at 76%, white children at 75.8% and Asian students at 72.2%. When viewed by income-level, a clearer pattern emerges; poorer students tend to be a bit more likely to receive full-day kindergarten, with 82.9% of students whose family income is below \$20,000 annually enrolled in full-day kindergarten, compared to just 74.2% of those in

families making over \$75,000 annually – likely the result of eligibility policies designed to target the neediest kindergartners.

Additionally, the Children's Defense Fund maintains a useful interactive map⁵⁶ outlining the different statutory stances of the states on full-day kindergarten. They report that full-day kindergarten is required by law to be provided in just 11 states and the District of Columbia. On the other end of the spectrum, six states have no statute requiring any amount of kindergarten be provided. The remaining states require at least half-day programs be provided. And of those states that only require half-day, 12 statutorily allow districts to require parents to pay for the second half of the day. Though this information is a useful starting point, the insight it can provide is clearly limited; because the states are free to exceed these statutory minimums for kindergarten, there is often variability both within and across states in how much time students spend in their kindergarten classroom. As a result, much more information is necessary in order to know how many students throughout the United States attend full-day kindergarten.



Census Bureau's
estimate of full-
day kindergarten
enrollment
(October 2011).

Lessons for the Country

- 1** The state's example demonstrates both **the power of budget incentives to drive expansion of full-day kindergarten programs and the vulnerability of those programs to cuts if they are not buttressed by legislation.** Arizona's experience of cutting full-day kindergarten programs during times of tight budgetary constraints is not unique. After the threat of budget cuts was directed at full-day kindergarten programs in New York, a community group there lobbied to put full-day kindergarten provision into law.⁵⁷ Similarly, in Pennsylvania—one of a handful of states without any kindergarten requirement—recent budget cuts have caused some districts to cut back to half-day. Importantly, the motivation behind Pennsylvania's cuts also mirrors Arizona's experience. There, too, detractors have concentrated their criticisms on test score convergence. "The evidence is generally weak that preschool and kindergarten provide lasting academic impacts on children so that they do better in elementary school as they get older. Neither does kindergarten seem to have a strong long-term impact on students when you measure things like high school dropout rates or incarceration," says Priya Abraham, a senior policy analyst for the Commonwealth Foundation.⁵⁸
- 2** But Arizona holds a deeper lesson about the vulnerability of full-day programs; **the risk to students lies not just in the possible elimination of full-day kindergarten, but also in the possible cost of maintaining the program in the form of cuts to other educational offerings.** As the experience of districts such as Scottsdale demonstrate, even after tax increases at both the state and local level, the types of cuts necessary to maintain full-day kindergarten are not trivial. Such risks are likely to spread to other states; in 2010 the Foundation for Child Development reported that 21 states fund full-day kindergarten at the same level as first grade, but do not have an accompanying statute requiring schools to provide full-day kindergarten.⁵⁹ Given that 34 states still fund their schools at levels lower than their pre-recession levels,⁶⁰ the potential for cuts still looms large.
- 3** One tempting, but misguided, lesson to take from Arizona's example is that Republicans are universally responsible for such cuts to full-day kindergarten and expansions of early childhood education generally. **Although Republicans certainly played the role of antagonist in Arizona's story and have often opposed new, costly state programs of any sort, careful examination of the national landscape reveals many examples of bipartisan support for strengthening the early childhood education**
- continuum.** For example, Kansas Governor Sam Brownback, a noted conservative former Senator and nominee for the 2013 Values Voter Summit straw poll of potential Republican 2016 presidential candidates,⁶¹ recently proposed \$80 million in state funding over 5 years to fund full-day kindergarten.⁶² Similarly, Nevada, led by Republican Governor Brian Sandoval expanded full-day kindergarten to a subset of schools as part of a bill targeted at supporting English Language Learners.⁶³ Additionally, the conventionally fiscally austere Chamber of Commerce has been a major proponent of strengthening early childhood education as a means of human capital development. Indeed, the Chamber's Institute for a Competitive Workforce has argued that without greater investments in early childhood education, too many children will continue to leave school with substandard skills and "businesses will lack the necessary workforce to fill the jobs of the future."⁶⁴
- 4** Beyond the political fault lines in early education, the case of Arizona also depicts the data limitations in gleaning an accurate picture of the distribution of full-day kindergarten at both the state and national levels. **Understanding the landscape is particularly challenging because the nation permits states and districts considerable discretion about the type of kindergarten programs they will provide, and in many cases, providers are not required to report to anyone on the length of their kindergarten day.**⁶⁵ This lack of information impedes understanding of how state legislative and budgetary choices affect kindergarten offerings and prevent full transparency to voters about the effects of cuts such as Arizona's.
- 5** Arizona shows the critical importance of committed politicians and policymakers in establishing and maintaining full-day kindergarten programs in challenging political and budgetary environments. The initial passage of full-day kindergarten owes a great deal to the willingness of Governor Napolitano to expend considerable political capital to ensure the program was instituted. Beyond the much-noticed efforts of the governor, the choices of superintendents and school boards throughout the state to prioritize full-day kindergarten programs despite state budget cuts have been essential to maintaining programs there. **Though the level of local discretion in state policies leaves full-day kindergarten perpetually at risk for cuts, our research shows that it also grants committed policymakers latitude to create or maintain programs that exceed the statutory minimums.**

