

Evaluating the Impact of Tennessee's Achievement School District

1st Annual Report to the Walton Family Foundation

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INTRODUCTION

A number of states and districts have adopted bold strategies for turning around low performing schools. Some of these initiatives have been modeled after Louisiana's Recovery School District (RSD), which, in some cases, took over and directly ran failing schools or, in other cases, turned these schools over to charter management organizations (CMOs).

Inspired by Louisiana's example and the potential of Race to the Top (RTTT) funding, Tennessee passed legislation called First to the Top in January 2010, which created the Achievement School District (ASD) (Public Chapter No. 2, 2010). With this legislation in hand, the state applied for RTTT funding and, in March of that year, Tennessee was awarded \$500 million to carry out the proposed initiatives, including the ASD.

The First to the Top legislation (along with a subsequent ESEA waiver submitted in 2011) called for the State Commissioner of Education to identify the state's lowest-achieving five percent of Title I schools. These schools, known as *priority schools*, would then face one of four interventions: (1) placement in the ASD, (2) turnaround under the governance of an LEA innovation zone, (3) turnaround through one of the federal School Improvement Grant (SIG) plans; or (4) LEA-led school improvement planning processes (ESEA Flexibility Request, 2013, p. 55).¹ Among these possible interventions, none has been more controversial than the ASD— a new state-run school district that removes schools from their home districts and either directly manages these schools or turns the schools over to charter management organizations (CMOs).

As initially conceived by the original First to the Top legislation, once a school is selected for the ASD, the school would remain in the ASD for at least five years. The school would return to the home district conditional on the performance of both the school and the home district (ESEA Flexibility Request, 2013, p. 57). While the application did not dismiss the possibility of the state fully operating ASD schools, the emphasis was on partnering with CMOs to take over and manage the school. Policymakers hoped that not only would the takeover of these schools lead to improved student outcomes for state takeover schools, but they also hoped that threat of takeover would improve student outcomes for other low-performing schools.

¹ It should be noted that while it was not clear from the ESEA Flexibility Request, some schools do receive multiple interventions. In addition, for interventions 3 and 4, if there is not improvement in results, the schools can be subject to ASD intervention.

In terms of improving the actual schools taken over by the state and managed by the ASD or a CMO, the overarching strategy for improvement was to provide autonomy to schools to hire talented educators, especially teachers (Race to the Top Application for Initial Funding, 2010). The ultimate goal of the ASD is to move the academic performance of schools taken over from the bottom five percent of schools to the top quartile of schools in Tennessee within five years.

In 2012-13, the first cohort of six schools were taken over by the ASD and began the turnaround process. In 2013-14, ASD added 11 schools, and in the most recent year, the 2014-15 school year, the ASD added eight schools. For the upcoming 2015-16 school year, the ASD is slated to add six more schools, for a total of 29 schools operating under the auspices of ASD for the upcoming school year².

Because many states are implementing or considering similar approaches, it is important to examine the effectiveness of the ASD and to better understand the movement of teachers and students into and out of ASD schools. A Vanderbilt University research team, over the course of three years, will address the following questions:

1. What are the characteristics of teachers leaving and entering schools taken over by the ASD, including measures of quality?
2. What is the nature of student in-migration and out-migration to and from ASD schools?
3. What drives employment decisions of ASD teachers?
4. What initial effect has ASD had on student achievement?

In each of the three years for this project, we will produce an annual report similar to this one highlighting major findings from research over the past year. Because it is too soon to provide definitive estimates of impact of the ASD takeover on these schools, in this first year we focused on the first two questions that examine the way that teachers and students move in and out of ASD schools. These analyses and the subsequent results provide a foundation for our understanding of transitional effects of the reform and provide insights into our future achievement analysis. In subsequent years, we plan on providing information from a teacher survey to provide insights into their motivation for teaching in ASD schools and, ultimately, we will provide an evaluation of the effects ASD schools are having on student achievement.

