

ATTACHMENT 1

CLARK COUNTY BLACK CAUCUS TESTIMONY 7/15/2014 EARLY CHILDHOOD EDUCATION

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This study was written and researched by Jim Hull, Center for Public Education's Senior Policy Analyst.

See more at:

<http://www.centerforpubliceducation.org/Main-Menu/Organizing-a-school/Starting-Out-Right-Pre-K-and-Kindergarten/Starting-Out-Right-Pre-K-and-Kindergarten-full-report.html?css=print#sthash.X9vNANVd.dpuf>

Starting out right: pre-k and kindergarten: full report

What's the best early childhood education combination communities can provide? Until now, research hasn't had an answer. Although there is a wealth of research on pre-k and on kindergarten, they have been examined mainly in isolation. That research has shown that both high-quality pre-kindergarten and full-day kindergarten can have significant, often lasting, benefits for children. Therefore, students would benefit most from attending high-quality prekindergarten, and then going on to full-day kindergarten. However, these particular programs are not necessarily required or paid for by many states. Cash-strapped states and districts around the country are being forced to choose how to best spend their dollars, including allocations to publicly-funded pre-k and kindergarten that are both best for students and feasible within current budgets.

Prior to the economic downturn, state investments in early education were growing substantially, driven by research showing its powerful positive impact. That momentum has stopped with the recession, and school leaders are looking for ways to preserve their pre-k and kindergarten services. Around the country, school boards have been asking us:

Are our students better off with a combination of pre-k and half-day kindergarten?

or

Are our students better off with full-day kindergarten alone?

This report looks at the effect of various combinations of pre-k and kindergarten on third grade reading skills -- a key predictor of future academic success -- in order to provide important information to educators and policymakers as they consider how to get the most out of their early childhood programs.

Key findings

Students who attend pre-k and half-day kindergarten are more likely to have higher reading skills by the third grade than students who attend full-day kindergarten alone.

- Students' chances of reaching the basic third-grade reading level, "Comprehension of words in context," increased slightly (3 percent) if they attended pre-k and half-day kindergarten instead of full-day kindergarten alone.
- The chances of a third-grader reaching the more advanced "Literal inference" reading level increased at a much greater rate (11 percent) when students attended pre-k and half-day kindergarten rather than full-day kindergarten alone.

- The chances of a third-grader reaching the advanced “Extrapolation” reading level increased by a substantial 18 percent if students attended pre-k and half-day kindergarten rather than full-day kindergarten alone.

The impact of pre-k and half-day kindergarten was the greatest for Hispanic children, black children, English Language Learners (ELL) and children from low-income families.

- The chances of Hispanic students and students below the poverty line reaching the basic third-grade reading level, “Comprehension of words in context,” increases by 7 percent if they attend pre-k and half-day kindergarten instead of full-day kindergarten alone. Similar results were found for black students (6 percent).
- For both Hispanic students and students below the poverty line, chances of reaching the more advanced, “literal inference” level increased by 16 percent by attending pre-k and half day kindergarten rather than full-day kindergarten. Black students’ chances were increased by 15 percent. ELL students saw the greatest increase at 21 percent.
- At the “Extrapolation” reading level, the increase is even greater. Hispanic students’ chances of reaching this level increase by 24 percent, and poor students increase by 20 percent, if they attend a combination of pre-k and half-day kindergarten rather than full-day kindergarten alone. Black students chances increased by 17 percent while ELL students’ chances increased by 25 percent.

What's being studied?

To determine what combination of early childhood education programs has the greatest impact on student achievement, this report examined the combinations of pre-k and full- or half-day kindergarten. The report is based on data from the Early Childhood Longitudinal Study (ECLS-K) conducted by the U.S. Department of Education’s National Center for Education Statistics (NCES). ECLS-K followed approximately 21,500 kindergarten students starting in the fall of 1998 until the spring of 2007, when most were in 8th grade. ECLS-K provides a national representation of how students’ early childhood education and experiences impacted their future achievement. The data set is the most current one available that can provide a national picture of students’ early childhood experiences with their future outcomes. While this report looked at several different subgroups from the data set, results for students with disabilities were not included since the small number included in the study could not guarantee accurate results.

