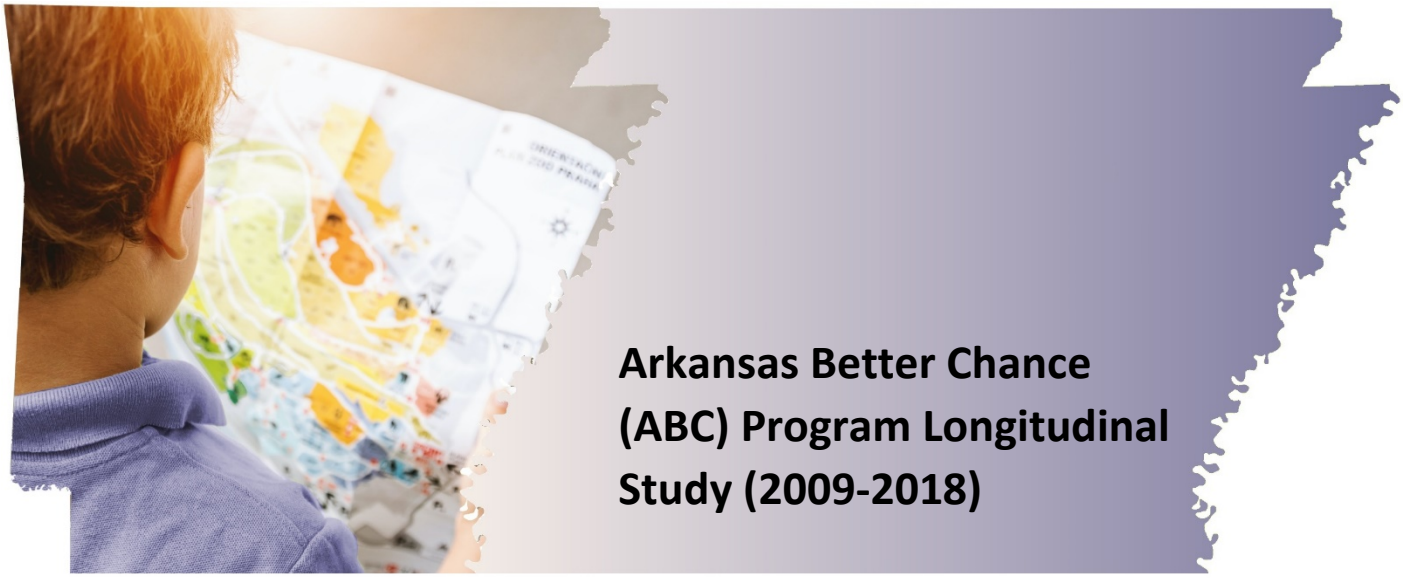
ARKANSAS RESEARCH CENTER
arc.arkansas.gov

ARKANSAS DEPARTMENT OF HUMAN SERVICES
Division of Child Care and Early Childhood Education



Arkansas Better Chance (ABC) Program Longitudinal Study (2009-2018)

Sarah E. Argue, MPS

Greg O. Holland, Ph.D.

Arkansas Research Center

University of Central Arkansas

Arkansas Better Chance (ABC) Program

Longitudinal Study (2009-2017)

Sarah E. Argue, MPS

Greg O. Holland, Ph.D.

Arkansas Research Center

University of Central Arkansas

Funding for this project was provided by the State of Arkansas, Department of Human Services, Division of Child Care and Early Childhood Education.

Table of Contents

Arkansas Better Chance (ABC) Program Longitudinal Study (2009-2018)

Persistent academic achievement gaps continue to challenge education systems (Bower, 2011; Duncan & Magnuson, 2005; Reardon & Portilla, 2015). In an attempt to address these gaps before they become pervasive, states have implemented state-funded preschool programs (Lee & Burkam, 2002; Magnuson & Waldfogel, 2016; Pianta & Howes, 2009). A main goal of all state-funded preschool programs is the preparation of young children for Kindergarten and elementary school. Effective preschool programs lay a foundation for children's subsequent school success by imparting the varied knowledge, abilities, and dispositions children need to succeed in school.

Previous research has established that high-quality and well-funded preschool programs make valuable contributions to improving children's learning and development (Barnett, 2002; Young, 2016) and have a valuable economic return (Heckman, 2006, 2011; Karoly, 2016). Studies of model prekindergarten programs including the Abecedarian Early Childhood Intervention program, the High/Scope Perry Preschool program, and the Chicago Child-Parent Centers have shown that these types of programs produce economic benefits that are much greater than their costs (Barnett, 1996; Masse & Barnett, 2002; Reynolds, Temple, Robertson, & Mann, 2002). The benefits of preschool education include higher scores on achievement tests and lower rates of special education placements and grade repetition, as well as longer-term effects such as improved high school graduation rates and reduced levels of crime and delinquency (Camilli, Vargas, Ryan, & Barnett, 2010; Ramey, Campbell, Burchinal, Skinner, Gardner, & Ramey, 2000; Reynolds, Temple, Robertson, & Mann, 2001).

Although state-funded preschool programs are not as well funded as many of the model programs that have been intensively studied, the state programs are larger and serve more diverse populations. As state-funded preschool programs grow and more children participate, it is increasingly important to determine how effective these programs are in improving children's potential for school success.

The Arkansas Better Chance (ABC) Preschool Program Context

In Act 49 of the Second Extraordinary Session of 2003, the Arkansas State Legislature expanded the Arkansas Better Chance (ABC) prekindergarten program and provided explicit instruction to target school districts in which at least 75 percent of children have literacy and math scores below proficient levels. This report examines the impact of the ABC program on the percent of children scoring proficient on the state's end-of-year exams.

Arkansas is a recognized, national leader in the standards it has set for its programs in seeking to provide quality preschool experiences. Using a variety of tools, it has a robust Quality Rating Improvement Scale (QRIS) that examines classroom environment, teacher education and professional development, administrative effectiveness and efficiency, and teacher-child interactions. Additionally, Arkansas updated its *Child Development and Early Learning Standards* in 2016, with support and guidance from education professionals and national experts. Together, these resources create a high-quality state-funded prekindergarten program.

This report demonstrates the effects of the Arkansas Better Chance program (ABC) on end of year assessments, which varied over the course of the study years. Seven preschool cohorts (2009-2014) are included. For the earliest cohort (2009) late elementary (third through fifth grades) and middle school (sixth through eighth grades) outcomes were examined, while for the most recent cohort (2014), only third grade outcomes are examined. Students included in the ABC cohorts were enrolled in ABC the year prior to Kindergarten, enrolled in Arkansas public schools for consecutive years associated with the cohort's reporting period, and received free lunch all years of the reporting period. Students included in the No Known PreK cohorts were consecutively enrolled in Arkansas public schools for all years associated with the cohort's reporting period, received free lunch all years of the reporting period, and had no PreK participation indicated on their Kindergarten registration forms.

Table 1. Cohort Counts

Cohort	Grade	ABC	NK
2009	K	438	3,151
	3	280	1,806
	4	262	1,687
	5	238	1,534
	6	224	1,430
	7	212	1,343
	8	205	1,299
2010	K	617	3,371
	3	368	1,726
	4	328	1,526
	5	298	1,425
	6	282	1,362
	7	272	1,307
2011	K	767	3,917
	3	455	1,978
	4	421	1,810
	5	397	1,716
	6	375	1,652
2012	K	693	4,504
	3	397	2,325
	4	363	2,173
	5	344	2,098
2013	K	4,207	4,090
	3	2,984	1,989
	4	2,883	1,888
2014	K	3,657	4,434
	3	2,701	2,461
2015	K	4,884	4,388
2016	K	5,132	4,696
2017	K	5,794	5,829
2018	K	5,634	7,131

A limitation of this study is that it is possible children with private preschool experiences have been included in the 'No Known PreK' (NK) study group due to incomplete Kindergarten registration data, resulting in inflated NK percent proficient.