KEY QUESTIONS TEACHER AND STUDENT MOBILITY

Under questions #1 and #2 listed above, we ask a series of sub questions which help us address the overarching questions of teacher and student mobility:

Teachers

1. How many teachers stayed, moved or left teaching from the schools that ASD took over prior to their first year of operation?

² Two schools opened in 2013-2014 were phased into other ASD schools in the 2014-2015 school year.

2. How does ASD staff their schools? How do teachers in the CMO-run schools compare to those in ASD-run schools? How do ASD teachers compare to teachers in other schools in Tennessee?
3. Does ASD hire effective teachers?

Students

1. What is the overall student mobility rate into ASD schools, and are there more students moving into rather than out of these schools?
2. Do academically disadvantaged students have access to ASD schools? More specifically, do the ASD schools serve a similar percentage of special education students as other schools, and do more high-performing students enter rather than exit ASD schools?
3. Do the movements of low- and high-ability students have implications for how we interpret ASD schools' performance?

To address each of these questions, we utilized a database that was provided by the Tennessee Department of Education and compiled by the Tennessee Education Research Alliance. The database contains information on each student, teacher, and school in Tennessee, including students' enrollment record and test scores and teachers' education, certification, experience, and value-added scores. Value-added scores are estimates of the amount that teachers add to their students' test scores as measured by statewide assessments of achievement and are provided by the Tennessee Value-Added Assessment System, a product of the SAS Institute™. For this study, we utilized the most recent data available at the time, including student information from 2009-10 through 2013-14 and teacher information from 2009-10 through 2012-13, which was the first year of operation for ASD schools.

In this summary of our findings, we present comparisons of the ASD schools to other low-performing schools in Memphis, which is where all but one of the ASD schools were located as of the 2013-14 school year. The low-performing schools include Memphis innovation zone schools (or iZone schools), which are turnaround schools under the management of the district, and all other Memphis priority schools, schools that are among the lowest-performing five percent of schools but not an iZone school or under the auspices of the ASD. In describing our results, we often lump the Memphis iZone and priority schools as "other low-performing" schools. We also often include results for Memphis non-priority schools and schools in the rest of the state to provide context.

ASD TEACHERS

Tennessee's First to the Top proposal set out a bold, but previously untested, approach for improving student performance in the state's lowest performing schools: the schools would be

removed from their districts and restarted under the management of the ASD or CMOs. In either case, the staff in the schools had to apply for the teaching positions in the ASD schools or pursue employment elsewhere. The selection of teachers for ASD schools is an important ingredient of the theory of action that ASD plans to use to move their schools from the bottom five to the top 25 percent of performance in five years.

How many teachers stayed, moved or left teaching from the schools that ASD took over prior to their first year of operation?

Prior to taking over the six schools in fall 2012-13, the staff turnover rates in these schools were stable, with 28 percent leaving after spring 2010 and 30 percent leaving after spring 2011. Most of the increase was due to the increase in teachers moving from these schools to other public schools in Tennessee. Of the teachers in the six schools that were taken over the following fall, 83 percent moved to other Tennessee schools in fall 2012 and another 4 percent left public school teaching in Tennessee. The rate of teachers moving from ASD direct run schools to other schools in the state was 78 percent, which was more than five times the prior year's rate. All teachers moved from the CMO run schools to other teaching positions in Tennessee. The overall rate of leaving ASD schools in the year when takeover occurred was about three and one-half times as large as other Priority schools in Memphis (25%) and over twice as large as Memphis iZone schools in the take-over year (42%). Approximately 19 percent of the teachers in non-priority schools in Tennessee left those schools in 2012-13, and about 7 percent rate of these teachers moved to other schools in the state.

Overall, our analysis suggests that ASD schools began operation with a teaching staff that was new to the schools, which is consistent with their theory of action. The question is, did these ASD schools start with higher quality teachers, which we explore in the next sections.

How does ASD staff their schools?