Full-Day Kindergarten Funding and Access in Other States

Grant Funding in Pennsylvania

In Pennsylvania, one of six states without a kindergarten requirement of any sort for schools, recent cuts to school funding⁶⁶ have led some districts to reduce their full-day kindergarten⁶⁷ programs to half-day. Cuts to the accountability block grant program, which is used by districts to fund full-day kindergarten and helped to raise full-day kindergarten enrollment in the state from 32% in 2002-03 to 66% of students in 2008-09, have been severe. The grants originally provided about \$350 million per year⁶⁸ to school districts to fund full-day kindergarten and other initiatives, but funds were reduced to \$100 million in 2010-11.⁶⁹

Ballot Measure in Colorado

On May 21, 2013, Governor John Hickenlooper signed into law Senate Bill 13-213.⁷⁰ The bill sought, among other initiatives, to fund full-day kindergarten⁷¹ throughout the state. However, the bill's enactment was contingent on the passage of Amendment 66,⁷² a proposed \$900 million tax increase that was soundly rejected at the polls⁷³ in November. Even so, Colorado has seen a considerable increase in its number of kindergartners attending full-day programs in the past decade. In 2004 just 24% of Colorado kindergartners were enrolled in a full-day program; by 2012, the figure had risen to 70%.⁷⁴

Court Rulings in New Jersey, Washington, and Kansas

A number of states have seen state Supreme Court decisions with implications for state educational funding in recent years; those rulings, in turn, have affected states' incentives surrounding full-day kindergarten. Perhaps the most well-known of these decisions occurred in New Jersey, where a series of decisions in *Abbott v. Burke* mandated that the state provide an equitable education to all children.⁷⁵ As a result, the state has, among many other things, provided low-income students in New Jersey with early education, including full-day kindergarten, in the state's 31 highest-poverty districts. Though that mandate has existed since 1997, New Jersey has recently indicated interest in using the example of the so-called Abbott districts as the basis for expanding full-day kindergarten to

the entire state.⁷⁶ However, legislation introduced by the State Senate's education committee chair, M. Teresa Ruiz (D-Essex), that would have created a 21-member task force to evaluate the costs and benefits of expansion was recently vetoed by Governor Chris Christie.⁷⁷

The state of Washington has also seen action in the state Supreme Court influence its full-day kindergarten provision. In *McCleary, et al. v. State of Washington* (2012), the court found the state to be making insufficient progress toward providing the constitutionally required basic education. In its opinion, the court lamented a pace of full-day kindergarten implementation that would not only miss the projected date of 2017-18 for expansion to the entire state, but also, given its current speed of expansion, "would not fund all-day kindergarten for all eligible students until the 2090-91 school year."⁷⁸ As a consequence of the court's findings, the pace of full-day kindergarten has increased considerably, with the state doubling the number of kindergartners in full-day classes from 22% to 44% between fall 2012 and fall 2013 to meet the court-imposed deadline of 2017.⁷⁹

Kansas is also awaiting a state Supreme Court decision in a school funding case of its own. In October, the Court heard arguments in *Luke Gannon, et al. v. State of Kansas*, which considered whether cuts to school funding there violated the state's constitutional prescriptions for school funding.⁸⁰ The Court has already found the state's school funding formula to violate the Kansas constitution once in 2005, and a lower court found the state in violation of the constitution in this case, as well.

