

**Prince George's County Public Schools**

## RESEARCH REPORT

# Analysis of TAG Center Enrollment and its Impact on Readiness for Middle School

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# **Analysis of TAG Center Enrollment and its Impact on Readiness for Middle School**

## **EXECUTIVE SUMMARY**

The goal of this study was to examine the factors that contribute to under-enrollment of TAG Centers in Grade 2 and to examine the achievement of TAG students at the end of Grade 5. There are eight elementary TAG centers across the district. Two of the eight TAG centers (Heather Hills and Glenarden Woods) are school-wide TAG centers, that is, all students in the schools are TAG-identified students. The remaining six TAG centers are modeled after the school-in-school structure in which TAG-identified students attend school with non-TAG-identified students; however, the TAG-identified students are taught in separate classes.

The following research questions guided this study: 1) Which factors are associated with whether or not parents apply to enroll their TAG-identified students into a TAG center in Grade 2?; 2) Are TAG center-based TAG students better prepared for middle school relative to non-center-based TAG students?; 3) Are students identified as TAG in Grade 1 who enter in TAG centers in Grade 2 better prepared for middle school relative to TAG-identified students who enter TAG centers in either Grade 3 or Grade 4? To address the research questions, data were gathered from the TAG enrollment report from APEX Reports in SchoolMax, The Department of Pupil Accounting and School Boundaries, The Office of Talented and Gifted Education and the Department of Testing, Research, and Evaluation. A survey was also administered in November 2016 to parents of TAG students by Research and Evaluation.

### **Lottery Applications and TAG Center Under-Enrollment**

ES-Table 1 displays the number of first grade students tested for TAG, the number of first grade students identified as TAG, the number of applicants to enroll in TAG centers, and the number of parents who were offered placement and who accepted placement in a TAG center from SY09 through SY16. The analyses conducted indicate that the main source of under-enrollment in the TAG centers seems to be a result of the declining number of the TAG lottery applicant pool (i.e., TAG-identified students) especially in SY16. The data indicates that the number of TAG-identified students has been trending downwards in recent years with SY16 having the lowest number. On average, around 40 percent of parents of first grade TAG-identified students applied for the lottery in the last eight school years. The trend data shows that that the placement rate to join a center have dramatically increased over the eight school years investigated. In SY09, a little over half of applicants were offered a placement in a TAG center during the first round of selection. Since SY13, the odds of winning placement in a TAG

center have become almost a certainty, resulting in the fact that those who apply to the lottery are practically guaranteed a seat in the TAG centers. The data also demonstrates that the proportion of parents who accepted the placement offer to enroll their students in a TAG center increased from 53 percent in SY09 to 82 percent in SY16. See ES-Table 1. Overall, the eight year aggregate acceptance rate is 73 percent with SY16 having the highest acceptance rate.

**ES-Table 1: TAG Identification, Center Application and Placement, SY09-SY16**

		SY2009	SY2010	SY2011	SY2012	SY2013	SY2014	SY2015	SY2016
<b>All Tested Grade 1 Students</b>		8701	8773	9024	8940	9356	10273	10114	9747
<b>TAG Identified</b>	<b>#</b>	775	798	934	908	778	772	811	694
	<b>% of Tested Grade 1 Students</b>	8.9	9.1	10.4	10.2	8.3	7.5	8.0	7.1
<b>Applicants to TAG Centers</b>	<b>#</b>	263	314	345	323	307	350	375	294
	<b>% of TAG-Identified Students</b>	33.9	39.3	36.9	35.6	39.5	45.3	46.2	42.4
<b>Offered Slot in a TAG Center</b>	<b>#</b>	131	209	237	299	305	346	340	292
	<b>% of Applicants</b>	49.8	66.6	68.7	92.6	99.3	99.1	90.7	99.3
<b>Accepted Placement Offer</b>	<b>#</b>	69	145	151	221	227	251	263	240
	<b>% of Offered Slots</b>	52.7	69.4	63.7	73.9	74.4	72.5	77.4	82.2

The data also shows that as the enrollment capacity of TAG centers increased over the years, the number of applications into TAG centers declined. For the SY15 and SY16 lotteries, all TAG centers were undersubscribed: the enrollment capacity exceeded the number of applications. For example, the number of applications for SY16 was 22 percent fewer than the number of available spaces at the TAG centers. Without taking the feeder pattern into TAG centers into account, the number of applications should have been 598 for the SY16 lottery in order for the centers to fill all their spots through the lottery system. Therefore, the number of applications required for full capacity enrollment accounts for 86 percent of TAG-identified first graders. This requires more than doubling the number of lottery applicants, which were 294 for SY16. Since SY13, the number of applications for the school-wide TAG centers grew to be twice as much as the applications for the school-in-school TAG centers. This trend continued into SY16, when school-wide centers received two and half times more applications than school-in-school centers. Thus, the decline in lottery applications is a much bigger problem for school-in-school centers than it is for school-wide centers.

The second source of the under-enrollment is related to the decisions parents make after they are offered placement into TAG centers. The rate of parent acceptance dramatically increased from 53 percent for SY09 to 82 percent for SY16. In addition, across these eight

schools years, about a quarter of parents declined placement or failed to meet post-lottery deadlines to register their children in the assigned TAG centers. In SY15 and SY16, of those parents who did not accept placement, about three-fourths missed deadlines for submitting necessary paperwork. In sum, TAG centers remain under capacity by about 33 percent on the aggregate, with under-enrolment at about 50 percent in four of six school-in-school TAG Centers.

**Parent Perceptions of Lottery Participation and TAG Center Enrollment**

We were able to use parent survey data to further our understanding of the reasons why parents choose to enroll or not enroll their child in a TAG center. Over a third (35%) of the parents who responded to the survey reported that they have never applied to a TAG center lottery. ES-Table 2 displays the top reasons parents did not apply to the TAG center lottery. The data indicates that low participation in the TAG center lottery can be attributed to lack of awareness (35%) and a lack of information about the TAG center (27%). In addition, many parents expressed a lack of interest in the TAG center because of the following: preference for the neighborhood school because it is reputable (26%) and provides high-quality TAG services (17%), dissatisfaction with the distance to the TAG center (17%), a desire to not separate siblings (16%), and the decision to enroll child in a charter or specialty school (14%). In sum, the reasons for TAG parents opting out of the TAG center experience can be categorized in two major issues: lack of awareness and lack of interest.

**ES-Table 2: Top Reasons for Not Applying to the Lottery**

Reason for Not Applying to Lottery (n=266)	%
Was not aware of the TAG center lottery	35.3
Not given enough information about the TAG center	27.1
Prefer the neighborhood school because it is high-performing/has a good reputation	26.3
TAG center is too far from home or bus ride would be too long	17.3
Prefer the neighborhood school because it already has high-quality TAG services	16.5
Already has child enrolled in the neighborhood school, don't want to separate my children	16.2
Decided to enroll my child in a charter school or specialty school	13.9

On the other hand, half (50%) of the parents who responded to the survey had a child who was enrolled in a TAG center. The reasons why parents chose to enroll their child in a TAG center were not surprising. A high majority (73%) of the parents reported that the TAG center would provide the best opportunities and about 57 percent of parents reported that the TAG center provides high-quality TAG services. Many of the parents also expressed dissatisfaction with their child’s neighborhood school, including that their child was not being challenged

(46%), the TAG services offered in the neighborhood school were not good enough (37%), and that the neighborhood school was not reputable (18%). About 38 percent reported that they were being strategic by enrolling their child in a TAG center so that their child can automatically be placed in a TAG center in middle school.

## TAG Student Middle School Readiness

The analyses of Grade 5 PARCC data indicate that if all TAG students attended a TAG center, they would have an average PARCC proficiency rate of 63 percent in reading and 53 percent in math, and if all TAG students did not attend a TAG center, they would have an average proficiency rate of 63 percent in reading and 56 percent in math. The differences in the proficiency rates between all TAG students in TAG centers and all TAG students not in TAG centers were not statistically significant. This finding suggests that there is no impact of TAG center attendance on PARCC reading and math proficiency. Regarding the timing of the entry to a TAG center, the findings indicate that if all students had entered a TAG center in Grade 2 they would have had a lower average PARCC proficiency rate in reading and in math, compared to entering a TAG center later in Grade 3 or 4 by about 6 percentage points (60% for Grade 2 entry vs. 66% for Grade 3 or 4 entry) in reading and 2 percentage points (49% for Grade 2 entry vs. 51% for Grade 3 or 4 entry) in math, respectively. As with the finding on TAG center vs. non-TAG center, none of the reported differences is statistically significant (i.e., p-value is less than .05). In sum, the findings indicate that students who receive TAG services are equally prepared for middle school regardless of the method or commencement of TAG service delivery. Among students who start receiving TAG services in the second grade, receiving all TAG services in a center or enrolling in a center in Grade 2 does not make a difference for their readiness for middle school.

## Conclusions and Recommendations

Based on the findings presented in this report, we make the following recommendations to improve the TAG program.