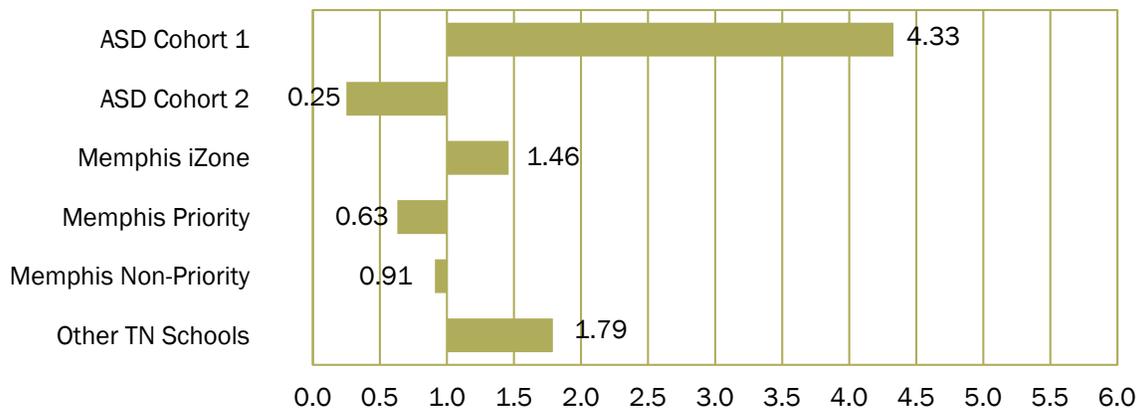
As the 2012-13 school year began, 88 percent of the teaching staff in ASD schools was new to these schools. In the ASD direct run schools, 84 percent of the teachers were new to the schools and in the CMO run schools, 100 percent were new to the schools. In the ASD schools, 57 percent of the teachers came from other Tennessee public schools and 31 percent were either novice teachers or transferred in from other states or private schools. The ASD run schools hired more teachers with experience in other Tennessee public schools, filling 66 percent of their staff in that way. CMO run schools hired more teachers that were beginning teachers or did not have experience in Tennessee public schools, filling 68 percent of their teaching positions that way. In 2012-13, Memphis iZone schools hired about 26 percent of their teachers from other public schools in the state, and 19 percent were new to teaching or new to teaching in the state public schools. The findings suggest that the ASD leaders and the CMOs, at least initially, pursued different strategies for finding the talent that they needed to raise performance in the schools. This begs the question, did they find the talent that they needed to turnaround their schools?

Does ASD hire effective teachers?

The best way to measure teachers' effectiveness is the extent to which they have been able to raise their students' test scores in the past, using value-added scores—in the case of Tennessee, TVAAS scores. These scores range from five for teachers who were very effective in raising their students' test scores to one for those who were ineffective in raising their students' scores. However, TVAAS scores are not available for new teachers, teachers who have not previously taught in Tennessee public schools, or those who did not teach in tested subjects in tested grades. In this policy brief, we report the ratio of higher value-added teachers, those with a score of 4 or 5, to the lower value added teachers, those with a score of 1 or 2.

Teachers coming into the first cohort of ASD schools that opened in 2012 had a ratio of 4.33 on this measure, meaning the ASD schools hired more than four teachers with high value-added scores for every one teacher with a low value-added score (see Figure 1 for the ratios of several groupings of schools). The ratio for Memphis iZone schools was 1.46, second best among the priority schools that we examined. For other Memphis priority schools, the ratio was 0.63, meaning they hired two teachers with higher scores for every three teachers with lower scores. It is telling that the second cohort of ASD schools (starting in the 2013-14 school year) hired one teacher with higher value-added score for every four teachers with lower value-added scores for the 2012-13 school year, the year before they would be restarted.

Figure 1. Ratio of High-Performing to Low-Performing Teacher Hires for the 2012-13 School Year



The incoming teachers provide an indication of how effectively schools are hiring but the teachers who leave a school and the ones who stay are also important for future success. In 2012-13, 50 percent of the teachers retained in ASD schools had higher value-added scores and none had lower value-added scores. More teachers with lower value-added scores left ASD schools in 2012-13 than teachers with higher value-added scores. The performance of leavers and stayers will take on greater importance as ASD schools operate for longer periods and make decisions about which teachers should be retained. In Tennessee's schools that are not in the lowest performing group, the performance ratio of teachers that stay is 2.2 (for every 11 effective teachers that stay, five ineffective teachers stay) and the ratio of those that leave is 1.6 (for every eight effective teachers

that stay, five ineffective teachers stay), indicating that they retain more effective teachers than they lose.