Methodology

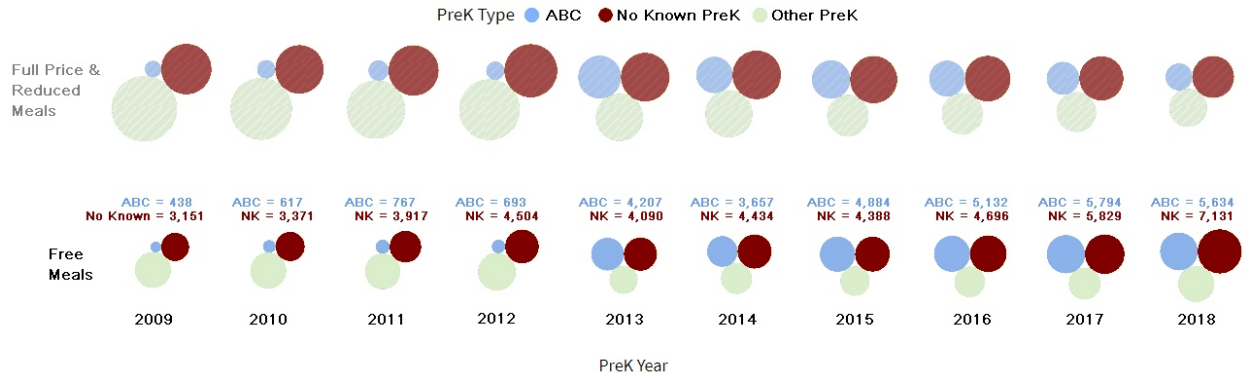
An input file containing a list of Arkansas Better Chance (ABC) students was provided to Arkansas Department of Education (ADE) with ABC research identifiers for match to the ADE data system for student enrollment and assessment. ADE provided research identifiers for all students and included the ABC research identifier for any student which was also found on the ABC input file. ADE returned data files as output, with one file for each academic year of student enrollment and assessment. Dozens of output files were combined to generate the dataset for this study.

In order to establish the study cohorts, rules were established to identify the ABC cohort and the No Known (NK) PreK cohort within the combined ABC and ADE data. To be included in this study, children must have been five years old at the time of entering Kindergarten or clearly attending Kindergarten for the first time, must be present in ADE data on or after October 1 of

every applicable year, and must have been enrolled in free lunch program every applicable year. For the ABC cohort, children must have attended an ABC program for seven hours or more per day in the year prior to their Kindergarten entry. For the NK cohort, children must not have any PreK indicator on their ADE record as completed by their parent/guardian at the time of Kindergarten registration, nor may they have been enrolled ABC for less than seven hours per day. For the purposes of this study, only children who received free lunches for all relevant years were included. PreK cohorts were established for ABC and NK students from 2009 to 2018.

Beginning with the 2013 PreK year, the number of ABC students increased significantly, and the corresponding third grade testing results are associated with the 2017 assessment. PreK cohorts for 2015 through 2018 are students who have not yet reached the third grade. Comparison groups for Free Meals, ABC PreK, and No Known PreK were established for each PreK cohort, with counts as shown in Table 1. Figure 1 demonstrates the process in which the initial cohorts were established and reflects the relative size of each reporting pool.

Figure 1. Selection Criteria



The 2018 statewide ABC cohort was fairly evenly split between genders, while the NK cohort had more boys (Figure 2). Similarly, distribution of race remained fairly constant between the two cohorts, although the ABC cohort had slightly more Black and Hispanic children (Figure 3).

Figure 2.

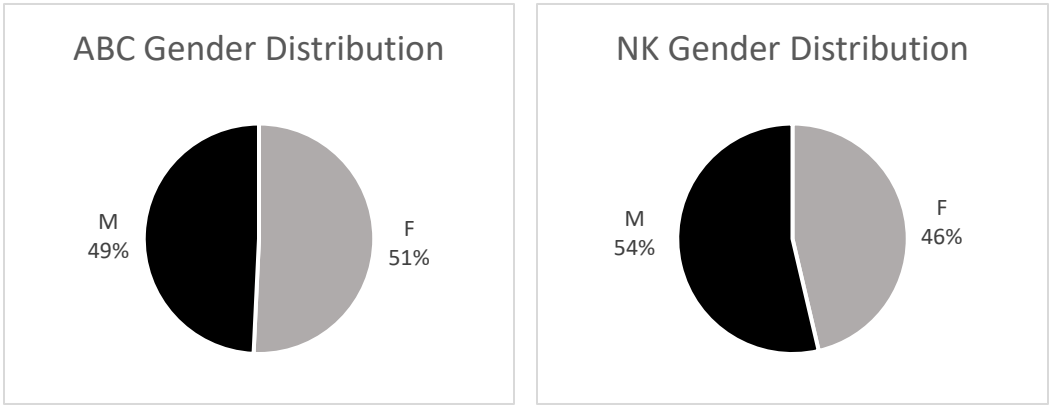
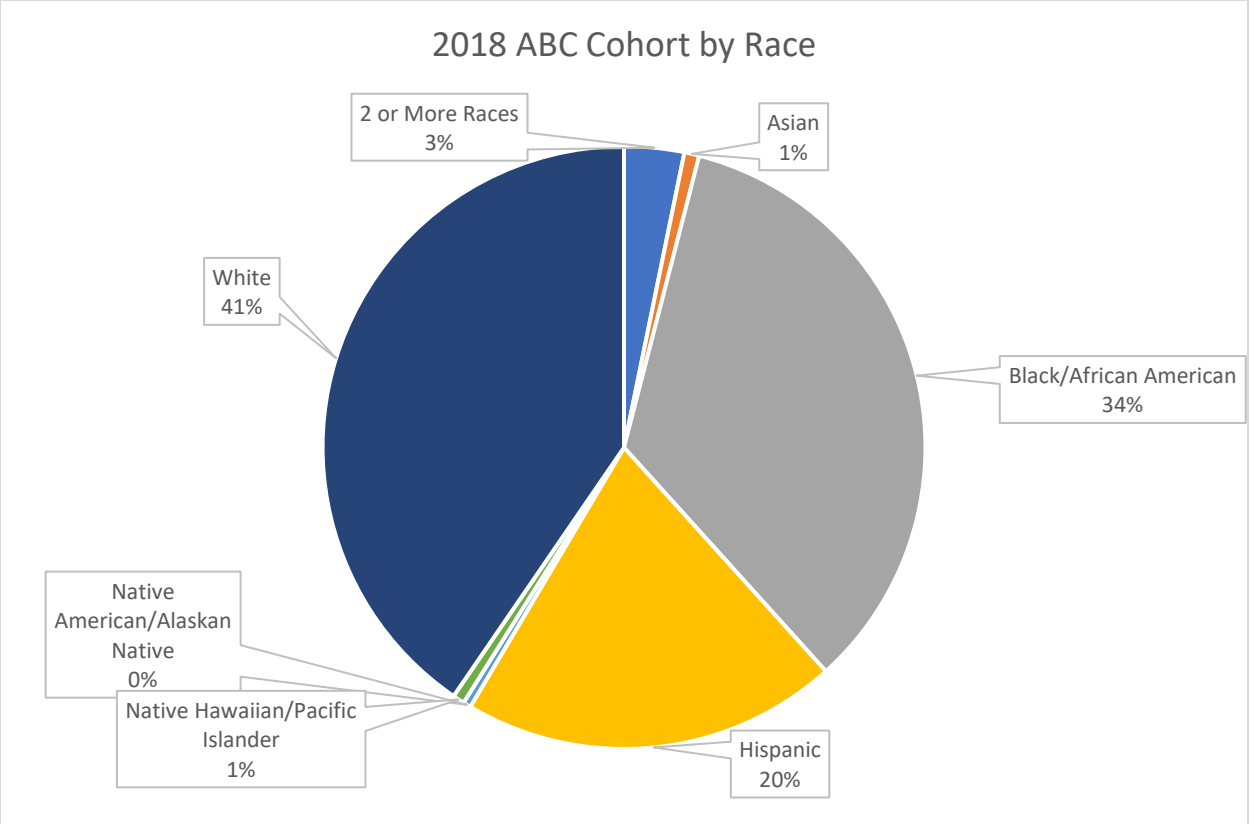
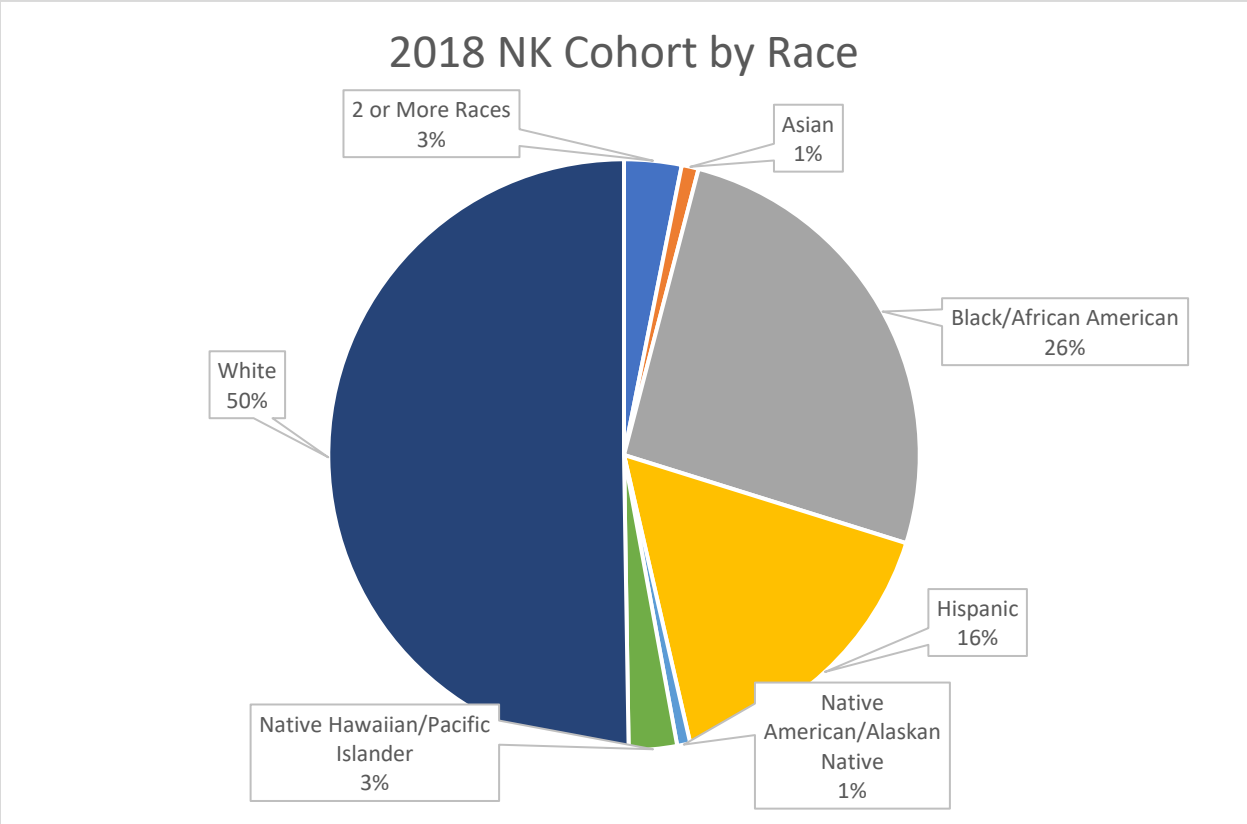