For this report, a kindergartener was determined to have attended pre-k if his or her parent had stated that the student had attended a center-based day care, such as pre-kindergarten, pre-school, nursery school, or Head Start the year before entering kindergarten. Since the data comes only from parent surveys, the quality of the pre-k programs could not be ascertained. Therefore, this report is about access to

It's important to note that these findings do not take program quality into consideration. They are based solely on children whose parents reported that their child had attended a center-based care program such as pre-kindergarten, pre-school, nursery school, or Head Start the year prior to enrolling in kindergarten. It's therefore reasonable to infer that the impact of high-quality pre-k would be even greater. Moreover, the overall quality of pre-k programs has likely improved significantly since the students in the study actually attended pre-k over a decade ago. Furthermore, the findings do not take into account how much time students spent in pre-k. For example, the data didn't allow for such comparisons between students who attended two years of pre-k instead of one or whether they attended part of full day.

pre-k in general, not about high-quality pre-k programs. Since the quality of pre-k programs varies significantly, if this report was able to isolate the impact of high-quality pre-k programs, it would likely show a greater impact of pre-k on student achievement.

The primary student outcome for this report was third-grade reading scores based on an assessment specifically designed and administered for students of the ECLS study. Results come in the form of achievement levels that denote specific reading skills students had acquired. Third-grade reading scores were used because research shows that students who are proficient in reading by third grade are much more likely to have future success, such as earning a high school diploma, than students who are not proficient.

Third-grade reading is key

In order to determine what combination of early childhood education programs produced better results later in school, we examined the impact on third-grade reading scores. Research shows that students who are proficient readers by third grade are more likely to be successful later on in school and in life. For example, a study of 26,000 Chicago Public School students found that students' third-grade reading level was a significant predictor of both eighth-grade reading level and ninth-grade course performance (Lesnick, et al. 2010). Beyond the academic benefits, third-grade reading skills are also a strong predictor of high school graduation and college attendance (Lesnick, et al. 2010). Conversely, another study found that students who were behind in reading by third grade were four times more likely to leave high school without a diploma (Hernandez 2011).

What we know about pre-k

Research has consistently shown that quality pre-kindergarten programs benefit not only individual students, but school districts and communities. A national study of children who attended a center-based pre-k program scored significantly higher on reading and math tests than children who were in the care of their parents (Magnuson, et al. 2004). The benefits were even more pronounced for minority and low-income children who typically start kindergarten 12 to 14 months behind their peers, highlighting the value high-quality pre-k has for efforts to close achievement gaps (Stark 2009).

States struggling to keep pre-k

A growing number of states have invested in voluntary, public pre-k programs as a means of school improvement. Over the past decade, enrollment in state-funded pre-k programs has grown over 70 percent. For the 2009-2010 school year, 40 states and the District of Columbia provide state funded

Society benefits, too. Nobel-Prize-winning economist James Heckman estimates that every dollar spent on early childhood education returns 10 cents annually over the life of a child (Heckman 2011). For example, if \$8,000 is invested in early childhood education at birth for a child who goes on to live until 65, the return on the investment would be over \$650,000, which is nearly 80 times the amount of the original investment of \$8,000 (Heckman 2011). This is because students in pre-k are less likely to be placed in special education, less likely to be retained in grade, and more likely to graduate with a high school diploma than similar students who didn't attend pre-k (Gayl 2008). And higher graduation rates result in savings for districts and taxpayers, and in citizens who vote more often and even have better health, as outlined in the Center's paper "Better Late Than Never." For more information on the benefits of pre-k, see the Center's collection of resources at www.centerforpubliceducation.org/prekindergarten.

pre-k programs to nearly 1.3 million students, or about 27 percent of all 4-year-olds nationwide (Barnett, et al. 2010). (Keep in mind, these numbers do not include students who attend the federally funded Head Start program or private pre-k programs.) According to the National Institute for Early Education Research (NIEER), 2010 state funding for pre-k actually declined for the first time since they started reporting the data nearly a decade ago. This has left districts who see the benefits of pre-k footing the bill.