Teaching experience is a second revealing indicator of the process of hiring talent necessary to successfully elevate students' performance. On average, teachers are least effective in their first year of teaching and teachers' effectiveness tends to grow through their first three to five years of teaching before leveling off (Henry, Bastian, & Fortner 2011; Henry, Fortner, & Bastian 2012). In the first cohort of schools opened by ASD in 2012, the incoming teachers averaged 3.5 years of experience, which indicates that these teachers were, on average, still in the development portion of the effective curve. By contrast, Memphis iZone schools hired teachers who averaged 7.2 years of experience, which suggest these students are more established teachers and is similar to other Memphis priority schools. Non-low performing schools in Tennessee hired teachers who came in with 5.5 years of experience.

These findings suggest that ASD schools began by hiring effective teachers as measured by value-added metrics, but were a bit less experienced than iZone or other low-performing schools in Memphis. In future reports, their success in retaining effective teachers will be examined.

STUDENTS SERVED

For schools serving low-income families, high rates of student mobility present a constant challenge. To see if this is true for the ASD schools, we examine non-structural student moves (i.e., transfers of students that are unrelated to the entry or exit grade of a school). In addition to creating an educational challenge, students leaving or entering a school could provide a signal of whether the schools are perceived as effective by the community. For instance, if more students are entering than exiting, then a school may be perceived as a high quality school among families. Finally, these moves could have implications for schools' proficiency levels if proficient or non-proficient students are disproportionately moving into or out of a school. We explore these issues in this section.

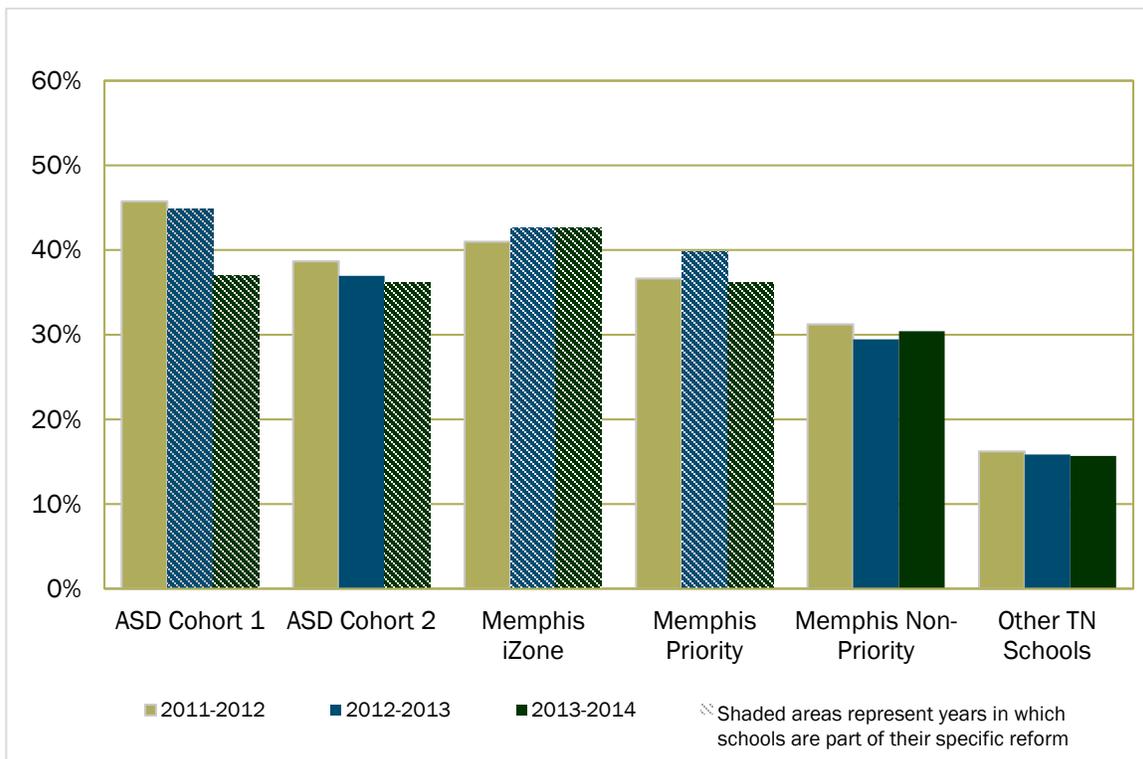
What is the overall student mobility rate into ASD schools, and are there more students moving in rather than moving out of these schools?