- Improve the dissemination of information about the TAG, TAG lottery, and TAG center
- Ensure TAG identification is completed before lottery deadline and parents are informed about their children's TAG status and the opportunity to apply to a TAG center.
- Consider the possibility of universal lottery for all TAG identified first graders.
- Examine the consolidation of TAG centers and rearrangement of TAG feeder patterns.
- Establish a system of accountability that monitors the implementation of TAG services at neighborhood schools.

## I. INTRODUCTION

The Prince George’s County Public School District (PGCPS) Talented and Gifted (TAG) Program aims to meet the needs of “high potential, advanced, and gifted learners” in the school system. Currently, the district TAG identification process includes universal testing at Grade 1 and Grade 3. Students are then identified as TAG primarily based on their test scores and teacher recommendation. Thus, students in the district can be first identified as TAG in Grade 1 and start receiving TAG services in Grade 2.

The PGCPS TAG program has three program models for TAG-identified elementary school students. The first model, TAG in the Regular Classroom (TRC), provides TAG-identified students with differentiated instructional services in the students’ neighborhood school by clustering TAG students within their respective classrooms. The second model, the TAG Pull-out Program, provides TAG-identified students TAG services in their neighborhood school by providing higher level instruction or enrichment activities to them as a group outside of their regular classrooms. The last model, the TAG Center Program, provides TAG-identified students with full-day advanced, enriched, and accelerated educational experiences in a school or classroom specifically designated as a TAG center. Placement in a TAG center is through a lottery process and TAG-identified students can be first placed in a TAG center at Grade 2. There are eight elementary TAG centers across the district. Two of the eight TAG centers (Heather Hills and Glenarden Woods) are school-wide TAG centers, that is, all students in the schools are TAG-identified students. The remaining six TAG centers are modeled after the school-in-school structure in which TAG-identified students attend school with non-TAG-identified students; however, the TAG-identified students are taught in separate classes.

### A. Scope and Purpose of the Evaluation

Many of the elementary TAG Centers in PGCPS have been under-enrolled, especially in Grade 2, for the past several years. Table 1 displays the TAG center Grade 2 capacity and enrollment numbers for SY16 and SY17. As depicted in the table, all TAG centers, except Accokeek Academy, had enrollment numbers that were below capacity for SY17. This pattern was similar for SY16 for most TAG centers, although Valley View, Capital Heights, and Accokeek met capacity that year. Given the implications of TAG center under-enrollment for center operating costs and for decisions regarding the number of centers needed for future enrollment, district leadership is interested in understanding the reasons for this under-enrollment.

**Table 1: TAG Center Grade 2 Capacity and Enrollment Numbers, SY16 & SY17**

	SY17		SY16	
	Capacity	Enrollment	Capacity	Enrollment
Accokeek Academy	25	26	25	27
Capitol Heights Elementary	25	18	25	28
Glenarden Woods Elementary	125	99	125	113
Heather Hills Elementary	100	84	100	98
Highland Park Elementary	25	12	25	23
Longfields Elementary	25	13	25	13
Mattaponi Elementary	25	13	25	18
Valley View Elementary	25	13	25	25

District leadership is also interested in parent perceptions of the TAG centers and the TAG program in general as well as how TAG students, in both centers and in non-center schools, are prepared academically for middle school. Thus, the current study examined factors that contribute to under-enrollment in the TAG Centers in Grade 2, parent perceptions of TAG, and TAG student achievement at the end of Grade 5.

## **B. Research Questions**

The study addresses the following research questions:

1. Which factors are associated with whether or not parents apply to enroll their TAG-identified students into a TAG center in Grade 2?
2. Are TAG center-based TAG students better prepared for middle school relative to non-center-based TAG students?
3. Are students who enter in TAG centers in Grade 2 better prepared for middle school relative to TAG-identified students who enter TAG centers in either Grade 3 or Grade 4?

The first question addresses issues related to the marketing, recruitment, and enrollment of TAG-identified students for TAG centers by identifying the demographic and attitudinal correlates of TAG parents' decision to apply for enrollment in a center. The second question investigates if TAG center students perform better than students in the TAG in the Regular Classroom and the TAG Pull-out programs at the end of grade 5. Finally, the third question investigates if, among those who are identified as TAG in the first grade, students who enter TAG centers in second grade do better in reading and math at the end of elementary school when compared to students who enter TAG centers in later grades (i.e., grades 3 and 4).

## **C. Organization of Report**

This report is organized into five major sections. Following this introductory section, the second section describes the methods and procedures used in data collection and the analysis plan developed to answer the aforementioned research questions. Section III contains the findings by research question. A summary of the findings is contained in Section IV, which includes the conclusions that can be drawn from the findings. Finally, in Section V, we present our recommendations for improving the TAG center lottery and enrollment process.

## II. METHODS

Table 2 outlines the sample, data, and analytic procedure used for this study. Below, we further explain the data, sampling, and method of analysis for each question.

**Table 2: Study Questions, Data Sources, & Analysis Techniques**

Evaluation Questions	Sample	Data	Analytic procedure
1. Which factors are associated with whether or not parents apply to enroll their TAG-identified students into a TAG center in Grade 2?	Grade 1 TAG-identified Students  Parents of TAG-identified students in SY14 - SY16	TAG enrollment report (APEX Reports in SchoolMax); TAG center enrollment data; TAG center lottery application and Placement data; TAG Parent Survey	Document Review; Qualitative description of survey and interview and survey data; Descriptive Analysis.
2. Are TAG center-based TAG students better prepared for middle school relative to non-center-based TAG students?	TAG Students	TAG entrance assessment data; end-of Grade 5 achievement data	Treatment effects analysis with propensity score matching - Comparison of TAG center students vs. non-center TAG students
3. Are students who enter in TAG centers in Grade 2 better prepared for middle school relative to TAG-identified students who enter TAG centers in either Grade 3 or Grade 4?	TAG center Students identified as TAG in Grade 1	TAG entrance assessment data; end-of Grade 5 achievement data	Treatment effects analysis with propensity score matching - Comparison within TAG center students

### Types of Data Used

To address the first research question that focuses on the characteristics of TAG students and the application to the lottery and enrollment into TAG centers, multiple sources of data were used. The district TAG enrollment report from APEX Reports in SchoolMax was the primary source of identifying TAG students and their year of identification. SY2009-SY2016

(SY09-SY16) lottery application and placement data from the Department of Pupil Accounting & School Boundaries (Pupil Accounting), which administers the lottery for TAG and specialty schools, and TAG center enrollment data from the Office of Talented and Gifted Programs were also used. In addition, data were also gathered through a survey of parents of students identified as TAG in Grade 1 during SY14 through SY16. The purpose of the survey, which was administered by the Research & Evaluation Unit in November 2016, was to capture parents' decision-making process regarding enrollment in a TAG center and their perceptions of the TAG program services offered in the system. The survey questions are included in Appendix 1. We invited 1,776 parents to participate in the survey. We received valid responses from 783 parents, resulting in a response rate of 44 percent.

To answer the second and third research questions, Partnership for Assessment of Readiness for College and Careers (PARCC) fifth grade reading and math test scores for the first grade cohort of SY11 and SY12 were used as a proxy for middle school readiness. We used these cohorts because they had the most recent end-of year Grade 5 reading and math test scores. The PARCC assessment is aligned with Maryland's College and Career Ready Standards and indicates how close a student is to meeting the new standards. The results are categorized into one of five performance levels: Level 1: Did Not Yet Meet Expectations; Level 2: Partially Met Expectations; Level 3: Approached Expectations; Level 4: Met Expectations; and Level 5: Exceeded Expectations. Students achieving at levels 4 or 5 are considered to have met grade-level expectations. TAG entrance assessment data (i.e., Grade 1 OLSAT scores) and student demographic data were also used in these analyses to control for pre-TAG achievement and student characteristics.

## Analytic Procedures

**Research Question 1:** To address research question 1, a two-step analysis of the decision-making process for enrolling in TAG centers (i.e., the application for the TAG center lottery and enrollment into the TAG center) was conducted. First, we conducted an analysis of the trend in TAG center lottery applications from SY09 to SY16. This analysis captured the trend in the number of TAG-identified lottery applicants over time. In the second step, among those who were selected via the lottery, we analyzed the trends in parents' decisions -- whether to enroll their children into the assigned TAG center or decline to enroll their children into a center for various reasons. In both steps, we also disaggregated the analyses by the type of the TAG center—school-wide and school-in-school centers. This disaggregation shed some light on whether the type of the center is associated with the decision to apply to the TAG center lottery and to accept placement in a TAG center. Lastly, the analyses focused on the two recent school years (i.e., SY16 & SY17) and further investigated sources of under-enrollment in specific

TAG centers. This analysis employed historical lottery winning and parents' acceptance rates to estimate the number of lottery applicants needed to attain full enrollment for each TAG center.