Figure 3.

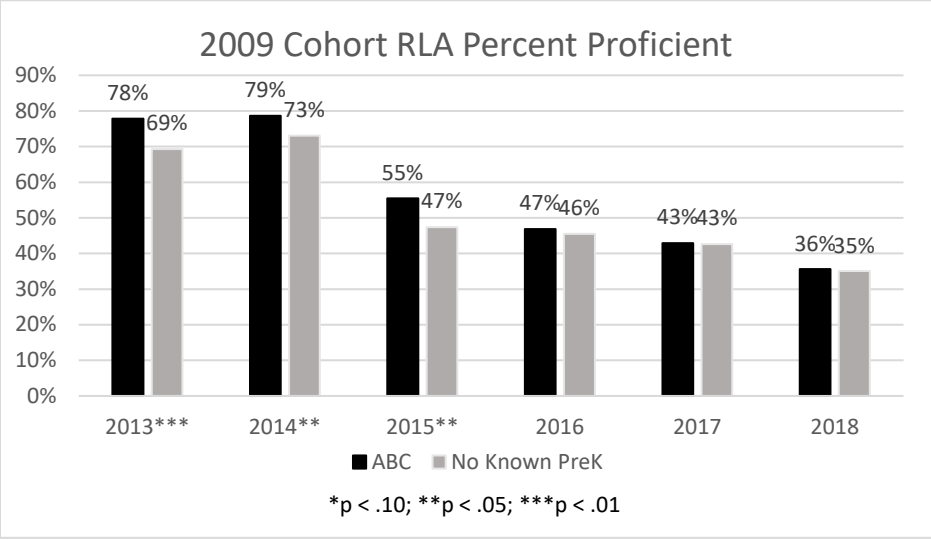

2018 ABC Cohort by Race
2 or More Races 3%
Asian 1%
White 41%
Black/African American 34%
Native American/Alaskan Native 0%
Native Hawaiian/Pacific Islander 1%
Hispanic 20%

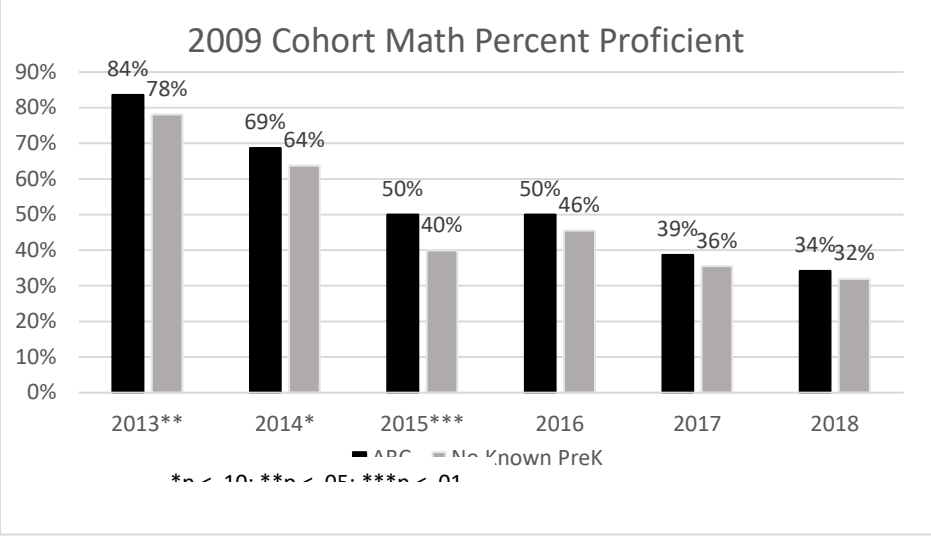

2018 NK Cohort by Race
2 or More Races 3%
Asian 1%
Black/African American 26%
White 50%
Hispanic 16%
Native American/Alaskan Native 1%
Native Hawaiian/Pacific Islander 3%

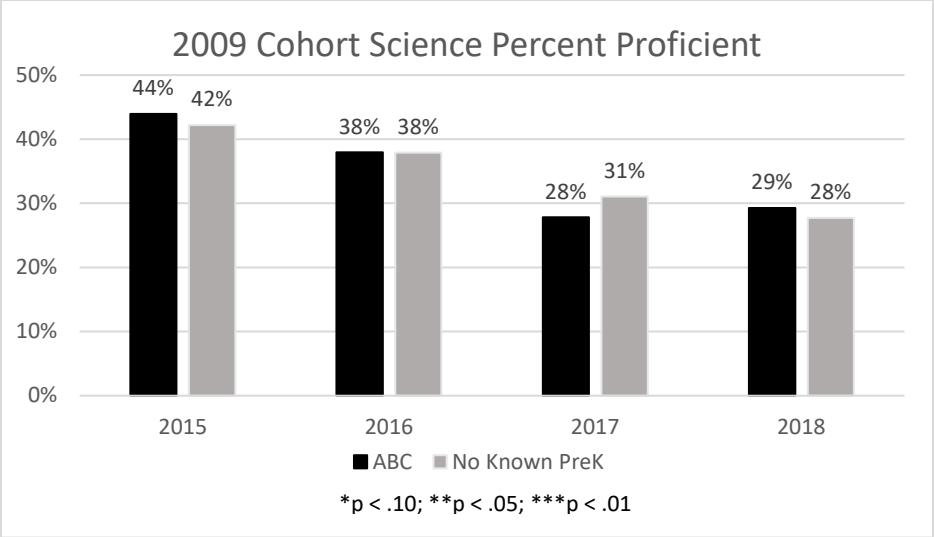
Results

The results of the longitudinal study are promising for the Arkansas Better Chance program. Frequently, ABC students perform better on state assessments than children who did not attend ABC PreK. An important note for analysis of these results is the change in assessments over the study period. The Arkansas Benchmark test was used in 2013 and 2014, the PARCC was used in 2015, and the ACT Aspire was used 2016 and on.