The pending decision has complicated the environment for Governor Sam Brownback's recently proposed \$80 million expansion of full-day kindergarten. As the *Kansas City Star* explains, "Such is the lack of confidence in Kansas' will and ability to properly fund public education that when Gov. Sam Brownback recently said he would like to move to universal all-day kindergarten, people instantly wondered what other essential classroom services would be cut to pay for full-day classes."⁸¹

Conclusion

As federal and state leaders focus much of their attention on expanding pre-K programs, the limited availability of free, full-day kindergarten largely continues to be overlooked. However, the ultimate successes of pre-K programs will depend in no small part on continuity in the early grades. A consistent and robust academic program in the early grades is especially important to support the implementation of the new Common Core State Standards. These standards demand a new, higher level of rigor from students and teachers in kindergarten and the early grades, regardless of the amount of time students spend in their kindergarten classroom. When we spoke to district officials in Arizona about their reasons

for continuing full-day kindergarten in the face of cuts, they cited the need to provide adequate instructional time to help teachers and students meet the demands of the new standards.

Arizona is just one of many states that use funding incentives for full-day kindergarten to drive implementation. But states that choose to encourage rather than require districts to offer full-day kindergarten would do well to heed Arizona's warning: This essential element to student success can be exceptionally vulnerable to budget and program cuts without a legislative mandate to protect its primacy in future budget decisions.

Notes

1 "Full-Day Kindergarten in the States," Children's Defense Fund, last modified February 1, 2013, <http://www.childrensdefense.org/child-research-data-publications/data/state-data-repository/full-day-k/full-day-kindergarten-states-2012.html>.

2 Guernsey, Lisa, and Alex Holt, Counting Kids and Tracking Funds in Pre-K and Kindergarten, Issue brief, Washington, DC: New America Foundation, 2012.

3 "Fast Facts: Preprimary Education Enrollment," National Center for Education Statistics, Institute of Education Sciences, accessed December 19, 2013, <http://nces.ed.gov/fastfacts/display.asp?id=516>.

4 "School Enrollment, Table 3," CPS October 2011, accessed December 19, 2013, <http://www.census.gov/hhes/school/data/cps/2011/tables.html>.

5 Workman, Emily. Inequalities at the Starting Line: State Kindergarten Policies. Issue brief. Denver: Education Commission of the States, 2013. Print

6 "Educations Wins Big In Budget Napolitano Initiatives Sail Through Senate," Arizona Republic (Phoenix, AZ), May 25, 2004, A1 sec, accessed August 7, 2013, MLibrary Articles Plus, <https://www.evernote.com/shard/s36/sh/eb71ac1e-3bbb-486d-81db-face35207b49/2d0b662ba2966d62235d597eaf39c569>.

7 SENATE BILL 1405, State of Arizona Senate. 46th Legislature, Second Regular Session (passed May 2004), <http://www.azleg.state.az.us/legtext/46leg/2r/bills/sb1405h.pdf>.

8 Arizona State Senate, Senate Staff, FACT SHEET: S.B. 1362, February 12, 2004, <http://www.azleg.state.az.us/legtext/46leg/2r/summary/s.1362ed-approp.doc.htm>.

9 Tunstall, Eugenia, "The Price of Knowledge: Funding Full-Day Kindergarten in Arizona," Arizona State Law Journal 39, no. 4 (2007): 1325-346, Accessed July 10, 2013, MLibrary Articles Plus.

10 HOUSE BILL 2874, State of Arizona House of Representatives, 47th Legislature, Second Regular Session (passed 2006), <http://www.azleg.gov/legtext/47leg/2r/bills/hb2874s.pdf>.

11 Whereas SB 1405 counts all kindergartners at half the weight of their older elementary peers, HB 2874 counts any student who attends a kindergarten at least 356 hours over the course of a school year as 62 percent of a full time student. This number of hours serves as a minimum for all kindergartners, which schools can exceed. By comparison, the state requires upper elementary grades (which are considered full-day) to provide 696 hours of schooling.

12 "Governor Janet Napolitano Campaign Commercial," YouTube. September 28, 2006, <http://www.youtube.com/watch?v=8yipl0mcWU8>.