To assess parents' perception of the district's TAG center program, we reported descriptive statistics of data from the TAG Parent Survey. Further, we conducted comparisons of the perceptions of TAG center parents and those who decided not to apply or enroll their TAG-identified students in a center. We also coded parents' responses to the open-ended questions into common themes using thematic analysis.

**Research Questions 2 and 3:** To answer research questions 2 and 3, we utilized reading and math proficiency at the end of Grade 5 measured by PARCC as a proxy for middle school readiness. To estimate the impacts of TAG center attendance and early entry on PARCC proficiency rate, we used the potential-outcomes estimation framework of the Average Treatment Effect (ATE) model. In this framework, there is a potential outcome (i.e., PARCC proficiency) with treatment (e.g., TAG center enrollment) and the opposite potential outcome without treatment (e.g., TAG in regular classroom or TAG pullout). Thus, each student has two potential outcomes: his/her observed PARCC outcome and his/her counterfactual or unobserved PARCC outcome. Each student in the treatment group has an observed PARCC proficiency (i.e., probability of PARCC proficiency) and each student in the non-treatment group has an observed PARCC proficiency. The unobserved potential outcome for a treatment group student is his/her estimated PARCC proficiency if he/she **were not** in the treatment group, while the unobserved potential outcome for a comparison group student is their estimated PARCC proficiency if he/she **were** in the treatment group. Thus, each student will have a PARCC score if he/she were in the treatment and another PARCC score if he/she were not in the treatment.

The unobserved outcomes are estimated by matching of students based on their propensity of selection into the treatment group and the non-treatment group. The unobserved outcomes for treatment group students were estimated from observed outcomes of their respective propensity score-matched non-treatment students. Similarly, the unobserved outcomes for the non-treatment group students were estimated from the observed outcomes of their respective propensity score-matched treatment group students. The use of propensity score matching allows us to estimate the counterfactual (e.g., the PARCC proficiency for a student in the treatment group had s/he not been treated) by using one or several observations in the non-treatment group who have similar observable characteristics. These observable characteristics of interest were used to control for differences in pre-TAG (i.e., Grade 1) student characteristics and student achievement. The control variables we included were: Grade 1 English Language Learners (ELL) status, free- or reduced-priced meals

(FARMS) status, Special Education services (SPED) status, race/ethnicity, and gender. We also used Grade 1 OLSAT scores (the primary criterion used for TAG identification) as a measure of pre-TAG achievement. These student characteristics were used to calculate propensity scores (the propensity of attending a TAG center or not attending a TAG center and the propensity of Grade 2 or Grade 3/4 entry into TAG center) which allowed us to match students with similar pre-TAG characteristics who attend TAG centers and those who do not (i.e., the first analysis) and students who enter a TAG center in Grade 2 and those who enter in Grade 3 or 4 (i.e., the second analysis).

For the impact of TAG center attendance analysis, we calculated the average difference in the students' PARCC reading and math proficiency rates for receiving TAG services in a center (i.e., the treatment outcome, which is the observed proficiency rates for TAG center students and the estimated proficiency rates for non-center students if they had been in a center) and for receiving TAG services in a non-center (i.e., the non-treatment outcome, which is the observed proficiency rates for non-center students and the estimated proficiency rates for TAG center students if they had not attended a center). For the impact of early TAG center entry analysis, we calculated the average difference in the students' PARCC reading and math proficiency rates for receiving TAG center services starting in Grade 2 (i.e., the treatment outcome, which is the observed proficiency rates for Grade 2 center entry students and the estimated proficiency rates for Grade 3 or 4 center entry students if they had entered a center in Grade 2) and for receiving TAG center services starting in Grade 3 or 4 (i.e., the non-treatment outcome, which is the observed proficiency rates for Grade 3 or 4 center entry students and the estimated proficiency rates for Grade 2 center entry students if they had not entered a center in Grade 2). For example, for the first analysis, the average of the scores for the treatment scenario is the average proficiency rate if All students attended centers and the average of the scores for the non-treatment scenario is the average proficiency rate if All students attended non-centers. The difference in the average PARCC reading and math proficiency rates between treatment and non-treatment scenarios for each analysis is the average treatment effect (ATE). The ATE is equivalent to the impact of TAG center attendance for all TAG students identified in grade 1 and the impact of early TAG center entry for all TAG students identified in grade 1 enrolled in centers, respectively. The analyses were conducted in Stata 14.

### III. FINDINGS

The results of the analyses are presented in this section. The presentation in each subsection is organized in the sequence of the research questions.

*Research Question 1: Which factors determine whether or not parents enroll their TAG identified second grade students into a TAG center in Grade 2?*

We answer the first research question in three parts: a) the analysis of the trends in TAG center applications, placement and parent acceptance rates from SY09 to SY16; b) estimating the pool of applicants needed to achieve full enrollment for each TAG center in SY16 and SY17 and; c) the analysis of parents' perceptions of the lottery process for TAG center admission and of the TAG services provided in the district.

#### A. TAG identification, TAG Center Application and Enrollment Trends

As described in the introduction section, once students are identified as TAG in the spring of the first grade their parents can apply to enroll them in a TAG center in second grade. Table 3 displays the number of first grade students identified as TAG during the school year, the number of first graders identified as TAG before the deadline for the TAG center lottery and the number of applicants to enroll in TAG centers from SY09 through SY16 (see Table 17 and 18 in Appendix 2 for demographic characteristics of first grade cohorts, TAG identified students and TAG lottery applicants). The determination of TAG identification was made using each TAG student's identification date (i.e., GATE date in the SchoolMax TAG enrollment APEX report). During the eight school years investigated, a total of 6,470 first graders were identified as TAG and 6,167 were identified before the lottery deadline and were eligible to apply for the lottery. That is, over the last eight school years, 303 students (4.7%) were identified as TAG after the lottery application deadline had passed. This was particularly an issue for SY13 when 102 students (13% of newly identified TAG students) were identified after the lottery deadline. In SY15 and SY16, 62 (7.6%) and 43 (6.2%) students, respectively, were identified after the lottery for the deadline and would not have been eligible to apply for the lottery in first grade.

The data presented also demonstrate that the number of students identified as TAG in first grade has generally declined with SY11 and SY16 being the school years with the highest and the lowest number of students identified as TAG, respectively. For the purpose of our analysis of the lottery data, we use the total number of first graders identified each school year – regardless of whether they were identified before or after the lottery deadline – because

there are some instances in which parents applied for the lottery before their child was officially identified and their lottery application was still accepted.

**Table 3: TAG Identifications and Lottery Applications for Grade 1 Students, SY09-SY16**

		SY09	SY10	SY11	SY12	SY13	SY14	SY15	SY16	Total
<b>All TAG-identified Grade 1 Students during the School Year</b>		775	798	934	908	778	772	811	694	6470
<b>Identified before Lottery Deadline</b>	<b>#</b>	771	780	910	858	676	772	749	651	6167
	<b>% of TAG-identified Students</b>	99.5	97.7	97.4	94.5	86.9	100.0	92.4	93.8	95.3
<b>Applied to TAG Centers</b>	<b>#</b>	263	314	345	323	307	350	375	294	2570
	<b>% of TAG-identified Students</b>	33.9	39.3	36.9	35.6	39.5	45.3	46.2	42.4	39.7

Overall, about 40 percent of parents of TAG-identified first graders apply to the TAG center lottery. The percentage of parents who apply for the lottery has increased over the years, reaching 46 percent in SY15; however, it declined to 42 percent in SY16. The number of applicants to the TAG center lottery was the highest at 375 in SY15. It is important to note that both the number of TAG-identified students as well as the number of TAG center lottery applications decreased from SY15 to SY16. In SY16 the number of TAG-identified students decreased by 117 (or -14.4% from SY15) and the number of applications was also fewer by 81 (or -21.6%). Thus, SY16 posted the lowest numbers of TAG identifications and lottery applications since SY09.

### Trends in Lottery Results and Placement

So far, the data presented demonstrate that: a) the number of TAG-identified students was the lowest in SY16; and b) the percentage of parents of TAG-identified students applying has been trending upwards until SY16. These findings suggest that the source of under-enrollment in the TAG centers can be explained by the decreasing size of the applicant pool, i.e., the number of students being identified as TAG. The substantial under-enrollment posted in SY17 can be explained by the historically smaller number of TAG-identified students in SY16, relative to prior school years covered in the analyses.

In addition to the size of the applicant pool, enrollment in the TAG centers is also affected by what happens after parents apply to the lottery. Table 4 reports the outcomes of the TAG center lottery conducted by Pupil Accounting. The trend data shows that that the placement rate to join a center have dramatically increased over the eight school years

investigated. In SY09, a little over half of applicants were offered a placement in a TAG center during the first round of selection, while the remaining applicants were placed in a waiting list. Since SY13, the odds of winning placement in a TAG center have become almost a certainty, resulting in the fact that those who apply to the lottery are practically guaranteed a seat in the TAG centers. It is therefore reasonable to conclude that the TAG centers are undersubscribed: the number of slots exceeds the number of applicants. In the last eight school years, 32 TAG students (1.2% of applicants) were determined to not meet program eligibility and their application was rescinded. As reported in Table 3, some students were identified as TAG after the deadline to apply for TAG center lottery and we suspect that the applications that were rescinded might be the students that were identified as TAG after the lottery placement decisions were made.