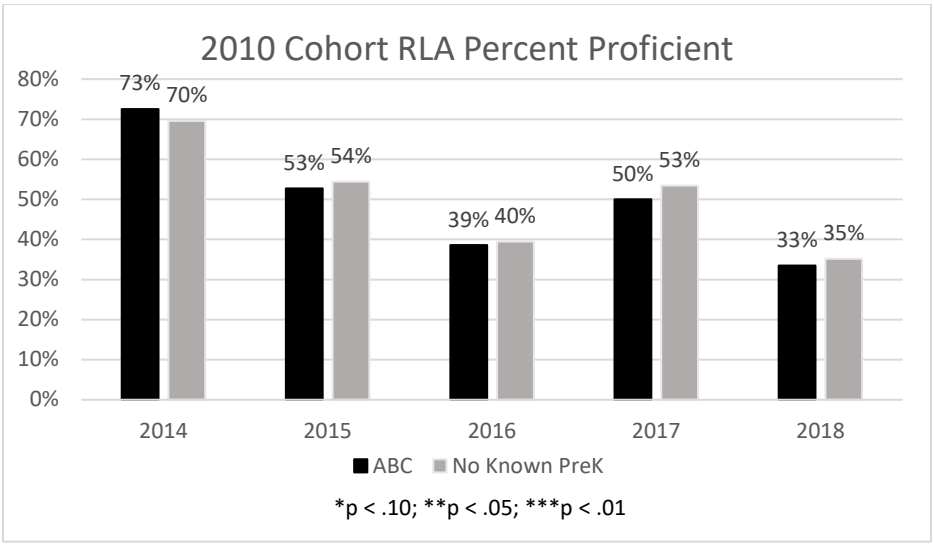
The 2009 ABC cohort had statistically more students score proficient than the No Known PreK (NK) cohort in reading (2013, 2014, 2015) and math (2013, 2014, 2015), but not in science.

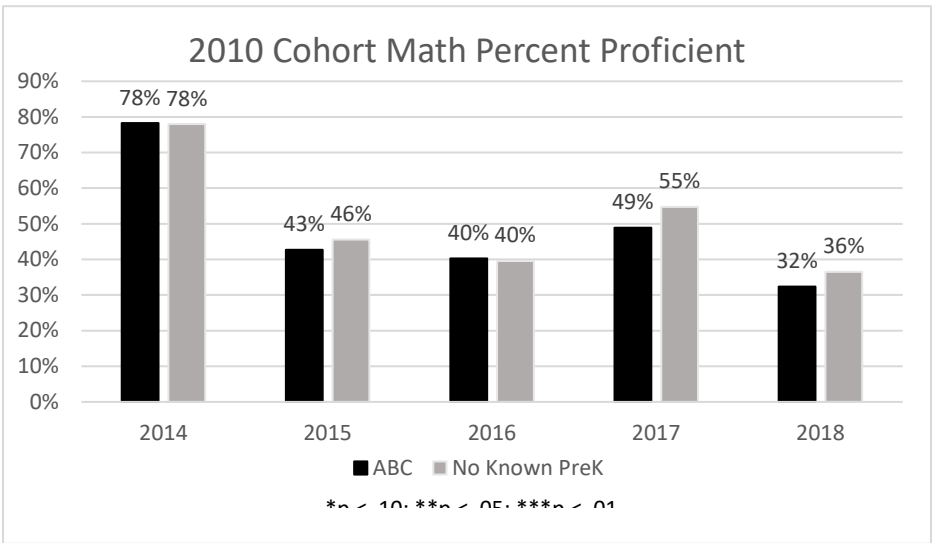


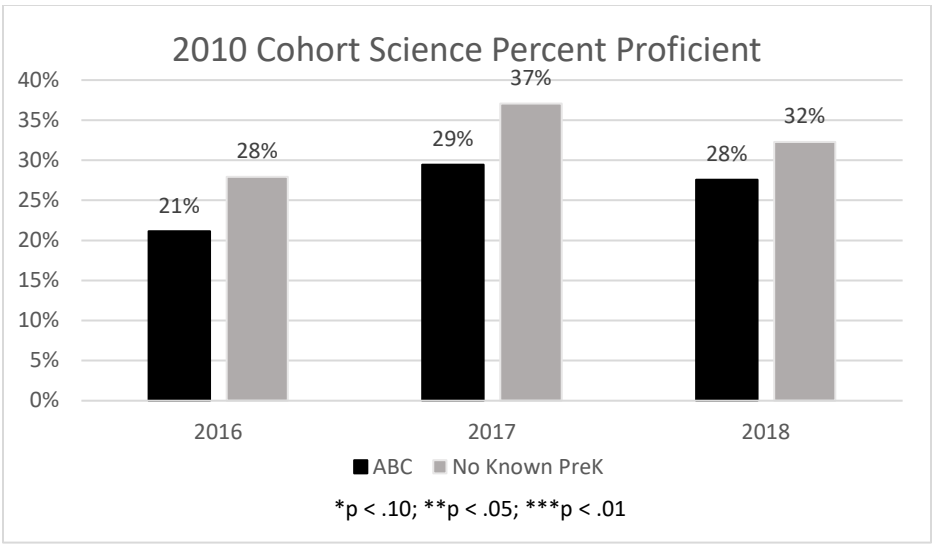




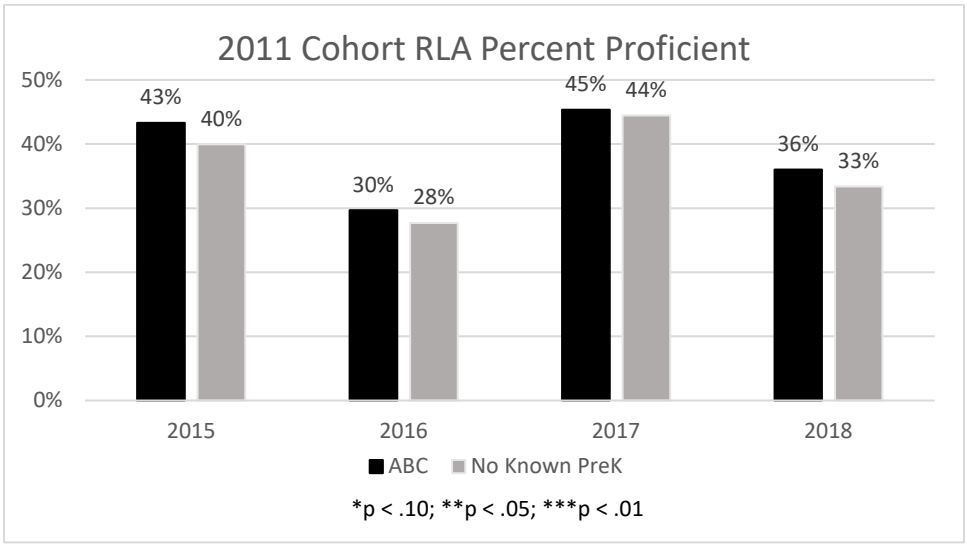
The 2010 ABC cohort did not have statistically more proficient children than the No Known PreK cohort.