What we know about full-day kindergarten

The benefits of full-day kindergarten are clear. Research consistently shows that students who attend full-day kindergarten make greater academic gains and are less likely to be retained in the early grades than students who attend half-day kindergarten. For example, a nationwide analysis of kindergarteners who began at the same achievement level found that students who attended full-day programs outperformed half-day students in both math and reading (Votruba-Drzal, Li-Grining and Maldonado-Carreno 2008). Furthermore, a meta-analysis of research found that full-day students outperformed half-day students on various achievement tests at the end of the year (Cooper, et al. 2010). And in a study of 17,000 in Philadelphia, researchers found that students who attended full-day kindergarten had better attendance records, higher grade point averages, and were more likely to be on grade level by third grade than half-day students (Weiss and Offenbergs 2003).

However, it is not clear how long those benefits last. Unlike pre-k, where researchers have determined that attending a high-quality pre-k program can impact students well into high school and even beyond, the results are less certain when it comes to full-day kindergarten as compared to half-day kindergarten alone. Some researchers have found that the impact lasts until at least the 3rd grade (Weiss and Offenbergs 2003). Others found that the benefits disappear well before the 3rd grade (Cannon, Jackowitz and Painter, Wolgemuth, et al. 2006). Please note that the topic has also been less studied than pre-k.

What combination of early childhood education options has the most effect?

We identified four possible options for early childhood education: no pre-k and half-day kindergarten; no pre-k and full-day kindergarten; pre-k and half-day kindergarten; and pre-k and full-day kindergarten. As mentioned earlier, pre-k and full-day kindergarten presents the best combination. However, this study focuses on the middle two combinations -- no pre-k and full-day kindergarten vs. pre-k and half-day kindergarten -- to determine whether students have a statistically significant better chance of reaching a higher third-grade reading level by participation in one option or the other.



Early Childhood Enrollment Percent of 1998 Kindergarteners			
<i>Kindergarten Enrollment type</i>		<i>Pre-Kindergarten Participation*</i>	
Full Day	Half-Day	Enrolled	Not Enrolled
55%	45%	69%	31%
*Percent of students who attended a center-based program the year prior to entering kindergarten, such as pre-kindergarten, pre-school, nursery school, or day-care center			

NCES administered a reading assessment to all students who participated in the ECLS which identified five ascending 3rd grade reading levels:

- Recognizing Common Sight Words
- Comprehension of Words in Context
- Literal Inference
- Extrapolation
- Evaluation

The higher the achievement level, the more skilled the reader. Since just about all third graders were proficient in “recognizing common sight words” and only a very small number were proficient in “evaluation,” we examined the middle three reading levels. Then we performed a logistic regression to determine the probability of students reaching each of these three reading levels if they attended pre-k and half-day kindergarten, or only attended full-day kindergarten.

Based on these results, this report provides the chances of a student attaining each of the reading level if they attended pre-k and half-day kindergarten, or if they attended full-day kindergarten alone. The report also provides the percent difference between the two in a student’s chances of reaching each of the reading levels to show the impact of attending of pre-k and half-day kindergarten instead of full-day kindergarten alone.

Comprehension of words in context

“Comprehension of words in context” means that students can understand words in the context of a sentence. While NCES does not release specific examples, in general, a student proficient at this level might be able to understand the word “canal” in the sentence “The big boat went through the canal to get from one ocean to the other.”

Summary findings:

- Black and Hispanic children, English language learners and children from low-income families are more likely to comprehend words in context by third grade if they attend a combination of pre-k and half-day kindergarten than full-day kindergarten alone.
- However, the increases are slight, since the vast majority

State requirements for pre-k and kindergarten

Although nearly all age-eligible children attend kindergarten, just 45 states require districts to offer it and only 19 states require students to attend (Bush 2011). As of 2008, 10 states mandated that school districts offer full-day kindergarten and two (Louisiana and West Virginia) required age-eligible students to attend full-day kindergarten (ECS 2008). Despite the fact that kindergarten is voluntary in most states, the majority of age-eligible students attend full-day kindergarten (NCES 2011). See our state-by-state table in "Also In This Guide" for more details.

of all student groups are proficient. Being able to read words in context is a basic skill that almost all students are proficient in by third grade.