**Table 4: Lottery Outcomes of TAG-identified Applicants for SY09-SY16**

		SY09	SY10	SY11	SY12	SY13	SY14	SY15	SY16	Total
<b>Offered Slot in a TAG center</b>	<b>#</b>	131	209	237	299	305	346	340	292	<b>2159</b>
	<b>% of Applicants</b>	49.8	66.6	68.7	92.6	99.3	99.1	90.7	99.3	84.1
<b>Placed on a waitlist</b>	<b>#</b>	126	103	104	24	0	0	22	0	<b>379</b>
	<b>% of Applicants</b>	47.9	32.8	30.4	7.4	0.0	0.0	5.9	0.0	14.7
<b>Application was rescinded</b>	<b>#</b>	6	2	4	0	2	3	13	2	<b>32</b>
	<b>% of Applicants</b>	2.3	0.6	0.9	0.0	0.7	0.9	3.5	0.7	1.2
<b>Number of Applicants to TAG Centers</b>		<b>263</b>	<b>314</b>	<b>345</b>	<b>323</b>	<b>307</b>	<b>349</b>	<b>375</b>	<b>294</b>	<b>2570</b>

Although TAG center lottery winners are offered a placement into a center, parents still have to choose to enroll their child and meet required deadlines. After being offered a placement in a TAG center, parents could: a) accept the lottery placement and complete enrollment in the assigned TAG center; b) decline placement for any reason and child is not enrolled in a TAG center; c) fail to meet required acceptance deadlines and thus forfeit the opportunity to enroll their child in a TAG center; or d) accept placement of child in another specialty program and decide not to enroll the child in a TAG center. The trend data on the distribution of parents' decisions are presented in Table 5.

The data demonstrates that the proportion of parents who accepted the placement offer to enroll their students in a TAG center and subsequently completed the enrollment

process dramatically increased from 53 percent in SY09 to 82 percent in SY16. Overall, the eight year aggregate acceptance rate is 73 percent with almost nine percent of parents declining placement, almost 17 percent failing to meet deadlines to accept placement offer and register their children, and two percent accepting placement in another specialty program. SY16 had the highest acceptance rate and the lowest proportion of parents that declined placement and missed the deadline.

**Table 5: Distribution of TAG Lottery Winners by Parents’ Decision, SY10-SY16**

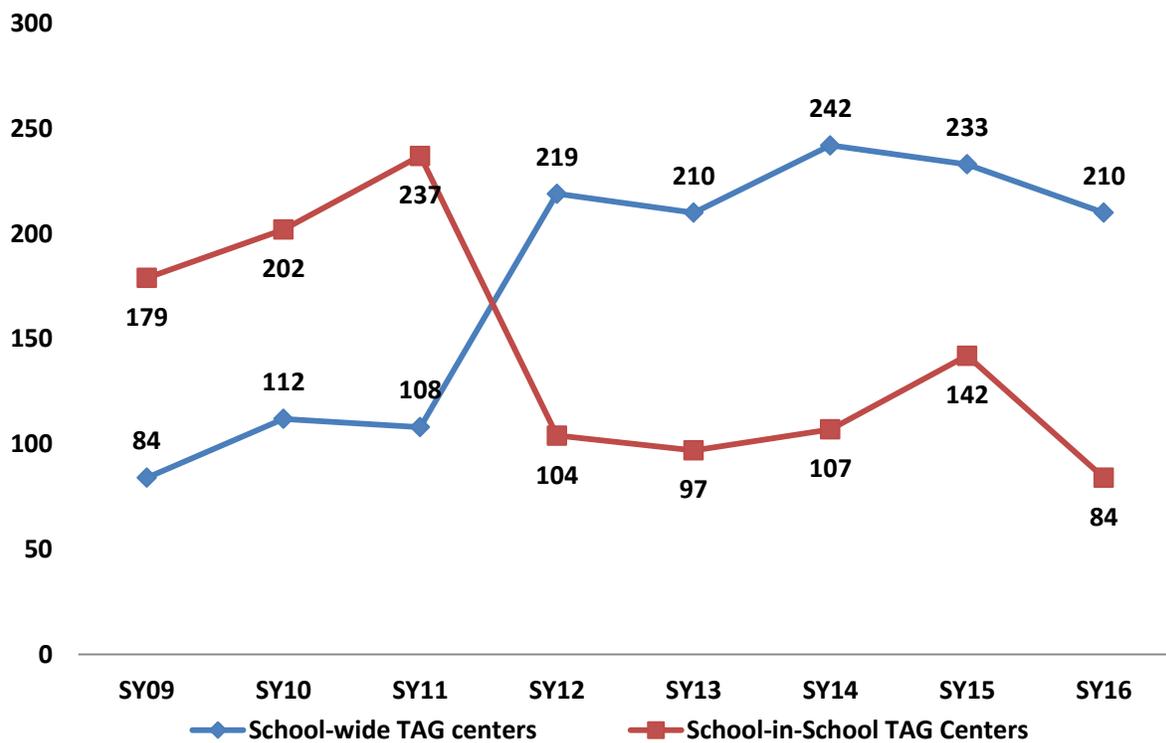
		SY09	SY10	SY11	SY12	SY13	SY14	SY15	SY16	Total
<b>Accepted Placement</b>	<b>#</b>	69	145	151	221	227	251	263	240	<b>1572</b>
	<b>% of offered Slot</b>	52.7	69.4	63.7	73.9	74.4	72.5	77.4	82.2	<b>72.6</b>
<b>Declined Placement</b>	<b>#</b>	57	12	14	15	28	29	19	13	<b>187</b>
	<b>% of offered Slot</b>	43.5	5.7	5.9	5.0	9.2	8.4	5.6	4.4	<b>8.7</b>
<b>Did not meet required Deadlines</b>	<b>#</b>	0	29	72	54	50	54	58	39	<b>356</b>
	<b>% of offered Slot</b>	0.0	13.9	30.4	18.1	16.4	15.6	17.1	13.4	<b>16.5</b>
<b>Accepted a placement in another program</b>	<b>#</b>	5	23	0	9	0	12	0	0	<b>49</b>
	<b>% of offered Slot</b>	3.8	11.0	0.0	3.0	0.0	3.5	0.0	0.0	<b>2.3</b>
<b>Number of applicants Offered Slot in a TAG center</b>		<b>131</b>	<b>209</b>	<b>237</b>	<b>299</b>	<b>305</b>	<b>346</b>	<b>340</b>	<b>292</b>	<b>2159</b>

To further investigate the problem of under-enrollment, we disaggregated the analyses above by the type of TAG center. The two types of TAG centers, school-wide and school-in-school, offer different types of delivery of academic service and academic community and may also be perceived differently by parents. First, we investigate if the number of lottery applications varied by the type of center. Then, we report differences in the placement rate in the TAG lottery and the distribution of parents’ decisions following lottery results.

Figure 1 reports the number of applications from SY09 to SY16 for both the school-wide and school-in-school centers. The blue line represents the number of applications for school-wide TAG centers and the red line represents applications for school-in-school centers. While the number of applications for school-wide TAG centers has increased over time, the number of applications for school-in-school centers has decreased. A crossover occurred in SY13 when the number of applications for the school-wide TAG centers grew to be twice as much as the

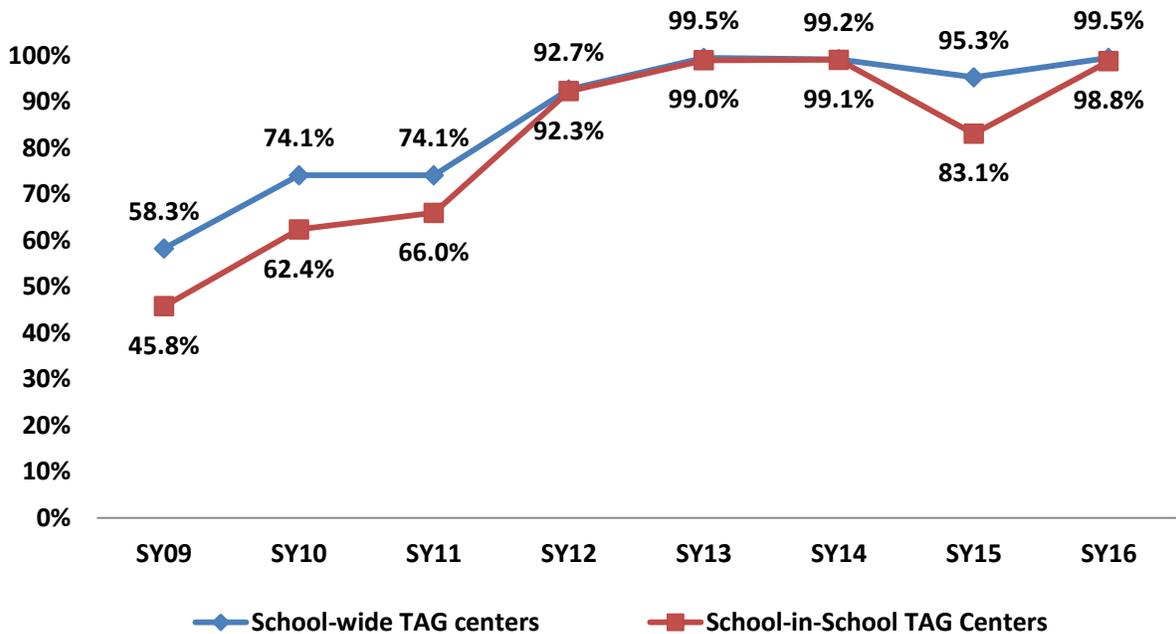
applications for the school-in-school TAG centers. In the three school years preceding SY13, the number of applications for school-wide TAG centers were half the application for the school-in-school centers. This trend of higher number of applications to school-wide centers continued into SY16, when school-wide centers received two and half times more applications than school-in-school centers. Thus, the decline in applicants is a bigger problem for school-in-school TAG centers than it is for school-wide TAG centers.