13 Napolitano, Janet, "Arizona State of the State Address," Speech, <http://www.c-spanvideo.org/program/283394-1>.

14 Scarpinato, Daniel, "Brewer Bluntly Criticizes Napolitano's Policies," McClatchy - Tribune Business News (Washington), January 24, 2009, accessed August 7, 2013, MLibrary Articles Plus.

15 Barrón, Alicia E, "Funds for All-day Kindergarten to Be Cut," AZFamily.com, January 28, 2010, <http://www.azfamily.com/news/All-day-kindergarten-on-the-chopping-block-82983242.html>.

16 Kossan, Pat, "Cuts to All-day Kindergarten Big Problem for Schools, Parents," Arizona Republic, March 19, 2010, http://www.azcentral.com/arizonarepublic/news/articles/20100319arizona-cuts-to-all-daykindergarten.html?nclick_check=1.

17 All districts are required to also provide a half-day class should parents request it. Because so few students request these shorter kindergarten days, districts often fulfill this requirement by allowing those who wish to have only half-day classes to be excused part way through the full kindergarten day.

18 Leachman, Michael, and Chris Mai, Most States Funding Schools Less Than Before the Recession, Issue brief, Washington: Center on Budget and Policy Priorities, 2013, <http://www.cbpp.org/files/9-12-13sfp.pdf>.

19 CBPP's review of state budget documents reviewed changes in inflation adjusted percent changes in spending per student between FY08 and FY14. The two states with greater percent changes than Arizona, Oklahoma and

Alabama, had percent changes of -22.8% and -20.1%, respectively. In terms of absolute per student spending, Alabama's cuts put it at the very top of the list, with a reduction in spending of \$1,242 per student between FY08 and FY14. Oklahoma and Arizona do relatively better by this measure, registering at 7th and 11th deepest cuts, respectively.

20 SENATE BILL 1405, State of Arizona Senate, 46th Legislature, Second Regular Session (passed May 2004), <http://www.azleg.state.az.us/legtext/46leg/2r/bills/sb1405h.pdf>.

21 Pinner, Jennifer, "Districts Can Require Tuition for 'extended-day' K," *East Valley Tribune* (Tempe), August 27, 2006, accessed December 19, 2013, http://www.eastvalleytribune.com/local/education/article_51680ee1-5036-5cb5-ab2a-e4b37482ebca.html.

22 Kauerz, Kristie, *Full-Day Kindergarten: A Study of State Policies in the United States*, Report, Denver: Education Commission of the States, 2005, <http://fcd-us.org/sites/default/files/FullDayKindergarten.pdf>.

23 Walston, J.T., and West, J. (2004), *Full-day and Half-day Kindergarten in the United States: Findings from the Early Childhood Longitudinal Study, Kindergarten Class of 1998–99* (NCES 2004–078), U.S. Department of Education, National Center for Education Statistics, Washington, DC: U.S. Government Printing Office, <http://nces.ed.gov/pubs2004/2004078.pdf>.

24 Yan, Wenfan, and Qiuyun Lin, "Effects of Class Size and Length of Day on Kindergartners' Academic Achievement: Findings from Early Childhood Longitudinal Study," *Early Education & Development* 16, no. 1 (2005): 49–68, doi:10.1207/s15566935eed1601_4, <http://eric.ed.gov/?id=EJ757476>.

25 Cannon, Jill S., Alison Jackowitz, and Gary Painter, "Is Full Better than Half? Examining the Longitudinal Effects of Full-day Kindergarten Attendance," *Journal of Policy Analysis and Management* 25, no. 2 (2006): 299–321, doi:10.1002/pam.20174, <http://onlinelibrary.wiley.com/doi/10.1002/pam.20174/abstract>

26 Lash, Andrea, Soung Bae, Vanessa Barrat, Elizabeth Burr, and Tony Fong, "Full-day Kindergarten and Student Achievement: A Literature Review," *WestEd*, December 2008, http://www.wested.org/online_pubs/REL_West_FDK_Brief_ALL.pdf.

27 Le, Vi-Nhuan, Sheila Nataraj Kirby, Heather Barney, Claude Messan Setodji, and Daniel Gerswhin, *School Readiness, Full-Day Kindergarten, and Student Achievement*. Report. 2006, <http://www.rand.org/pubs/monographs/MG558.html>.

28 "HighScope Perry Preschool Study," HighScope: Research-based Early Childhood Curriculum, Assessment, Training, and Publishing, <http://www.highscope.org/content.asp?contentid=219>.