Chances a Student Will Be Able to Comprehend Words in Context by Program Type			
	<i>No Pre-k/Full-Day Kindergarten</i>	<i>Pre-k/Half-Day Kindergarten</i>	<i>Percent Increase</i>
Overall	92%	95%	3%
White	95%	97%	2%
Black	87%	92%	6%
Hispanic	86%	92%	7%
Mother's education: high school diploma/GED	89%	92%	3%
Mother's education: Bachelor's	99%	100%	1%
Below Poverty Line	83%	89%	7%
Above Poverty Line	95%	97%	2%
ELL	84%	90%	7%
Non-ELL	93%	96%	3%

When we look at all third-graders, those who attend a combination of pre-k and half-day kindergarten are slightly more likely (3 percent) to reach proficiency in this level than students who attended full-day kindergarten alone. When we examine student racial groups, however, a stronger benefit emerges.

Black students benefited significantly. The chances of black third-graders reaching this level increased from 87 percent to 92 percent (a 6 percent increase in likelihood) if they attended both pre-k and half-day kindergarten. White students, however, only increased their chances of reaching proficiency by 2 percent.

The chances for Hispanic students to reach this achievement level increased the most. Similar to black students, Hispanic third-graders who attended pre-k and half-day kindergarten increased their chances of reaching this level by seven percent (86 percent to 92 percent) than if they attended full-day kindergarten alone. Not surprisingly, the data showed that those students who primarily spoke a language other than English at home (a proxy for ELL students) are better off with a combination of pre-kindergarten and half-day kindergarten. As with Hispanic students overall, ELL students raised their probability of reaching proficiency by seven percent (84 to 90 percent).

Current Enrollments

Since the data in this report is based on those students in kindergarten in 1998 (see sidebar, "What's being studied?") there have been some changes in the early childhood education students have been receiving. First of all, more students are now attending full-day kindergarten than were in 1998. The percent of kindergartners attending full-day has increased from 48 percent in 1995 to 61

Children from low-income families (defined as those below the poverty line) see their chances of proficiency at this level increase fairly significantly (7 percent) if they attended a combination of pre-k and half-day kindergarten rather than full-day kindergarten alone. Finally, third-graders whose mothers only had a high school diploma increased their chances of proficiency by 5 percent if they attended pre-k and half-day kindergarten rather than full-day kindergarten alone.

Literal Inference

“Literal inference” means that students are able to make inferences using cues that were directly stated with key words in text. While precise examples from NCES are not available, a student proficient at this level would be able to recognize the comparison being made in a simile, such as “Her eyes were as blue as the sky.”

percent in 2009 (NCES 2011). Over that same time period, the percent of 3 and 4 year olds enrolled in school has only increased slightly from 49 to 52 percent (NCES 2011). It is also likely that the quality of the pre-k programs has improved, as NIEER has seen an increase in programs meeting their quality standards over the past decade (Barnett, et al. 2010). As you can see, while there have been changes in the early childhood education experiences of some, there has not been a drastic shift in the percentage of students enrolled.

Summary findings:

- Once again, the data shows that the impact of pre-k and half-day kindergarten vs. full-day kindergarten alone is greater for traditionally under-performing groups of students. Black, Hispanic, ELL students and students from low-income families are all more likely to make literal inferences by the third grade if they attend pre-k and half-day kindergarten.
- The only exceptions are students whose mothers’ highest degree was a high school diploma.
- The impact of the pre-k/half-day combination was greater on this reading level than on the more basic “comprehension of words in context” level.