**Figure 1: TAG Lottery application by Type of TAG center, SY09-SY16**



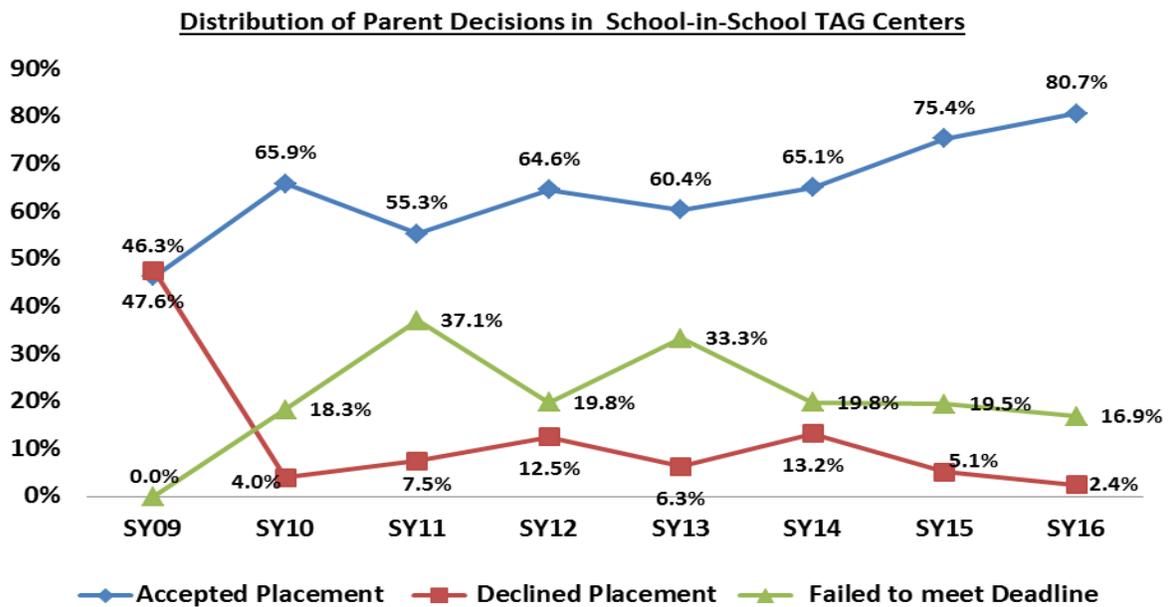
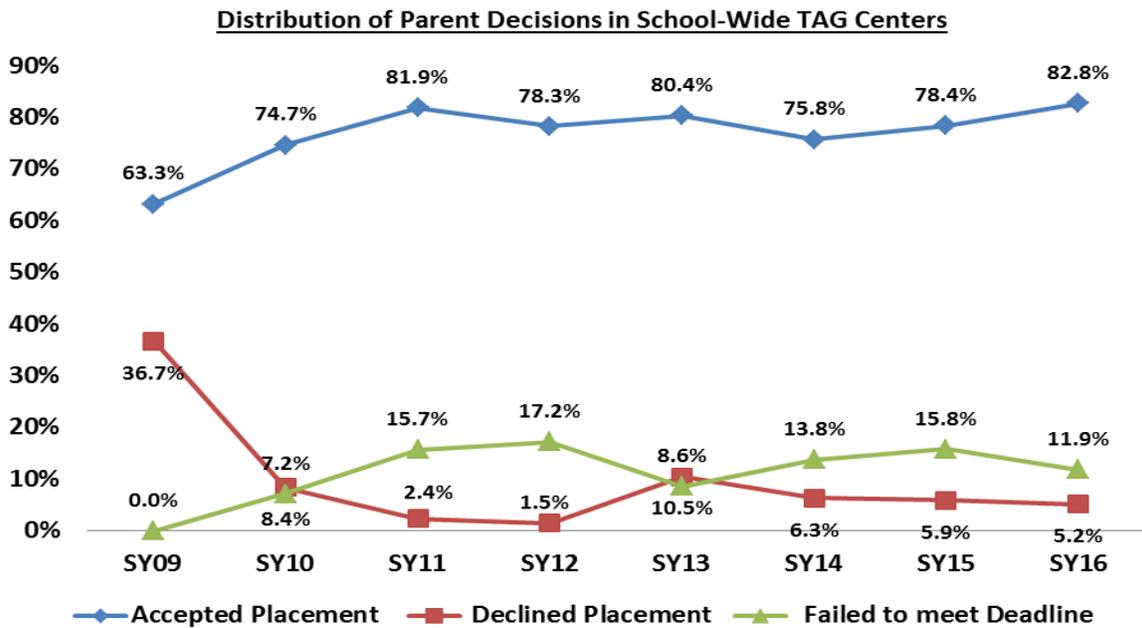
In addition, we examined differences in the rates of placement in these two types of centers. The rates are presented in Figure 2. The data presented indicate that a higher proportion of applicants to school-wide centers were initially offered a placement at the beginning of the study period; however the gap closed in SY12 and has remained close since then-- with the exception of the lottery for SY15 when applicants to school-wide centers had a 12 percentage-point higher placement rate than those who applied to school-in-school centers. In sum, with the exception of SY15, applications to both types of TAG centers had the same probability of winning placement since SY11.

Figure 2: Initial Lottery Placement Rate by type of TAG center



We also analyzed differences in the distribution of parent acceptance rates by type of TAG center. Figure 3 displays the percentage of parents who accepted placement and enrolled their children (blue line), the percentage of parents who declined placement (red line), and the percentage of parents who missed the deadline to accept the placement offer (green line). Overall, applicants who were offered placements in school-wide centers had a higher rate of accepting placements between SY11 and SY14 but the gap has closed in SY15 and SY16 as there were no significant differences in acceptance rates. The figures also illustrate that in school-wide centers parents' acceptance of placement has consistently remained higher than the acceptance rate for school-in-school TAG centers. School-in-school centers enjoyed significant and progressive increases in placement acceptance rates; between SY13 and SY16 the rate has increased by over 20 percentage points from a little over 60 percent to almost 81 percent. The proportion of parents who fail to meet the deadline to accept placement and register their children in school-in-school centers has remained slightly higher than the proportion for school-wide centers. In SY16, 17 percent of parents whose children were offered a place in school-in-school centers did not meet deadlines to accept placement in a center compared to 12 percent in school-wide centers.

Figure 3: Distribution of Parents' Placement Decision by type of TAG Center, SY09-SY16



### Lottery Applications and Enrollment in TAG Centers, SY16 & SY17

We focused on SY15 and SY16 to investigate if the problem of under-enrollment is concentrated in selected TAG centers. We first discuss the center-level data on the lottery in Table 6. From SY15 to SY16, the total number of applicants for the school-in-school centers declined by 58 (41%); the decline was especially high at Highland Park (-61%), Mattaponi (-56%)

and Valley View (-56%). In comparison, the total number of applicants for school-wide TAG centers declined by 23 (9.8%---14.5% at Heather Hills and 6.2% at Glenarden Woods) during the same period. The data shows that the initial lottery placement rate for SY16 was significantly higher than SY15. School-in-school TAG centers at Capitol Heights, Longfields and Mattaponi offered placement for all applicants to the lottery in SY15 and SY16 and Accokeek Academy and Valley View offered placement for all applicants in SY16. Highland Park is the only center that did offer placement to all lottery applicants for both school years. In school-wide TAG centers all applicants but one student were offered placement in SY16 (100% at Heather Hills and 99% at Glenarden Woods).