29 "The Abecedarian Project," The Abecedarian Project, accessed December 18, 2013, <http://abc.fpg.unc.edu/>.

30 Reynolds, Arthur J., Judy A. Temple, Suh-Ruu Ou, Irma A. Arteaga, and Barry B. White, "School-Based Early Childhood Education and Age-28 Well-Being: Effects by Timing, Dosage, and Subgroups," *Science* 33 (July 15, 2011): 360–64.

31 Deming, David, "Early Childhood Intervention and Life-Cycle Skill Development: Evidence from Head Start," *American Economic Journal: Applied Economics* 1, no. 3 (July 2009): 111–34, doi:10.1257/app.1.3.111.

32 Chetty, Raj, John N. Friedman, Nathaniel Hilger, Emmanuel Saez, Diane Whitmore Schanzenbach, and Danny Yagan, "How Does Your Kindergarten Classroom Affect Your Earnings," *The Quarterly Journal of Economics* CXXVI, no. 4 (November 2011): 1593–660, <http://qje.oxfordjournals.org/content/126/4/1593.full.pdf>.

33 Ibid.

34 Goldwater Institute, "Governor's Call For All-Day Kindergarten Is Not A Panacea," News release, February 22, 2005, Goldwater Institute, <http://goldwaterinstitute.org/>

[article/governors-call-all-day-kindergarten-not-panacea-0](http://www.azcentral.com/arizonarepublic/local/articles/20100519electionrndup0519.html).

35 Hargrove, Elizabeth, *The Process of the Passage of Full-day Kindergarten in Arizona*, Diss., Arizona State University, 2006.

36 "AZ Superintendent Candidates on All-Day Kindergarten," YouTube, August 19, 2010, accessed December 19, 2013, <http://www.youtube.com/watch?v=8T7M7-NFP-M>.

37 "HighScope Perry Preschool Study," HighScope: Research-based Early Childhood Curriculum, Assessment, Training, and Publishing, <http://www.highscope.org/content.asp?contentid=219>.

38 "The Abecedarian Project," The Abecedarian Project, accessed December 18, 2013, <http://abc.fpg.unc.edu/>.

39 Reynolds, Arthur J., Judy A. Temple, Suh-Ruu Ou, Irma A. Arteaga, and Barry B. White, "School-Based Early Childhood Education and Age-28 Well-Being: Effects by Timing, Dosage, and Subgroups," *Science* 33 (July 15, 2011): 360–64

40 The study examined children surveyed as a part of the National Longitudinal Survey of Youth. It compared outcomes for siblings and controlled for other pre-program characteristics that might differ between children of the same family. The summary index by which it measured adult outcomes included high school graduation, college attendance, idleness, crime, teen parenthood and health status. The author finds a gain of .23 standard deviations for program participants.

41 Deming, David, "Early Childhood Intervention and Life-Cycle Skill Development: Evidence from Head Start," *American Economic Journal: Applied Economics* 1, no. 3 (July 2009): 111–34, doi:10.1257/app.1.3.111.

42 Chetty, Raj, John N. Friedman, Nathaniel Hilger, Emmanuel Saez, Diane Whitmore Schanzenbach, and Danny Yagan, "How Does Your Kindergarten Classroom Affect Your Earnings," *The Quarterly Journal of Economics* CXXVI, no. 4 (November 2011): 1593–660, <http://qje.oxfordjournals.org/content/126/4/1593.full.pdf>.

43 The researchers found that an increase in classroom quality of one standard deviation meant an estimated earnings increase of more than \$39,000 over a child's lifetime.

44 Gilbert Public Schools, Minutes of a Special Work-Study Session April 6, 2010, April 6, 2010, http://www.gilbertschools.net/cms/lib3/AZ01001722/Centricity/Domain/92/bd_minutes10/wsm1040610.pdf.

45 Peterson, David, "FY2011 Budget Projection Scottsdale Unified School District," Speech, Governing Board Meeting, Scottsdale, Arizona, <http://susd.schoolfusion.us/modules/cms/s.7f610dc0be573792a1ff&pageid=146886&sessionid=b82908c2e3f07f610dc0be573792a1ff>.

46 Madrid, David, "Voters Approve 1 Tax Hike, Reject 3 Others," *The Arizona Republic*, May 19, 2010, <http://www.azcentral.com/arizonarepublic/local/articles/20100519electionrndup0519.html>.