Chances a Student Will Be Able to Make Literal Inferences by Program Type			
	<i>No Pre-k/Full-Day Kindergarten</i>	<i>Pre-k/Half-Day Kindergarten</i>	<i>Percent Increase</i>
Overall	68%	76%	12%
White	77%	82%	6%
Black	55%	63%	15%
Hispanic	55%	64%	16%
Mother's education: high school diploma/GED	60%	63%	5%*
Mother's education: Bachelor's	55%	63%	15%*
Below Poverty Line	50%	58%	16%
Above Poverty Line	75%	80%	7%
ELL	48%	58%	21%
Non-ELL	72%	79%	10%
*not statistically significant			

The ability to make literal inferences is necessary to be a proficient third-grade reader, and the type of early childhood education students have makes a difference. Overall, attending a combination of pre-k and half-day kindergarten increases students' chances of attaining this reading level by 11 percent (68 to 76 percent) – a substantial improvement. When Hispanic students attend a combination of pre-k and half-day kindergarten, rather than full-day kindergarten alone, their chances of reaching this reading level jumped 16 percent (55 percent to 64 percent). Just like with the previously discussed “comprehension of words in context,” black students benefited nearly as much. Their chances of reaching this level increase from 55 percent to 63 percent (a 15 percent increase). White students' chances of reaching this level increased by just 6 percent.

And the impact on ELL students is even greater. Attending pre-k and half-day kindergarten instead of full-day kindergarten alone increases an ELL student's chances of being able to make literal inferences by 21 percent.

As with the basic “words in context,” students below the poverty line had a much greater chance of making literal inferences by third grade if they attended pre-k and half-day kindergarten. Students are 16 percent more likely to reach the literal inference level by the third grade if they had attended pre-k and half-day kindergarten (58 percent) instead of full-day kindergarten alone (50 percent).

However, third-graders whose mothers only had a high school diploma saw little difference in their achievement with either early childhood option (60 percent for pre-k/half-day; 63 percent for full-day alone).

Extrapolation

“Extrapolation” is an advanced reading skill. Being proficient in extrapolation means that students can identify clues used to make inferences, and can use personal background knowledge combined with cues in a sentence to understand homonyms (NCES 2004-001). While we don't have specific NCES examples, a student proficient at this level might be able to distinguish whether “bear” meant “to carry” or “an animal.”

Summary findings:

- Attending a combination of pre-k and half-day kindergarten improves all students' chances of reaching the higher “extrapolation” reading level at an even greater rate than the “literal inference” level.
- ELL and Hispanic students saw the greatest boost, while black students and students in poverty also saw a significant boost.
- Students whose mothers only obtained a high school degree saw no difference.

Chances a Student Will Be Able to Extrapolate by Program Type			
	<i>No Pre-k/Full-Day Kindergarten</i>	<i>Pre-k/Half-Day Kindergarten</i>	<i>Percent Increase</i>
Overall	44%	52%	18%
White	54%	59%	9%
Black	29%	34%	17%
Hispanic	29%	36%	24%
Mother's education: high school diploma/GED	34%	36%	6%*
Mother's education: Bachelor's	73%	74%	1%*

Below Poverty Line	25%	30%	20%
Above Poverty Line	50%	56%	12%
ELL	24%	30%	25%
Non-ELL	47%	55%	17%
*not statistically significant			

The data on reaching the Extrapolation level provides more evidence that attending pre-k and half-day kindergarten increases the chances of gaining higher-level reading skills for most students. Attending pre-k and half-day kindergarten increases the chance of a third grader will reach this reading level at an even greater rate than the “literal inference” level. At the “literal inference” level, doing so increased a student’s chances by 11 percent; at this level, it increased students’ chances by 18 percent.

For Hispanic students, the boost is even greater. These students increased their chances of proficiency by 24 percent if they attended pre-k and half-day kindergarten rather than full-day kindergarten alone. Black students saw a boost in their chances (17 percent) as well. Similar to Hispanic students, ELL students were also nearly 25 percent more likely to be proficient at the “extrapolation” level if they attended pre-k and half-day kindergarten. The likelihood white students reached this level increased by 9 percent.