For student turnover, we combine the percentage of students moving into a school between and within school years.³ As displayed in Figure 2, for both cohorts of ASD schools, mobility rates were much higher than the rest of the state and Memphis non-priority schools, but similar to or slightly higher than other low-performing schools within Memphis. This suggests that low-performing schools (regardless of whether they are ASD schools or not) are generally serving transient students.

³ To calculate this, we added up the number of students who made a non-structural move across school years (was not there in the spring, and entered in the fall) plus the number of students who moved into a school within a school year and divided this total by the fall enrollment number.

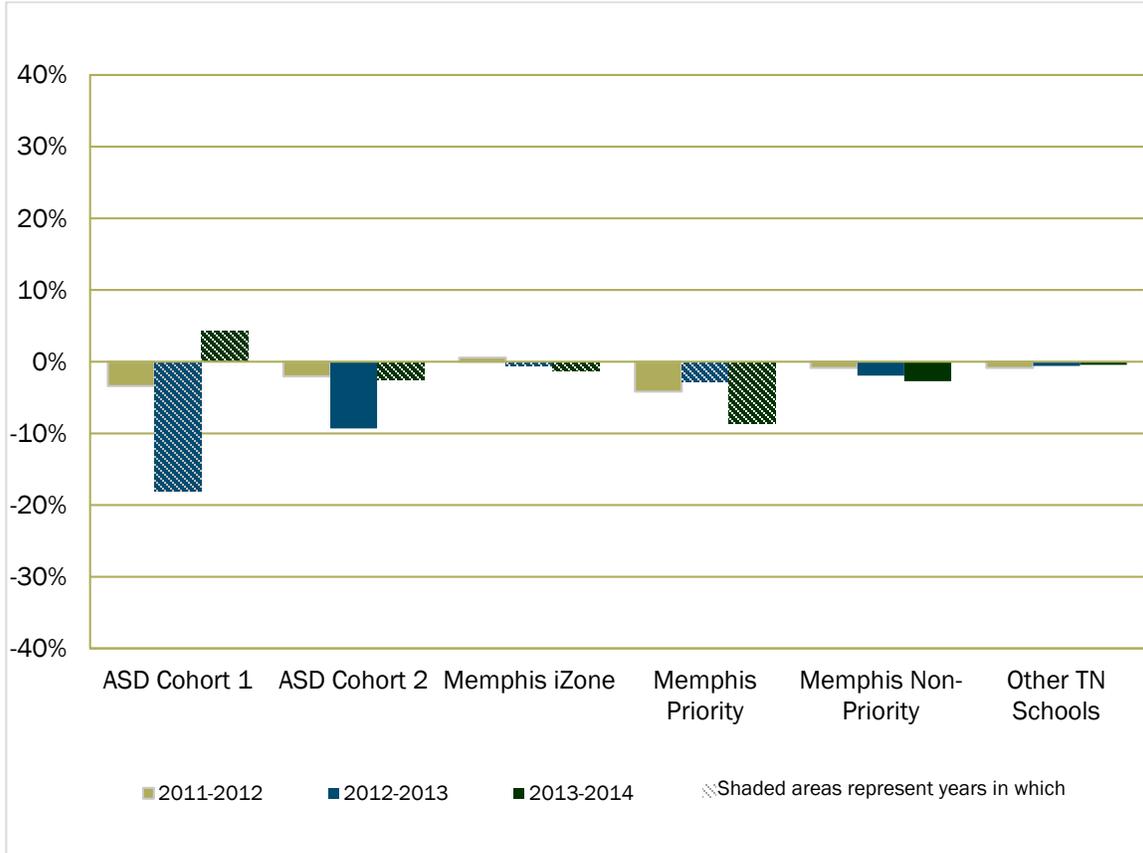
However, student mobility rates in ASD schools improved slightly once under the auspices of ASD. More specifically, for the first cohort of ASD schools in the 2011-12 school year (the year prior to the schools being under the auspices of ASD), the mobility rate was 46 percent. This rate dropped to 37 percent by the 2013-14 school year (the second year under the auspices of ASD). For the second cohort, the rate was lower in the years prior to takeover and remained stable – 37 percent in the 2012-13 school year (the year prior to the schools being under the auspices of ASD) and 36 percent in the 2013-14 school year (the first year under the auspices of ASD).