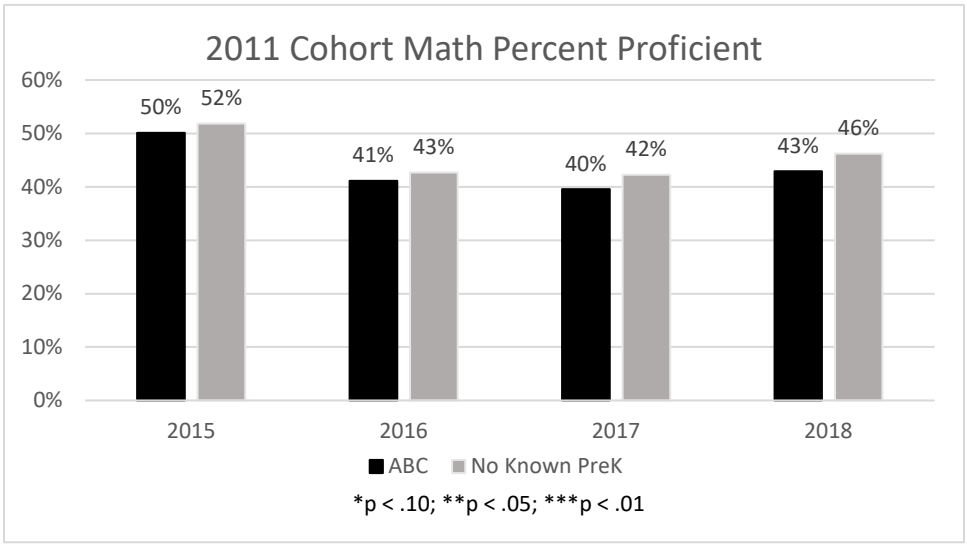


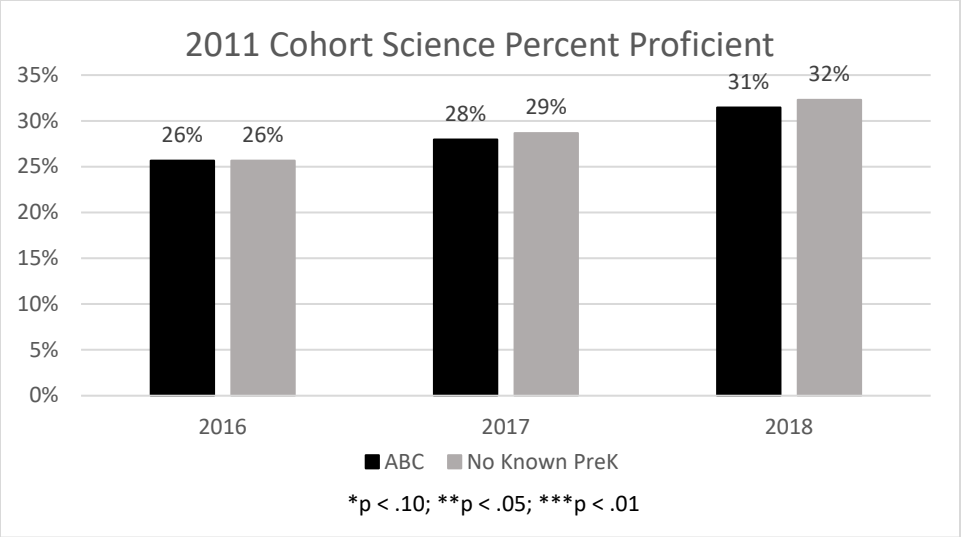




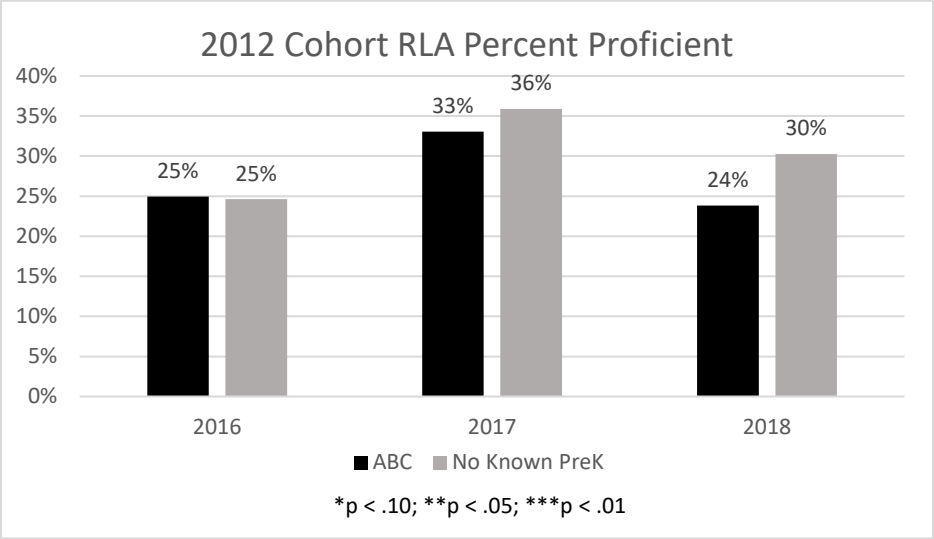
The 2011 ABC cohort did not have statistically more proficient children than the No Known PreK cohort.

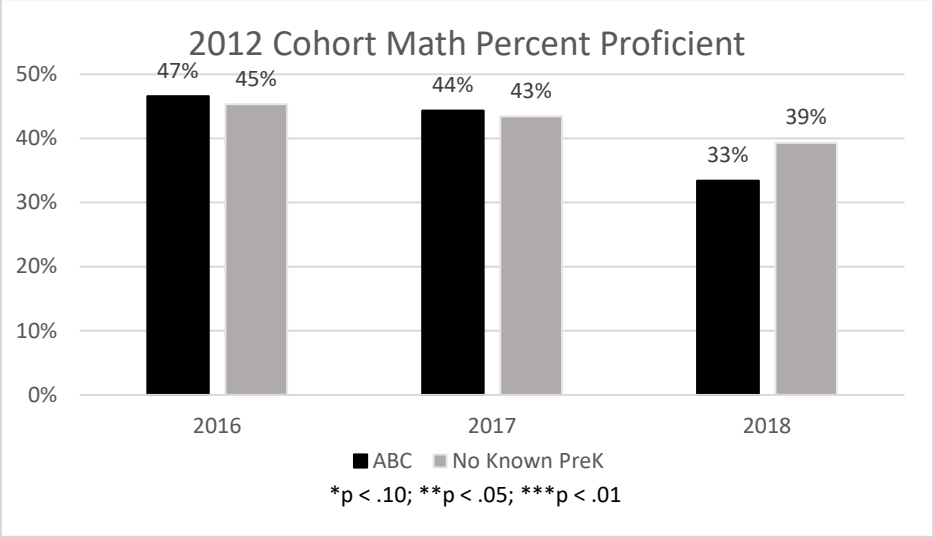


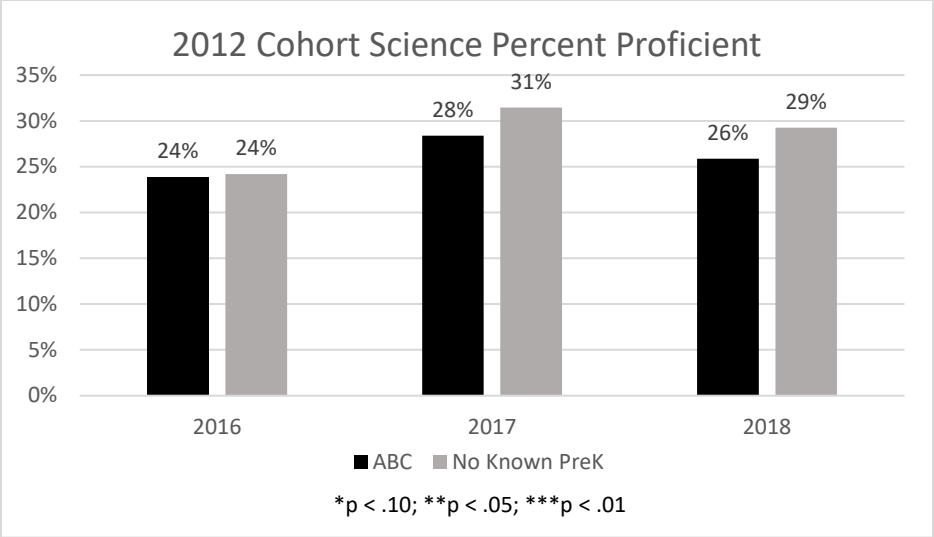




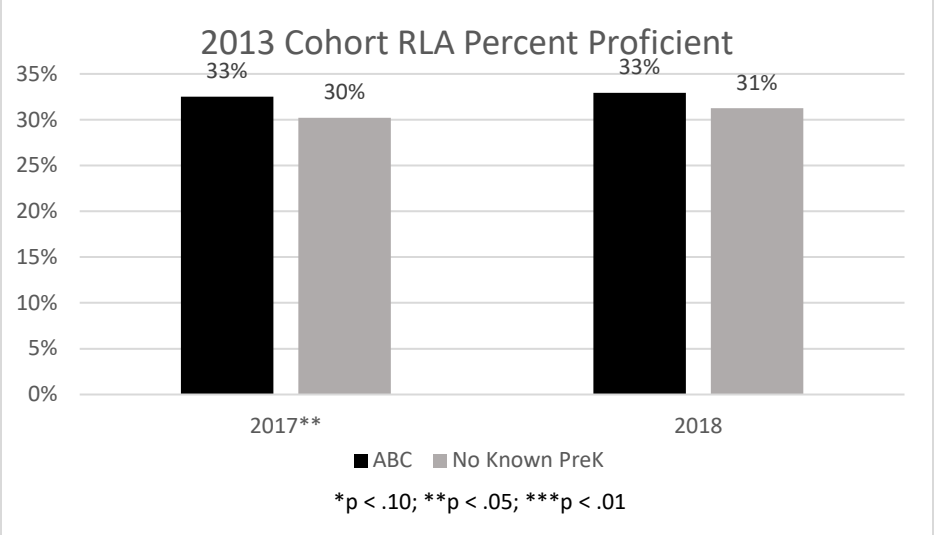
The 2012 ABC cohort did not have statistically more proficient children than the No Known PreK cohort.