In Table 6, we also report center-level data on the distribution of Parents decisions after placement was offered in a center. The data presented demonstrates that the proportion of parents who accepted placements in school-wide centers increased by four percent from SY15 to SY16 (78% to 83%). Compared to SY16, the acceptance rate for Heather Hills improved by 10 percentage points (80% to 90%) and the rate of acceptance remained the same for Glenarden Woods (77%). The proportion of parents who accepted placements in school-in-school centers also increased by five percent from SY2015 to SY2016 (75% to 81%). The majority of parents who did not accept placement offers in school-wide centers were a result of failing to meet deadlines (16% in SY15 and 12% in SY16). In Glenarden Woods center almost 16 percent of parents did not meet deadlines in SY16. Similarly, the majority of parents who did not accept placement offers in school-in-school centers were also a result of failing to meet deadlines (20% in SY15 and 17% in SY16). A couple of centers, Capitol Heights and Longfields, had rates that were significantly higher than the average for all school-in-school centers. About 33 percent of parents in Capitol Heights in SY15, 36 percent and 40 percent in Longfields center in SY15 and SY16, respectively, missed deadlines for submitting necessary paperwork.

**Table 6: Parent Decisions of Applicants by Type of Center, SY15-SY16**

		School-wide						School-in-school													
		Heather Hills		Glenarden Woods		Total		Accokeek		Capitol Heights		Highland Park		Longfields		Mattaponi		Valley View		Total	
		SY15	SY16	SY15	SY16	SY15	SY16	SY15	SY16	SY15	SY16	SY15	SY16	SY15	SY16	SY15	SY16	SY15	SY16	SY15	SY16
<b># Applicants</b>		<b>103</b>	<b>88</b>	<b>130</b>	<b>122</b>	<b>233</b>	<b>210</b>	<b>22</b>	<b>21</b>	<b>24</b>	<b>14</b>	<b>31</b>	<b>15</b>	<b>22</b>	<b>15</b>	<b>16</b>	<b>7</b>	<b>27</b>	<b>12</b>	<b>142</b>	<b>84</b>
<b>Offered Slot in a TAG center</b>	<b>#</b>	99	88	123	121	222	209	<b>11</b>	21	<b>24</b>	14	<b>23</b>	14	<b>22</b>	15	<b>16</b>	7	<b>22</b>	12	<b>118</b>	83
	<b>% of Applicants</b>	96.1	100	94.6	99.2	95.3	98.8	<b>50</b>	100	<b>100</b>	100	<b>74.2</b>	93.3	<b>100</b>	100	<b>100</b>	100	<b>81.5</b>	100	<b>83.1</b>	98.8
<b>Accepted Placement Offer</b>	<b>#</b>	79	79	95	94	174	173	<b>11</b>	16	<b>16</b>	13	<b>17</b>	12	<b>12</b>	9	<b>15</b>	6	<b>18</b>	11	<b>89</b>	67
	<b>% of offered Slot</b>	79.8	89.8	77.2	77.7	78.4	82.8	<b>100</b>	76.2	<b>66.7</b>	92.9	<b>54.8</b>	85.7	<b>54.5</b>	60	<b>93.8</b>	85.7	<b>66.7</b>	92.9	<b>75.4</b>	80.7

All in all, both types of TAG centers have similar acceptance rates but the school-in-school centers experienced a net loss of spots in SY17 due to a smaller pool of applicants. Whereas the number of applicants who accepted placement offer only declined by one in school-wide TAG centers from SY15 to SY16, it decreased by 22 slots (or -25%) in school-in-school TAG Centers.

## B. Under-enrollment in TAG Centers and the Applicant Pool, SY16 & SY17

The analysis in the previous section demonstrated that the decline in the number of TAG center lottery applications from SY15 to SY16, applications that impact second grade enrollment in SY16 and SY17, was much higher in some centers than others. The data in Table 7 reports second grade enrollment capacity, second grade enrollment number, and the number of lottery applications in Grade 1 for all TAG centers in SY15 and SY16. In SY17, all TAG centers, except Accokeek Academy, are under-enrolled. The number of applications to all centers was also less than their enrollment capacity. In contrast, in SY16 the school-wide TAG centers received applications higher than their enrollment capacity. The data also shows that the SY17 second grade enrollment in four school-in-school centers (Accokeek, Capital Heights, Mattaponi, and Valley View) was higher than the number of applications, suggesting that slots were filled after the initial TAG lottery. In sum, the data confirms the prevalence of the historically low number of first grade applicants in SY16 (who applied to be enrolled in centers for SY17) in both school-wide and school-in-school TAG centers.

**Table 7: Enrollment Capacity, Enrollment and Lottery Applications, SY15 & SY16**

		SY16 Lottery			SY15 Lottery	
	Grade 2 Capacity for SY17	Grade 1 SY16 Lottery Applications	Grade 2 Enrollment for SY17	Grade 2 Capacity for SY16	Grade 1 SY15 Lottery Applications	Grade 2 Enrollment for SY16
<b>School-wide</b>						
Glenarden Woods	125	122	99	125	130	113
Heather Hills	100	88	84	100	103	98
<b>School-in-school</b>						
Accokeek	25	21	26	27	22	27
Capitol Heights	25	14	18	27	24	28
Highland Park	25	15	12	27	31	23
Longfields	25	15	13	27	22	13
Mattaponi	25	7	13	27	16	18
Valley View	25	12	13	27	27	25

Granted the number of lottery applications in SY15 and SY16 may represent outlier years, we estimated the minimum number of applications needed for each school to ensure that all available spots are filled through the lottery. That is, we calculated the minimum number of applications each TAG center would have needed to ensure that its second grade classes are enrolled at full capacity based on each center’s average placement and parent acceptance rates in the last eight school years.<sup>1</sup> This calculation allows us to use a longer historical data for each center.

The calculated number of application needed for SY17 and SY16 are presented in Table 8. The table also reports the number of first grade applications and the gap between the number of applications and the minimum required number of applications for full-capacity enrollment through the lottery. Overall, the number of applications for SY17 (i.e., those who applied in spring of 2016) was 294 but an additional 304 applications were needed for all schools to enroll at full capacity exclusively via lottery. The number of applications was 22 percent fewer than the number of available spots for TAG centers. This makes the need for a lottery irrelevant unless the application pool is increased. In SY17, TAG centers at Mattaponi and Valley View had the lowest number of applications relative to their enrollment capacity. Similarly, the number of application was 375 for SY16 but an additional 245 applications were needed for full capacity enrollment.

**Table 8: Required Number of Applications for Full Capacity Enrollment via Lottery**

	SY17 Applications Needed	SY17 Applications Received	SY17 Gap in Applications	SY16 Applications Needed	SY16 Applications Received	SY16 Gap in Applications
<b>School-wide</b>						
Glenarden Woods	181	122	-59	181	130	-51
Heather Hills	148	88	-60	148	103	-45
<b>School-in-school</b>						
Accokeek	66	21	-45	72	22	-50
Capitol Heights	32	14	-18	35	24	-11
Highland Park	42	15	-27	45	31	-14
Longfields	54	15	-39	58	22	-36
Mattaponi	27	7	-20	29	16	-13
Valley View	48	12	-36	52	27	-25
<b>All Centers</b>	<b>598</b>	<b>294</b>	<b>-304</b>	<b>620</b>	<b>375</b>	<b>-245</b>

<sup>1</sup> For centers that have been operating for less than eight school years, we use the maximum number of years available.

As reported in Table 7, the enrollment numbers for TAG centers are generally higher than the number of applicants who accepted placement. This indicates that some TAG centers enroll students outside the lottery. Table 9 reports the percentage of slots that were filled by lottery in the initial or first selection; the percentage of seats filled after the lottery; and the percentage of seats that remain vacant in each center. A higher percentage of seats through initial round of lottery indicate that the center gets higher number of applicants, it has a high placement rate and a higher proportion of families who were offered placement took the school up on its offer. For SY17, Glenarden Woods and Heather Hills, the two school-wide TAG centers, have the highest percentage of seats filled through the lottery. It is important to note, however, after the lottery was conducted in spring of 2016, Glenarden Woods reduced its SY17 enrollment capacity by one classroom and its enrollment capacity stands now at 100. On the other hand, four of the six school-in-school centers (Capitol Heights, Longfields, Mattaponi and Valley View) were not able to fill 50 percent of their seats, even after including students offered a seat from outside the lottery.