Figure 2. Within and Across School Year Mobility Into the School



In Figure 3, we show whether the ASD schools, as well as other low-performing schools, had a net inflow or outflow of students. A net inflow of students could signal that these schools are viewed favorably among families, while an outflow may suggest the opposite. For the second cohort of ASD schools, there was not a significant difference in the net flow of students during the first year under the auspices of ASD. In contrast, in the first year under the auspices of ASD for the first cohort of ASD schools (2012-13), there was about an 18 percent net outflow of students, which was a larger net outflow than other low-performing schools. This may suggest that some families were concerned about the new management of these schools during the first year. However, by the 2013-14 school year, the trend reversed as there was a small net in migration for these schools. This may suggest that if there were some initial concerns by families, these concerns may have been alleviated by the second year under ASD control.

Figure 3. Net Mobility – Within and Across School Years



Do the ASD schools serve a similar percentage of special education students? Do more low-performing students exit rather than enter an ASD school?

Anytime schools are managed outside of a local school district, it is important to examine whether there is equitable access to these schools. Two populations of particular interest are special education and low-achieving students. Previous literature that examined the relative special education rates of charter schools as compared to traditional public schools has suggested that charter schools serve a lower proportion of special education students (Zimmer et al., 2003; Winters, 2013). This raises concerns about equitable access. Because 11 out of the 17 ASD schools in the 2013-14 school year are managed by CMOs, it may be particular concern here as well.

However, in examining the data for the 2013-14 school year, ASD schools had a slightly higher percent of special education students (15.2%) when compared with the Memphis non-priority schools (13.2%) and a slightly lower percent than the rest of Memphis priority schools (17.5%) and Memphis iZone schools (15.7%). In addition, the overall special education rate for all 17 ASD schools (15.2%) and the subset of 11 CMO managed schools (15.4%) were higher than the special education rate for charter schools statewide (11.3%). However, these rates varied by cohort of CMO schools as the first cohort had a rate of 18.3 percent compared to 12.1 percent for the second

cohort. This suggests that access by special education students and the challenges of serving students with special needs vary by cohort.

Previously, charter school critics have raised concerns about whether charter schools would “cream skim” the highest achieving students and “push out” the lowest achieving students (Ravitch, undated; Ravitch, 2010; Cobb & Glass, 1999; Zimmer and Guarino, 2013). To explore this issue in the context of the ASD, we examined whether there were more high-achieving students exiting relative to high-achieving students entering the ASD schools both within and across school years. To do this we examined the percent of students that are proficient exiting relative to entering an ASD school as well as other low-performing schools in Memphis and the state as whole.⁴