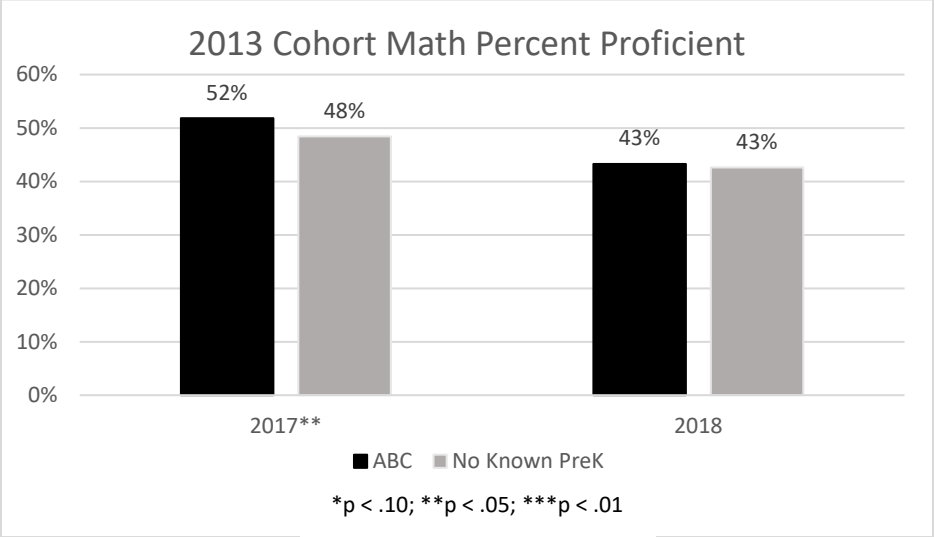


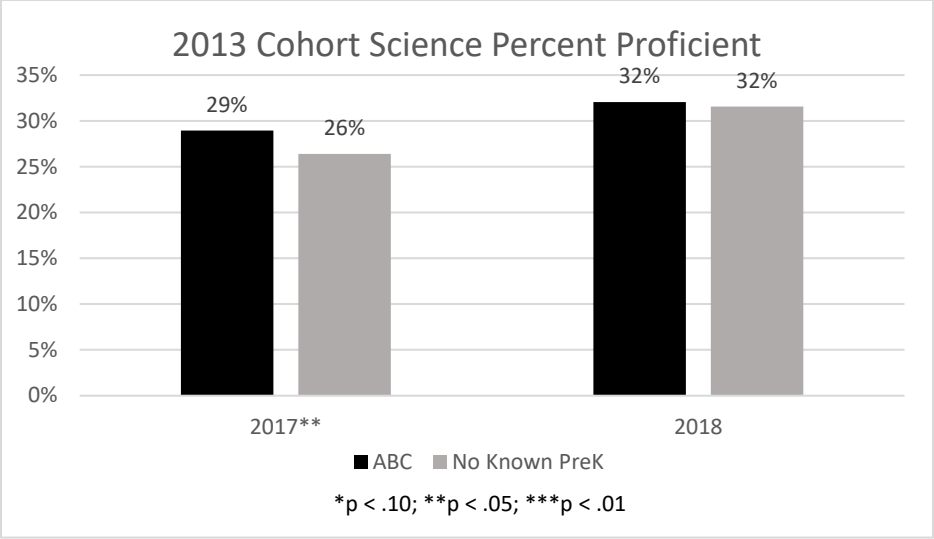




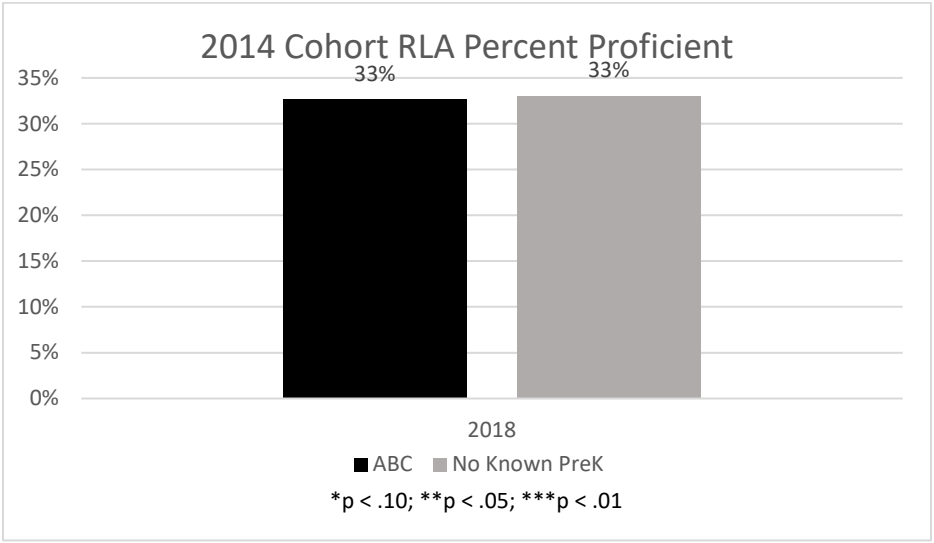
The 2013 ABC cohort had statistically more proficient children on all tests in the third grade (2017).

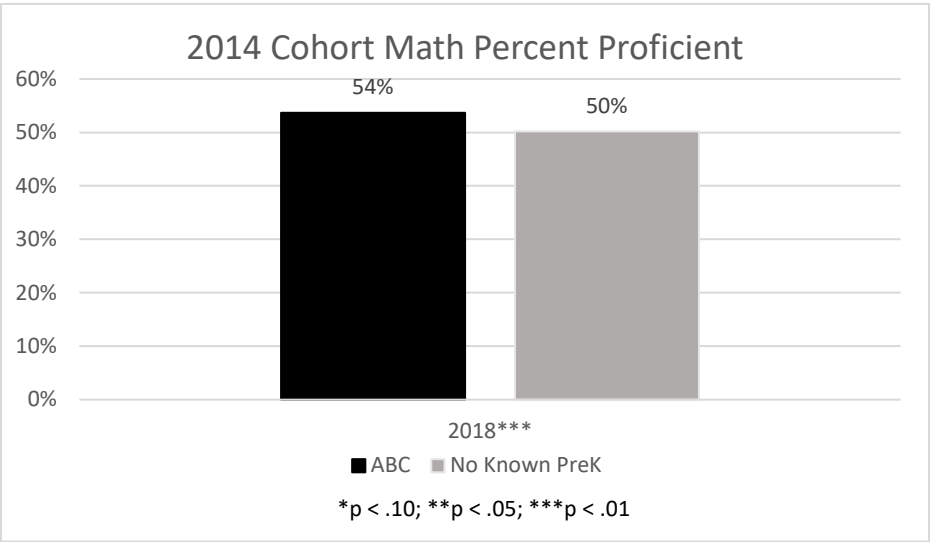


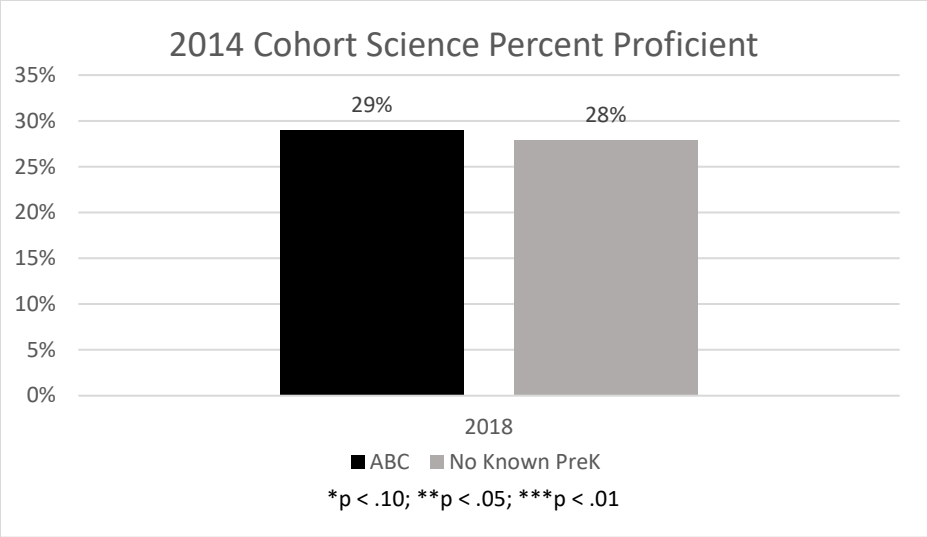




The 2014 ABC cohort had statistically more proficient children on the third grade (2018) math test.







Retention

Significant differences in the retention rates of the ABC cohorts and the No Known (NK) PreK cohorts provide an additional insight into student proficiency. Because retained students are no longer on-time in terms of their enrolled grade level, they should be recognized in the evaluation of proficiency and program effectiveness. Table 2 shows the cumulative retention of each PreK cohort through its 2018 grade.

Table 2. Retention Rates

PreK Cohort	2019 Grade	ABC Retention	NK Retention	Retention Difference
2009	8	20.7%	19.3%	-1.3%
2010	7	19.8%	19.2%	-0.6%
2011	6	13.5%	16.8%	3.3%
2012	5	11.8%	16.9%	5.1%
2013	4	9.7%	16.3%	6.6%

The retention rate is higher for NK PreK cohorts, with as many as 6.6% more retained students in 2018 for the 2013 PreK cohort which would have been in the fourth grade, if not retained. Recognizing that an additional 6.6% NK students were not proficient at the on-time grade level, the differences between ABC and NK are particularly stark through elementary school. The 2014 PreK Cohort for third grade in 2018 was not included because the study data set contains no corresponding standardized test data for retained students in the second grade. The number of students promoted into a grade higher than their peers is statistically insignificant for both ABC and NK cohorts.