47 "Catalina Foothills Unified District," The New America Foundation's Federal Education Budget Project, accessed December 20, 2013, <http://febp.newamerica.net/k12/AZ/401760>.

48 "Deer Valley Unified District," The New America Foundation's Federal Education Budget Project, accessed December 20, 2013, <http://febp.newamerica.net/k12/AZ/407750>.

49 "Gadsden Elementary District," The New America Foundation's Federal Education Budget Project, accessed December 20, 2013, <http://febp.newamerica.net/k12/AZ/403240>.

50 Based on interviews conducted of Arizona school district officials.

51 Kauerz, Kristie, PreK-3rd: Putting Full-Day Kindergarten in the Middle, Policy to Action Brief, New York: Foundation for

- Child Development, 2010, <http://fcd-us.org/sites/default/files/FINAL%20Kindergarten%20Brief.pdf>.
- 52 Guernsey, Lisa, and Alex Holt, Counting Kids and Tracking Funds in Pre-K and Kindergarten, Issue brief, Washington, DC: New America Foundation, 2012, http://earlyed.newamerica.net/sites/newamerica.net/files/policydocs/Counting_Kids_Tracking_Funds.pdf.
- 53 HOUSE BILL 2874, State of Arizona House of Representatives, 47th Legislature, Second Regular Session (passed 2006), <http://www.azleg.gov/legtext/47leg/2r/bills/hb2874s.pdf>.
- 54 Walston, J.T., and West, J. (2004), "Full-day and Half-day Kindergarten in the United States: Findings from the Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (NCES 2004–078)," U.S. Department of Education, National Center for Education Statistics, Washington, DC: U.S. Government Printing Office.
- 55 "School Enrollment, Table 3," CPS October 2011, accessed December 19, 2013, <http://www.census.gov/hhes/school/data/cps/2011/tables.html>. Workman, Emily. Inequalities at the Starting Line: State Kindergarten Policies. Issue brief. Denver: Education Commission of the States, 2013. Print
- 56 "Full-Day Kindergarten in the States," Children's Defense Fund, last modified February 1, 2013, <http://www.childrensdefense.org/child-research-data-publications/data/state-data-repository/full-day-k/full-day-kindergarten-states-2012.html>.
- 57 Heinemann, Robert, "Group Looks to Protect Kindergarten Programs," Port Chester Patch, July 27, 2012, <http://portchester.patch.com/groups/politics-and-elections/p/westchester-united-looks-to-save-kindergarten>.
- 58 Miller, Barbara, "School Districts, State Balance Budget on Backs of Children," The Patriot-News, Penn Live, August 04, 2013, http://www.pennlive.com/midstate/index.ssf/2013/08/Kindergarten_district_cuts_2.html.
- 59 Kauerz, Kristie, PreK-3rd: Putting Full-Day Kindergarten in the Middle, Policy to Action Brief, New York: Foundation for Child Development, 2010, <http://fcd-us.org/sites/default/files/FINAL%20Kindergarten%20Brief.pdf>.
- 60 Leachman, Michael, and Chris Mai, Most States Funding Schools Less Than Before the Recession, Issue brief, Washington: Center on Budget and Policy Priorities, 2013, <http://www.cbpp.org/files/9-12-13sfp.pdf>.
- 61 Weigel, David, "Values Voter Summit 2013: A Sanctuary for Cruz, Lee, and Bachmann," Slate (web log), October 11, 2013, http://www.slate.com/blogs/weigel/2013/10/11/values_voter_summit_2013_a_sanctuary_for_cruz_lee_and_bachmann.html.
- 62 Rothschild, Scott, "Brownback Proposes State Fully Fund All-day Kindergarten," The Dispatch, December 17, 2013, <http://www.shawneedispach.com/news/2013/dec/17/brownback-proposes-state-fully-fund-all-day-kinder/>.
- 63 Harvin, Sharie, "Governor Signs Bill to Help Young English Language Learners" Governor Signs Bill to Help Young English Language Learners - 8 News NOW, June 12, 2013, <http://www.8newsnow.com/story/22574958/governor-signs-bill-to-help-young-english-language-learners>.