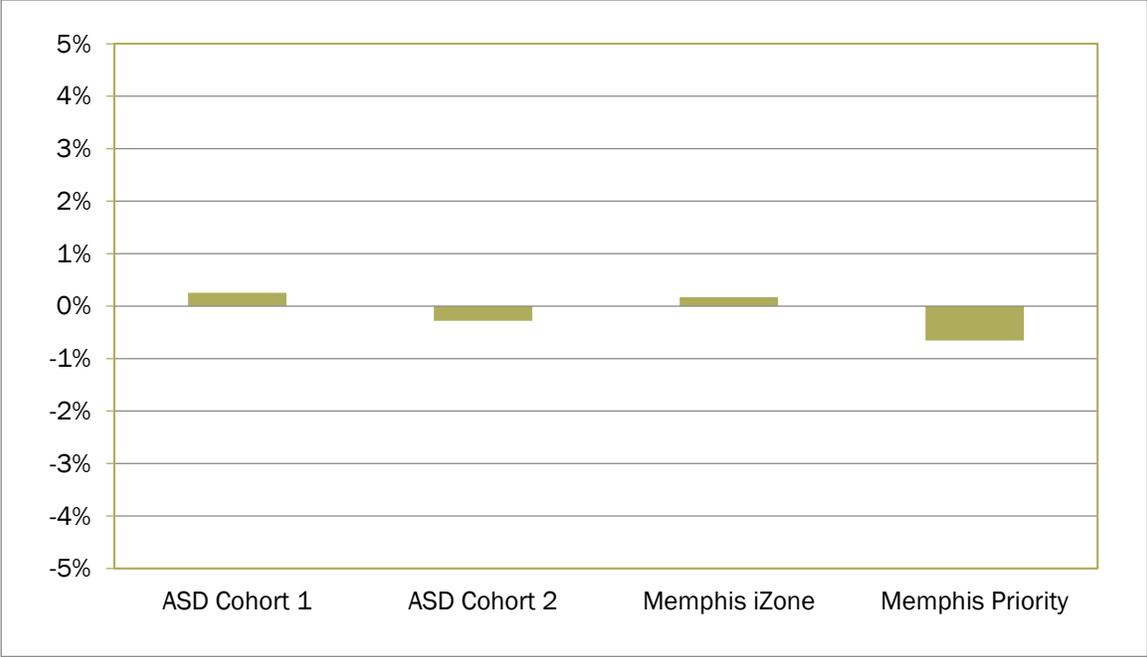
Overall, we found almost no difference in the percent of proficient students moving into and out of ASD schools within and across years, which was also true for other low-performing schools in Memphis and the state as a whole.

Do the movements of low- and high-ability students have implications for how we interpret ASD schools’ performance?

In future years, we will present an evaluation of the performance of the ASD schools using rigorous research designs. For now, some stakeholders are examining the changes in proficiency rates of the ASD schools relative to other low-performing schools. However, these analyses do not take into account possible changing populations within ASD or comparison schools. For instance, if more students moving into ASD schools were proficient than students leaving ASD schools, a school’s proficiency level could improve without any real change in the quality of the instruction. To explore this issue, we examined the relative performance of students moving in and out of schools and amortized this difference in performance across all tested students. As shown in Figure 4, in no case did the movements of students in and out of ASD schools either inflate or deflate the proficiency levels in the ASD schools or any other low-performing schools in Memphis by more than one percent. Therefore, to date student movements have had no significant effect on proficiency levels of ASD or comparison schools.

Figure 4. 2013-14 Average Effect of Mobile Students on Reading Proficiency Rates Across All Students

⁴ Using proficiency as an indicator of student performance does not allow us to examine students in other parts of the distribution (e.g., students scoring much lower than proficiency levels). Therefore, we also standardized the test scores as z scores across all tested students in the states to have a mean of zero and standard deviation of one and reran the analysis comparing whether students entering had higher or lower z scores than students exiting. In general, the results were largely consistent with the results using the proficiency levels. Only in the first year of operation under the auspices of ASD for the first cohort of ASD schools did we see a meaningful difference—students moving in had, on average, about 0.15 of a standard deviation higher test scores in reading relative to students exiting. However, no difference was found by the second year of operation for these schools.



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