Conclusion

The Arkansas Better Chance program has an income requirement for eligibility. Children living in homes with greater than 200% of the federal poverty level are ineligible to participate in the program, unless they meet other at-risk factors (special needs, teenage mothers, etc.). Moreover, ABC serves more children of color than the general population. In spite of the risk factors and a pervasive academic achievement gap, students who attend ABC programs often are performing better on state assessments and have lower retention rates than children who have not participated in a PreK program throughout elementary school. These results are also sustaining through late elementary school.

The change in testing instruments does appear to have impacted outcomes for the middle cohorts but seems to be stabilizing in the later cohorts. This is not an unexpected fluctuation as children and schools adjust to new instruments. The 2013, 2014, 2015 ABC cohorts each demonstrated higher rates of proficiency (within larger cohorts) on at least one of the end-of-year assessments than the No Known PreK cohort. Additionally, the retention rates for the 2011, 2012, and 2013 cohorts are 3.3% to 6.6% lower for ABC, indicating significantly more ABC students are remaining on-time with their peers. These results have promising implications for future ABC cohorts.

References

Barnett, W. S. (1996). *Lives in the balance: Age 27 benefit-cost analysis of the High/Scope Perry Preschool Program*. Ypsilanti, MI: High/Scope Press.

Barnett, W. S. (2002). Early childhood education. In A. Molnar (Ed.), *School reform proposals: The research evidence* (pp. 1-26). Greenwich, CT: Information Age Publishing, Inc.

Bower, C. B. (2011). Social policy and the achievement gap: What do we know? Where should we head? *Education and Urban Society, 45*(1), 3–36. https://doi.org/10.1177/0013124511407488

Camilli, G., Vargas, S., Ryan, S., & Barnett, W. S. (2010). Meta-analysis of the effects of early education interventions on cognitive and social development. *Teachers College Record*, *112*(3), 579–620. Retrieved from http://www.gregorycamilli.info/papers/early education interventions.pdf

Duncan, G.J., & Magnuson, K.A. (2005). Can family socioeconomic resources account for racial and ethnic test score gaps? *Future of Children, 15*, 35-54.

Heckman, J. (2006). Investing in disadvantaged young children is an economically efficient policy. *Science*, *312*, 1900–2. http://doi.org/10.1126/science.1128898

Heckman, J. (2011). The economics of inequality: The value of early childhood education. *American Educator*, (July 2008). Retrieved from http://eric.ed.gov/?id=EJ920516

Karoly, L. A. (2016). The economic returns to early childhood education. *The Future of Children*, *26*(2), 37–55.

Lee, V.E., & Burkam, D.T. (2002). Inequality at the starting gate. Washington, DC: Economic Policy Institute.

Magnuson, K. A., & Waldfogel, J. (2016). Early childhood care and education: Effects on ethnic and racial gaps in school readiness. *The Future of Children*, *15*(1), 169–196.

Masse, L. N., & Barnett, W. S. (2002). *A benefit-cost analysis of the Abecedarian Early Childhood Intervention*. New Brunswick, NJ: National Institute for Early Education Research.

Pianta, R.C., & Howes, C. (2009). *The Promise of Pre-K.* (Eds). Baltimore, MD: Brookes Publishing.

Ramey, C. T., Campbell, F. A., Burchinal, M., Skinner, M. L., Gardner, D. M., & Ramey, S. L. (2000). Persistent effects of early childhood education on high-risk children and their mothers. *Applied Developmental Science*, *4*(1), 2–14. http://doi.org/10.1207/S1532480XADS0401_1

Reardon, S. F., & Portilla, X. A. (2015). *Recent trends in socioeconomic and racial school readiness gaps at kindergarten entry* (No. CEPA Working Paper No. 15-02).

Reynolds, A. J., Temple, J. A., Robertson, D. L., & Mann, E. A. (2001). Long-term effects of an early childhood intervention on educational achievement and juvenile arrest: A 15-year follow-up of low-income children in public schools. *Journal of the American Medical Association*, *285*(18), 2339–2346. Retrieved from http://jama.jamanetwork.com/article.aspx?articleid=193816

Reynolds, A. J., Temple, J.A., Robertson, D.L., & Mann, E.A. (2002). *Age 21 cost benefit analysis of the Title I Chicago Child-Parent Centers*. (Discussion Paper no. 1245-02). Madison, WI: Institute for Research on Poverty. Available online at http://www.ssc.wisc.edu/irp/pubs/dp124502.pdf.

Young, M. (2016). Converting the science of early human development into action: Closing the gap between what we know and what we do. In A. Farrell, S. L. Kagan, & E. K. M. Tisdall (Eds.), *The SAGE Handbook of Early Childhood Research* (pp. 133–147). Thousand Oaks, CA: SAGE Publications, Inc.

ABC Cohort Outcomes for Free Lunch Students

- The ABC Cohort includes all first-time, free lunch Kindergarteners in the 2009-2010 academic year who were enrolled in districts of the Arkansas Department of Education and received Free Lunch for ALL of the years 2009-2019 and were enrolled in the ABC program the previous year.
- The NK (No Known) Cohort includes all first-time, free lunch Kindergarteners in the 2009-2010 academic year who were enrolled in districts of the Arkansas Department of Education and received Free Lunch for ALL of the years 2009-2019 and did not indicate PreK enrollment upon Kindergarten entry.
- Average Score represents on-time students tested.
- Proficiency represents on-time Proficient or Advanced students out of all regularly tested students in each academic year.

2009 ARKANSAS

Assessment	Pre-K Program	Measure	*n*	Grade 3 (2013) (Benchmark)	*n*	Grade 4 (2014) (Benchmark)	*n*	Grade 5 (2015) (PARCC)	*n*	Grade 6 (2016) (ACT Aspire)
MATH	**ABC**	Average Score	*280*	578.0	*262*	593.4	*238*	722.6	*224*	419.7
		Proficiency		83.6%		68.7%		50.0%		50.0%
MATH	**NK**	Average Score	*1,806*	570.5	*1,687*	589.2	*1,534*	715.4	*1,430*	419.3
		Proficiency		78.1%		63.7%		39.9%		45.5%
RLA	**ABC**	Average Score	*280*	604.4	*262*	683.2	*238*	728.3	*224*	422.1
		Proficiency		77.9%		78.6%		55.5%		46.9%
RLA	**NK**	Average Score	*1,806*	579.4	*1,687*	668.6	*1,533*	718.8	*1,430*	421.6
		Proficiency		69.3%		73.0%		47.4%		45.5%
SCI	**ABC**	Average Score					*239*	192.6	*224*	420.1
		Proficiency						43.9%		37.9%
SCI	**NK**	Average Score					*1,540*	189.9	*1,432*	419.6
		Proficiency						42.2%		37.9%

2009 ARKANSAS

Assessment	Pre-K Program	Measure	*n*	Grade 7 (2017) (ACT Aspire)	*n*	Grade 8 (2018) (ACT Aspire)
MATH	**ABC**	Average Score	*212*	419.9	*205*	422.0
		Proficiency		38.7%		34.1%
MATH	**NK**	Average Score	*1,343*	419.4	*1,299*	421.7
		Proficiency		35.5%		31.9%
RLA	**ABC**	Average Score	*212*	422.7	*205*	424.4
		Proficiency		42.9%		35.6%
RLA	**NK**	Average Score	*1,343*	422.1	*1,298*	423.6
		Proficiency		42.7%		35.1%
SCI	**ABC**	Average Score	*212*	420.5	*205*	422.4
		Proficiency		27.8%		29.3%
SCI	**NK**	Average Score	*1,343*	420.2	*1,299*	421.9
		Proficiency		31.0%		27.7%

ABC Cohort Outcomes for Free Lunch Students

- The ABC Cohort includes all first-time, free lunch Kindergarteners in the 2010-2011 academic year who were enrolled in districts of the Arkansas Department of Education and received Free Lunch for ALL of the years 2010-2019 and were enrolled in the ABC program the previous year.
- The NK (No Known) Cohort includes all first-time, free lunch Kindergarteners in the 2010-2011 academic year who were enrolled in districts of the Arkansas Department of Education and received Free Lunch for ALL of the years 2010-2019 and did not indicate PreK enrollment upon Kindergarten entry.
- Average Score represents on-time students tested.
- Proficiency represents on-time Proficient or Advanced students out of all regularly tested students in each academic year.