- 64 Rocha, Elena, Ready, Set, Go! Why Business Should Support Early Childhood Education, Report, Washington: US Chamber of Commerce Institute for a Competitive Workforce, DC, <http://education.uschamber.com/publication/ready-set-go-why-business-should-support-early-childhood-education>.
- 65 Guernsey, Lisa, and Alex Holt, Counting Kids and Tracking Funds in Pre-K and Kindergarten, Issue brief, Washington, DC: New America Foundation, 2012.
- 66 "The Pennsylvania State Education Association," Pennsylvania State Education Association. Accessed December 31, 2013, <https://www.psea.org/apps/budget/budgetimpact.aspx>.
- 67 Miller, Barbara, "School Districts, State Balance Budget on Backs of Children," The Patriot-News, Penn Live, August 04, 2013, http://www.pennlive.com/midstate/index.ssf/2013/08/Kindergarten_district_cuts_2.html.
- 68 Miller, Barbara, "Why Have Pa. Grants Been Reduced?: Cuts in Kindergarten," PennLive Patriot News (Harrisburg), August 04, 2013, http://www.pennlive.com/midstate/index.ssf/2013/08/Kindergart_cuts_grants_debate.html.
- 69 "A Look at Education Funding in Governor's 2013-14 Budget," The Pennsylvania Budget and Policy Center, February 11, 2013, <http://pennbpc.org/look-education-funding-governors-2013-14-budget>.
- 70 SENATE BILL 13-213 PUBLIC SCHOOL FINANCE ACT, Denver: General Assembly of Colorado, 2013, http://www.leg.state.co.us/clics/clics2013a/csl.nsf/nt/27A661F189ABDCF787257AEE00571A66?Open&file=213_enr.pdf.
- 71 "School Reforms Hinge on Colorado Tax Vote," 9news.com, May 21, 2013, <http://www.9news.com/rss/story.aspx?storyid=337393>.
- 72 "Tax Vote Would Fund Statewide Full-day Kindergarten," 9news.com, August 15, 2013, <http://www.9news.com/news/article/350418/188/Tax-vote-would-fund-statewide-full-day-kindergarten>.
- 73 Healy, Jack, "Defeat of School Tax Stings Colorado Democrats," New York Times, November 6, 2013, <http://www.nytimes.com/2013/11/07/us/politics/loss-on-school-tax-stings-colorado-democrats.html?pagewanted=all>.
- 74 "Kindergartners in a Full-day Program by School District," KIDS COUNT Data Center from the Annie E. Casey Foundation, <http://datacenter.kidscount.org/data/Tables/449-kindergartners-in-a-full-day-program-by-school-district?loc=7>.
- 75 "THE HISTORY OF ABBOTT V. BURKE," Education Law Center, accessed December 31, 2013, <http://www.edlawcenter.org/cases/abbott-v-burke/abbott-history.html>.
- 76 "N.J. Looks into Implementing Full-Day Kindergarten Statewide," New Jersey Newsroom, November 14, 2013, <http://www.newjerseynewsroom.com/state/nj-looks-into-implementing-full-day-kindergarten-statewide>.
- 77 Brody, Leslie, "Christie Vetoes Bill for Panel to Study Required Full-day Kindergarten Programs in NJ," The Record, January 13, 2014, http://www.northjersey.com/news/Christie_vetoes_bill_for_panel_to_study_required_full-day_kindergarten_programs_in_NJ.html.
- 78 McCleary, et al. v. State of Washington (January 5, 2012), <http://www.courts.wa.gov/opinions/pdf/843627.opn.pdf>.
- 79 Gordon Blankinship, Donna, "Twice as Many Kids in State-paid, Full-day Kindergarten," The Columbian, August 13, 2013, <http://www.columbian.com/news/2013/aug/13/twice-as-many-in-paid-kindergarten-in-wash-state/>.
- 80 "Kansas School Finance Litigation," Kansas Attorney General Derek Schmidt, <http://ag.ks.gov/legal-services/major-cases/kansas-school-finance-litigation>.
- 81 "Much Rides on the Future of Kansas Public School Funding," Editorial, The Kansas City Star, December 26, 2013, <http://www.kansascity.com/2013/12/26/4714420/much-rides-on-future-of-kansas.html>.

New America Education Policy Program

1899 L Street, NW
Suite 400
Washington DC 20036
Phone 202 986 2700
Fax 202 986 3696

www.newamerica.org
www.edcentral.org