**Table 9: Percent Seats filed through Lottery, after Lottery and Vacant Slots**

	SY17				SY16			
	Capacity	% of Slots filed by Lottery	% of Slots filed after Lottery	% of Empty Slots	Capacity	% of Slots filed by Lottery	% of Slots filed after Lottery	% of Empty Slots
<b>School-wide</b>								
Glenarden Woods	125	75.0	4.0	20.8	125	76.0	14.4	9.6
Heather Hills	100	79.0	5.0	16.0	100	79.0	19.0	2.0
<b>School-in-school</b>								
Accokeek	25	64.0	40.0	-4.0	27	40.7	59.3	0.0
Capitol Heights	25	52.0	20.0	28.0	27	59.3	44.4	3.7
Highland Park	25	48.0	0.0	52.0	27	63.0	22.2	14.8
Longfields	25	36.0	16.0	48.0	27	44.4	3.7	51.9
Mattaponi	25	24.0	28.0	48.0	27	55.6	11.1	33.3
Valley View	25	44.0	8.0	48.0	27	66.7	25.9	-7.4

### C. TAG Parent Perceptions of Lottery Participation, Center Enrollment, and Program Quality

In the previous section, we discussed the trends in TAG center lottery participation and concluded that one factor contributing to Grade 2 under-enrollment in TAG centers is the relatively low amount of parents applying to the lottery compared to the seats available at the centers. An additional purpose of research question 1 was to examine how parents’ perceptions of the TAG centers and the lottery process may influence TAG center enrollment. The results from the parent survey provided a wealth of data about TAG parents’ perception of their experience with the TAG program in the district. In particular, we were able to use parent survey data to further our understanding of the reasons why parents choose to enroll or not enroll their child in a TAG center. We also gained insight in how parents feel about the TAG services their children receive.

Table 10 displays the characteristics of the parent survey respondents. Of the 783 parents who completed the survey, 392 (50%) reported that they had a child who attended a TAG center. The remaining parents had a child who attended a neighborhood school or specialty/charter school. Of these parents, 133 (17%) had a child who was receiving TAG services in the regular classroom at their neighborhood school, 138 (18%) had a child who was receiving TAG services at their neighborhood school through the TAG Pull-Out model. Finally, the remaining 120 parents (15%) were either not aware of which TAG services their child was receiving or reported that their child did not get any additional TAG services. Many of the parents who reported that they did not know the TAG services had children who attended a neighborhood school. On the other hand, many of the parents who reported that their child did not receive TAG service had children who attended specialty or charter schools. These schools often have more autonomy than neighborhood schools in how they provide TAG. The breakdown by grade level is also included in Table 10. Overall, there were no notable differences in the distribution of survey respondents by grade so the results will be reported for all parents.

**Table 10: TAG Parent Survey Respondents**

	All Respondents (n = 783)		2nd Grade (n = 254)		3rd Grade (n = 300)		4th Grade (n = 224)	
	#	%	#	%	#	%	#	%
<b>Center</b>	392	50.1	142	55.9	146	48.7	104	46.4
<b>TAG in the Regular Classroom</b>	133	17.0	40	15.7	50	16.7	39	17.4
<b>TAG Pull-Out</b>	138	17.6	40	15.7	55	18.3	43	19.1
<b>Other (not aware/no services)</b>	120	15.3	32	12.6	49	16.3	38	17.0

## Lottery Participation and Center Enrollment

The TAG survey asked parents to report on whether they participated in the lottery for placement in a TAG center. Table 11 displays parents' reported lottery participation by school year. Over a third (35%) of the parents who responded to the survey reported that they have never applied to a TAG center lottery. About 60 percent of parents reported that they participated in the TAG center lottery in spring 2014, 2015, or 2016. A small percentage of parents (4%) had children who attended a TAG center but have never applied to the lottery. These children were placed in the TAG center classroom because there was space and they were already attending the neighborhood school. Our analysis of enrollment data in SY16 and SY17 (see Table 9) also demonstrate that centers admitted student after the lottery.

**Table 11: Reported Lottery Participation**

Lottery Year Participation (n=756)	Frequency	Percent
<b>I have never applied for the TAG center lottery.</b>	268	35.4
<b>I applied for the Spring/Summer 2014 lottery for possible placement in a TAG center in Fall 2014.</b>	192	25.4
<b>I applied for the Spring 2015 lottery for possible placement in a TAG center in Fall 2015.</b>	113	14.9
<b>I applied for the Spring 2016 lottery for possible placement in a TAG center in Fall 2016.</b>	153	20.2
<b>I have never applied for the TAG center lottery. The TAG Center is the neighborhood school.</b>	30	4.0

The survey asked those 268 parents who have never participated in the TAG center lottery (and were not currently in a center) to report the reasons why they chose not to participate. The results provide additional context for why participation in the TAG center lottery may be low. Table 12 depicts the top reasons TAG parents selected for why they opted out of TAG center enrollment. The data indicates that low participation in the TAG center lottery can be attributed to lack of awareness (35%) and a lack of information about the TAG center (27%). Beyond the lack of awareness about the TAG centers, many parents expressed a lack of interest in the TAG center because of the following: preference for the neighborhood school (26%), concern with the distance to the TAG center (17%), a desire to not separate siblings (16%), and the decision to enroll child in a charter or specialty school (14%). Similarly, about 10% of TAG parents (71 parents) reported that they did participate in a TAG center lottery but decided to not enroll their child in a TAG center. The reasons for not enrolling their child in a TAG center were similar to those reported by parents who opted out of the lottery. Additional reasons included not being accepted through the lottery (30%) and dissatisfaction

with the choice of TAG center because it is not reputable (11%) or because they would not have chosen the center that was assigned to their child (10%). Interestingly, over half (56%) of those parents who did not participate in the lottery or enroll their child in a center reported that they did plan to enroll their child in a center in the future.

**Table 12: Top Reasons for Not Participating in Center Lottery and Enrolling in TAG Center**

Reason for Not Applying to Lottery (n=266)	%
Was not aware of the TAG Center lottery	35.3
Not given enough information about the TAG center	27.1
Prefer the neighborhood school because it is high-performing/has a good reputation	26.3
TAG Center is too far from home or bus ride would be too long	17.3
Prefer the neighborhood school because it already has high-quality TAG services	16.5
Already have a child enrolled in the neighborhood school, don't want to separate my children	16.2
Decided to enroll my child in a charter school or specialty school	13.9
Reason for Not Enrolling in a Center (n=71)	%
I entered the lottery but my child was not accepted or was put on the wait-list.	29.7
Prefer the neighborhood school because it is high-performing/has a good reputation	26.8
TAG Center is too far from home or bus ride would be too long	23.9
Prefer the neighborhood school because it already has high-quality TAG services	16.9
TAG center in my area is not reputable or is not known to provide high-quality TAG services	11.3
My child was assigned to a TAG center that was not my choice	9.9
Decided to enroll my child in a charter school or specialty school	5.6

In addition, these parents were asked to provide additional comments further explaining why they did not participate in the lottery or enroll their child in a TAG center. Their comments corroborated the reasons discussed above, but also provide further nuance. Below we discuss the major themes that emerged from the open-ended comments.

**Lack of Awareness or Information.** A little over a third of the comments were related to the lack of awareness about the TAG center lottery or the lack of information about TAG centers. Many of these parents expressed that they did not participate in the TAG center lottery because they simply didn't

“I was not aware of the TAG center lottery. That information was not shared with me. I was aware of dedicated/full TAG schools but I didn't know about a lottery to get it.”

know about the lottery. Many parents also expressed that they just did not know enough about the TAG center to make an informed decision to apply for the lottery. For example, a parent commented: “It is not clear what TAG centers offer that is different from the school TAG program.”

**Prefer Neighborhood School.** In about half of the comments, parents explained that they chose to keep their child in the neighborhood school. There were several reasons parents expressed. First, parents reported that they were happy with the education and TAG services their child was being provided at the neighborhood school. In addition, parents preferred the neighborhood school because it would better fit the needs of the family. In particular, parents

“I like having my child go to school with peers who live in the same neighborhood, our neighborhood school is highly rated, and I have a younger child at the same school and would prefer they go to school together.”

preferred to not separate a TAG student from a sibling who would be attending the same neighborhood school. Secondly, some parents expressed that switching their child to a TAG center would be disruptive and it may not be worth the disruption. A parent explained this sentiment: “I like the current neighborhood school. The logistics of attending another school would be incredibly difficult, and it would be very disruptive to my son to

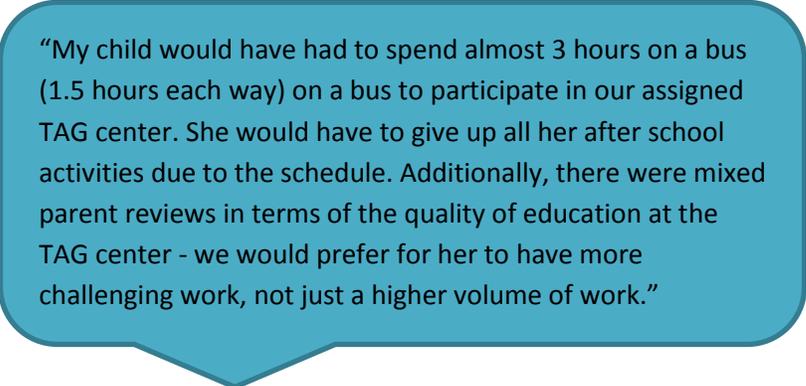
move to another school, particularly if he might not stay there.” Finally, parents chose to keep their child in the neighborhood school for social reasons. They expressed that keeping their child in the neighborhood school was beneficial because they did not want to remove their child from their community, their neighborhood friends, and the extracurricular activities available in the community.