2010 ARKANSAS

Assessment	Pre-K Program	Measure	*n*	Grade 3 (2014) (Benchmark)	*n*	Grade 4 (2015) (PARCC)	*n*	Grade 5 (2016) (ACT Aspire)	*n*	Grade 6 (2017) (ACT Aspire)
MATH	**ABC**	Average Score	*368*	567.2	*328*	722.1	*298*	416.7	*282*	420.1
		Proficiency		78.3%		42.7%		40.3%		48.9%
MATH	**NK**	Average Score	*1,726*	570.6	*1,526*	721.2	*1,425*	416.7	*1,362*	420.6
		Proficiency		78.0%		45.6%		39.6%		54.8%
RLA	**ABC**	Average Score	*368*	579.1	*328*	726.2	*298*	420.2	*282*	422.7
		Proficiency		72.6%		52.7%		38.6%		50.0%
RLA	**NK**	Average Score	*1,726*	579.4	*1,526*	725.3	*1,425*	420.2	*1,363*	422.9
		Proficiency		69.6%		54.4%		39.5%		53.4%
SCI	**ABC**	Average Score					*298*	417.0	*282*	419.2
		Proficiency						21.1%		29.4%
SCI	**NK**	Average Score					*1,425*	417.5	*1,362*	419.8
		Proficiency						27.9%		37.1%

2010 ARKANSAS

Assessment	Pre-K Program	Measure	Grade 7 (2018) (ACT Aspire)	
			n	
MATH	**ABC**	Average Score	*272*	419.5
		Proficiency		32.4%
MATH	**NK**	Average Score	*1,307*	419.9
		Proficiency		36.5%
RLA	**ABC**	Average Score	*272*	422.7
		Proficiency		33.5%
RLA	**NK**	Average Score	*1,307*	422.9
		Proficiency		35.2%
SCI	**ABC**	Average Score	*272*	420.2
		Proficiency		27.6%
SCI	**NK**	Average Score	*1,307*	420.7
		Proficiency		32.3%

ABC Cohort Outcomes for Free Lunch Students

- The ABC Cohort includes all first-time, free lunch Kindergarteners in the 2011-2012 academic year who were enrolled in districts of the Arkansas Department of Education and received Free Lunch for ALL of the years 2011-2019 and were enrolled in the ABC program the previous year.
- The NK (No Known) Cohort includes all first-time, free lunch Kindergarteners in the 2011-2012 academic year who were enrolled in districts of the Arkansas Department of Education and received Free Lunch for ALL of the years 2011-2019 and did not indicate PreK enrollment upon Kindergarten entry.
- Average Score represents on-time students tested.
- Proficiency represents on-time Proficient or Advanced students out of all regularly tested students in each academic year.

2011 ARKANSAS

Assessment	Pre-K Program	Measure	Grade 3 (2015) (PARCC)		Grade 4 (2016) (ACT Aspire)		Grade 5 (2017) (ACT Aspire)		Grade 6 (2018) (ACT Aspire)	
			n		*n*		*n*		*n*	
MATH	**ABC**	Average Score	*455*	722.6	*421*	414.9	*397*	416.8	*375*	418.7
		Proficiency		50.1%		41.1%		39.5%		42.9%
MATH	**NK**	Average Score	*1,978*	721.6	*1,810*	414.8	*1,716*	416.8	*1,652*	419.2
		Proficiency		51.8%		42.7%		42.2%		46.2%
RLA	**ABC**	Average Score	*455*	716.5	*421*	418.0	*397*	420.9	*375*	423.1
		Proficiency		43.3%		29.7%		45.3%		36.0%
RLA	**NK**	Average Score	*1,977*	714.6	*1,810*	417.8	*1,716*	420.7	*1,652*	423.0
		Proficiency		40.0%		27.7%		44.5%		33.4%
SCI	**ABC**	Average Score			*421*	415.7	*397*	417.8	*375*	419.0
		Proficiency				25.7%		28.0%		31.5%
SCI	**NK**	Average Score			*1,812*	415.5	*1,716*	417.8	*1,653*	419.1
		Proficiency				25.7%		28.7%		32.3%

ABC Cohort Outcomes for Free Lunch Students

- The ABC Cohort includes all first-time, free lunch Kindergarteners in the 2012-2013 academic year who were enrolled in districts of the Arkansas Department of Education and received Free Lunch for ALL of the years 2012-2019 and were enrolled in the ABC program the previous year.
- The NK (No Known) Cohort includes all first-time, free lunch Kindergarteners in the 2012-2013 academic year who were enrolled in districts of the Arkansas Department of Education and received Free Lunch for ALL of the years 2012-2019 and did not indicate PreK enrollment upon Kindergarten entry.
- Average Score represents on-time students tested.
- Proficiency represents on-time Proficient or Advanced students out of all regularly tested students in each academic year.

2012 ARKANSAS

Assessment	Pre-K Program	Measure	Grade 3 (2016) (ACT Aspire)		Grade 4 (2017) (ACT Aspire)		Grade 5 (2018) (ACT Aspire)	
			n		*n*		*n*	
MATH	**ABC**	Average Score	*397*	411.7	*363*	415.1	*344*	416.3
		Proficiency		46.6%		44.4%		33.4%
MATH	**NK**	Average Score	*2,325*	411.9	*2,173*	415.0	*2,098*	416.6
		Proficiency		45.3%		43.4%		39.3%
RLA	**ABC**	Average Score	*397*	415.4	*363*	418.4	*344*	420.2
		Proficiency		24.9%		33.1%		23.8%
RLA	**NK**	Average Score	*2,324*	415.6	*2,173*	418.6	*2,098*	420.7
		Proficiency		24.6%		35.9%		30.3%
SCI	**ABC**	Average Score	*398*	412.3	*363*	415.9	*344*	417.3
		Proficiency		23.9%		28.4%		25.9%
SCI	**NK**	Average Score	*2,331*	413.0	*2,175*	416.2	*2,098*	418.0
		Proficiency		24.2%		31.4%		29.3%

ABC Cohort Outcomes for Free Lunch Students

- The ABC Cohort includes all first-time, free lunch Kindergarteners in the 2013-2014 academic year who were enrolled in districts of the Arkansas Department of Education and received Free Lunch for ALL of the years 2013-2019 and were enrolled in the ABC program the previous year.
- The NK (No Known) Cohort includes all first-time, free lunch Kindergarteners in the 2013-2014 academic year who were enrolled in districts of the Arkansas Department of Education and received Free Lunch for ALL of the years 2013-2019 and did not indicate PreK enrollment upon Kindergarten entry.
- Average Score represents on-time students tested.
- Proficiency represents on-time Proficient or Advanced students out of all regularly tested students in each academic year.

2013 ARKANSAS

Assessment	Pre-K Program	Measure	Grade 3 (2017) (ACT Aspire) *n*		Grade 4 (2018) (ACT Aspire) *n*	
MATH	**ABC**	Average Score	*2,984*	412.5	*2,883*	415.1
		Proficiency		51.8%		43.3%
MATH	**NK**	Average Score	*1,989*	412.2	*1,888*	414.8
		Proficiency		48.4%		42.6%
RLA	**ABC**	Average Score	*2,984*	416.3	*2,883*	419.3
		Proficiency		32.5%		32.9%
RLA	**NK**	Average Score	*1,989*	415.8	*1,888*	418.9
		Proficiency		30.2%		31.3%
SCI	**ABC**	Average Score	*2,984*	413.7	*2,885*	416.3
		Proficiency		29.0%		32.1%
SCI	**NK**	Average Score	*1,990*	413.3	*1,889*	415.9
		Proficiency		26.4%		31.6%

ABC Cohort Outcomes for Free Lunch Students

- The ABC Cohort includes all first-time, free lunch Kindergarteners in the 2014-2015 academic year who were enrolled in districts of the Arkansas Department of Education and received Free Lunch for ALL of the years 2014-2019 and were enrolled in the ABC program the previous year.
- The NK (No Known) Cohort includes all first-time, free lunch Kindergarteners in the 2014-2015 academic year who were enrolled in districts of the Arkansas Department of Education and received Free Lunch for ALL of the years 2014-2019 and did not indicate PreK enrollment upon Kindergarten entry.
- Average Score represents on-time students tested.
- Proficiency represents on-time Proficient or Advanced students out of all regularly tested students in each academic year.

2014 ARKANSAS

Assessment	Pre-K Program	Measure	Grade 3 (2018) (ACT Aspire) *n*	
MATH	**ABC**	Average Score	*2,701*	412.6
		Proficiency		53.7%
MATH	**NK**	Average Score	*2,461*	412.3
		Proficiency		50.2%
RLA	**ABC**	Average Score	*2,701*	416.5
		Proficiency		32.7%
RLA	**NK**	Average Score	*2,461*	416.1
		Proficiency		33.1%
SCI	**ABC**	Average Score	*2,701*	413.7
		Proficiency		29.0%
SCI	**NK**	Average Score	*2,462*	413.5
		Proficiency		27.9%