The chances a student below the poverty line reaches proficiency in Extrapolation also jump by 20 percent. Students whose mothers only obtained a high school degree, however, saw no difference in scores with either of the early childhood options.

The Pre-K boost

Higher-level reading skills are crucial for a student’s future success in and outside of school. The probability data shows that children overall improve their chances at reaching higher reading levels when they attend pre-k and half-day kindergarten. Black and Hispanic students, English language learners and students from low-income families see their chances improve considerably when they attend a combination of pre-k and half-day kindergarten as opposed to full-day kindergarten alone.

The data also show that a mother’s education level was the exception. Pre-k and half-day kindergarten students whose mothers had only a high school diploma had 3rd grade reading skills that were slightly or no higher than their peers who attended full-day kindergarten alone. Keep in mind, however, that other studies of high-quality pre-k programs show greater impacts.

Also, keep in mind that this study did not consider the quality of the pre-k program. When viewed alongside other research showing the sizable benefits of high-quality pre-k to all groups of students, the findings reinforce the message that pre-k is a wise investment for children, schools and their communities.

Implications for school board members

This study provides more evidence for the value of pre-kindergarten, especially in combination with kindergarten. It has particular benefits for closing achievement gaps, and shows the value of pre-k in comprehensive school improvement plans. Especially for traditionally disadvantaged groups, pre-kindergarten and kindergarten are investments that pay remarkable dividends not only for schools, but for communities. We

should strive to give all children access to both high-quality pre-kindergarten and full-day kindergarten. The research is clear that this is the best option.

While the question of “pre-k and half-day vs. full-day alone” was raised by school districts around the country, the paper clearly shows the benefits of both pre-kindergarten and kindergarten. This paper should not be read as suggesting that full-day kindergarten be reduced in favor of half-day kindergarten. Of all early childhood education possibilities, half-day kindergarten alone has the smallest positive impact. Since the groups that benefit the most from the combination of pre-k and half-day kindergarten are the least likely to have access to private pre-k, the emphasis should be on adding pre-kindergarten to existing kindergarten programs.

As with any major education decisions, and especially one that affects young children and their families, school leaders should work in close collaboration with communities, especially parents, Head Start, and other early childhood providers, in order to develop programs that best meet the community’s needs. The findings in this paper can and should inform these discussions. The questions that follow are intended to help you start.

Questions to consider:

Need

- How many children in the district enter kindergarten with the skills necessary to be successful? Are there differences by school? Do the skill levels differ by student group?
- What pre-k programs are currently available in the community (private, public, Head Start)? What is the quality of those programs?
- Is there coordination of resources between pre-k providers and kindergarten?
- Are the standards for pre-k programs aligned with the public schools?
- How many children currently attend pre-k programs? Do children have equal access to quality programs?
- Do students who attend the lowest performing schools in the district have adequate access to quality pre-k programs? Are students in these schools attending full-day or half-day kindergarten?
- What barriers may exist that prevent parents from participating in pre-k programs?

Funding

- What is the estimated cost of providing a new pre-k program? Is there enough funding to provide both pre-k and full-day kindergarten?
- Are there enough funds to provide pre-k to all students or only to targeted populations of students, for example, students with special needs or from low-income families?
- What other funding options are available to create a new or modify an existing pre-k program?
- Would transportation be provided?
- What facilities are available within the district to house new pre-k programs?
- What are the financial implications for families on whether the district offers half- or full-day kindergarten? What are the financial implications if the district adds pre-k to either of these options?

For more questions for school boards and community members should consider when discussing quality pre-k, check out the Center’s [Pre-K Toolkit](#).

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This study was written and researched by Jim Hull, Center for Public Education's Senior Policy Analyst.
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- See more at: <http://www.centerforpubliceducation.org/Main-Menu/Organizing-a-school/Starting-Out-Right-Pre-K-and-Kindergarten/Starting-Out-Right-Pre-K-and-Kindergarten-full-report.html?css=print#sthash.X9vNAnVd.dpuf>