**Enroll in Specialty or Charter School.** Many parents also chose to enroll their child in a specialty school or charter school. About a quarter of the comments mentioned that parents felt that the specialty or charter school their child attended would be more beneficial or just as beneficial to their child as attending a TAG center. Many of these parents commented that the language immersion school or the services at the charter school were not available at a TAG center so it would be best to keep their child in the specialty or charter school. Our analysis of lottery placement data (see Table 5) also demonstrate that in the SY14 lottery, 3.5 percent of applicants (12 parents) that were offered placement in a TAG center declined the offer and accepted placement in another specialty program.

“We chose to keep our child in the Spanish Immersion program as the curriculum itself was/is challenging and what we as a family deemed more important than a fully integrated TAG program”

**No Interest in TAG Center.** In about 22 percent of the comments, parents cited a lack of interest in the TAG center. Many of the parents were not satisfied with the TAG center options in terms of location. They noted that the center was too far away and would be disruptive to the child’s education. Many parents had also heard many things about the TAG center curriculum and did not think it was best for their child. There was a particular concern about the amount of work that would be assigned to their child at the TAG center. These parents felt that a heavier workload did not mean a higher quality education and that the child would have to sacrifice too much of their free time that would be typically dedicated to family time and important social activities.

Interestingly, about five percent of parents who responded to the survey (39 parents) reported that they had enrolled their child in a TAG center at one point, but decided to transfer their child to another school (most transferred back to the neighborhood school).



“My child would have had to spend almost 3 hours on a bus (1.5 hours each way) on a bus to participate in our assigned TAG center. She would have to give up all her after school activities due to the schedule. Additionally, there were mixed parent reviews in terms of the quality of education at the TAG center - we would prefer for her to have more challenging work, not just a higher volume of work.”

A commonly cited reason for them transferring was the center being too far and dissatisfaction with the amount and type of work assigned at the TAG center.

In order to gain the full picture of how TAG parents perceive TAG center enrollment, we were also interested in why parents chose to enroll their child in a TAG center. As Table 10 indicated, half (50%) of the parents who responded to the survey had a child who was enrolled in a TAG center. The reasons why parents chose to enroll their child in a TAG center are depicted in Table 13. Their reasons are not surprising. A high majority (73%) of the parents reported that the TAG center would provide the best opportunities, about 57 percent of parents reported that the TAG center provides high-quality TAG services. Many of the parents also expressed dissatisfaction with their child’s neighborhood school, including that their child was not being challenged (46%), the TAG services offered in the neighborhood school were not good enough (37%), and that the neighborhood school was not reputable (18%). About 38 percent reported that they were being strategic by enrolling their child in a TAG center so that their child can automatically be placed in a TAG center in middle school.

**Table 13: Reasons for TAG Center Enrollment**

Reason for TAG Center Enrollment (n=369)	Percent
<b>TAG center would provide the best opportunities for my child</b>	72.6
<b>TAG center provides high-quality TAG services</b>	56.6
<b>My child was not being challenged in his or her neighborhood school</b>	46.3
<b>I wanted my child in an elementary TAG center so they would be able to be in a TAG center in middle school</b>	37.9
<b>The neighborhood school was not offering good enough TAG services</b>	36.9
<b>The neighborhood school is not reputable or is known for being low-performing</b>	18.2

### **Awareness of and Interest in TAG Centers**

The reasons for parents of TAG students opting out of the TAG center experience can be categorized in two major issues: lack of awareness and lack of interest. District leadership can easily address the lack of awareness and information issue by enhancing the dissemination of information about the TAG program, the TAG centers, and the lottery process. Parents were asked in the survey how informed they were about the TAG Program, TAG centers, and the TAG identification and center lottery process.

Figure 4 displays the percent of parents reporting that they only knew “a little bit” or “not much” about TAG services at the neighborhood school or the TAG center. Overall, most parents (purple bars) reported that they only knew a little bit or not much at all about the TAG services provided at the neighborhood school (83%) and at the TAG center (80%). Not surprisingly, those parents who didn’t participate in the lottery (red bar) reported having lack of knowledge at a higher rate. About 88 percent of parents who did not participate in the TAG lottery reported knowing little or not much about neighborhood school TAG compared to 80 percent of parents who participated in the lottery (blue bar). The lack of awareness gap between parents who did not participate and those that participated in the TAG program is much larger regarding the TAG centers. Specifically, while 94 percent of parents who did not participate in the TAG lottery reported knowing little or not much about the TAG center, 71 percent of parents who participated in the lottery expressed the same opinion.

**Figure 4: TAG Parents' Reports of Lack of Knowledge of TAG Services**

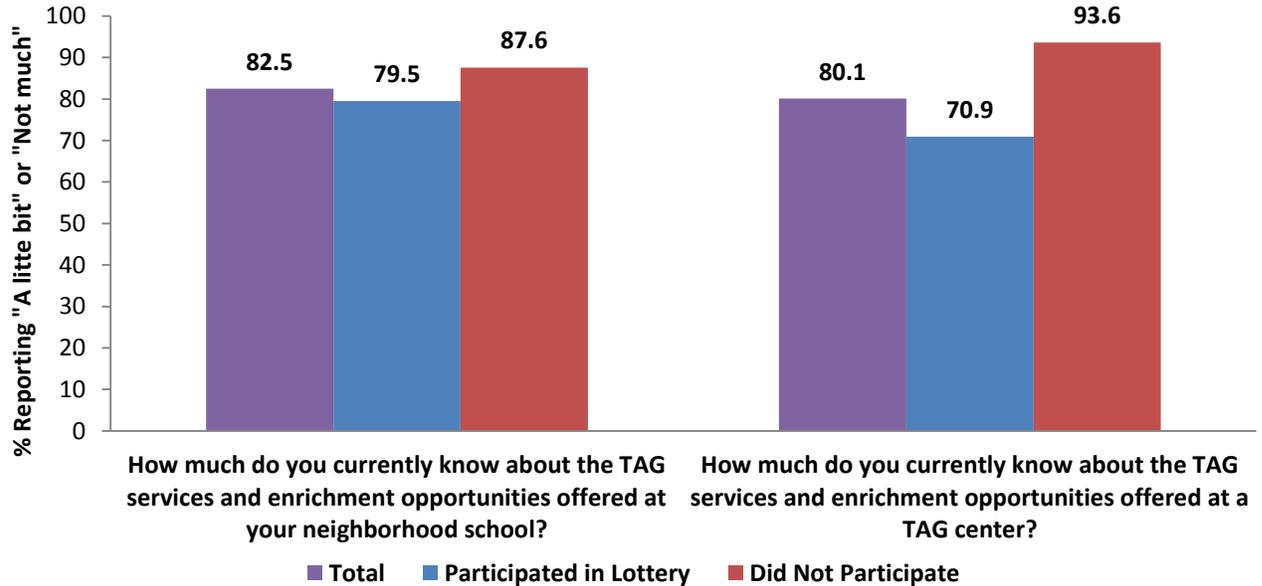
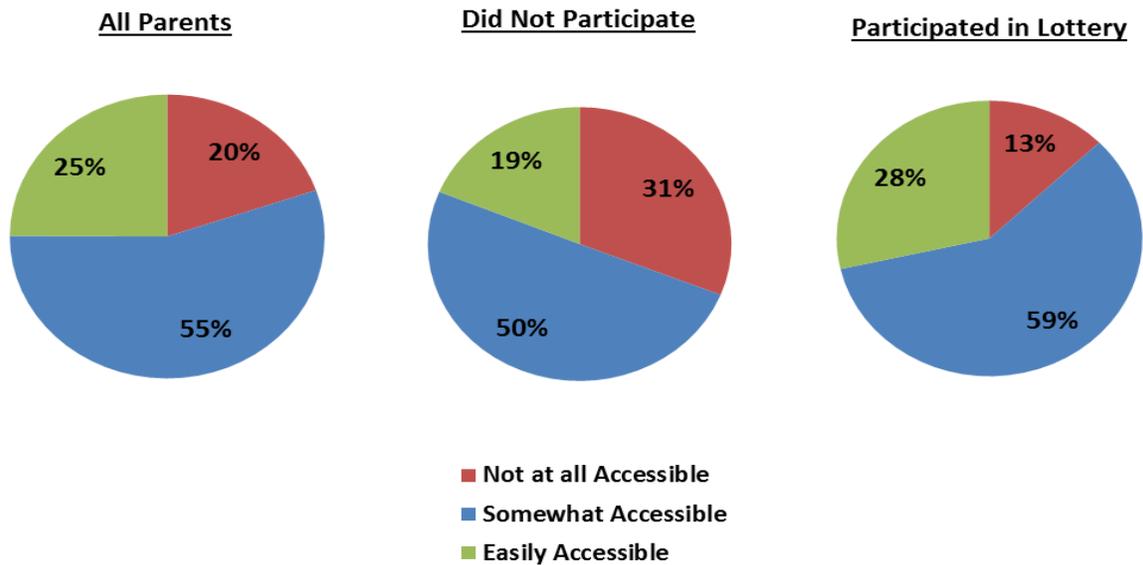


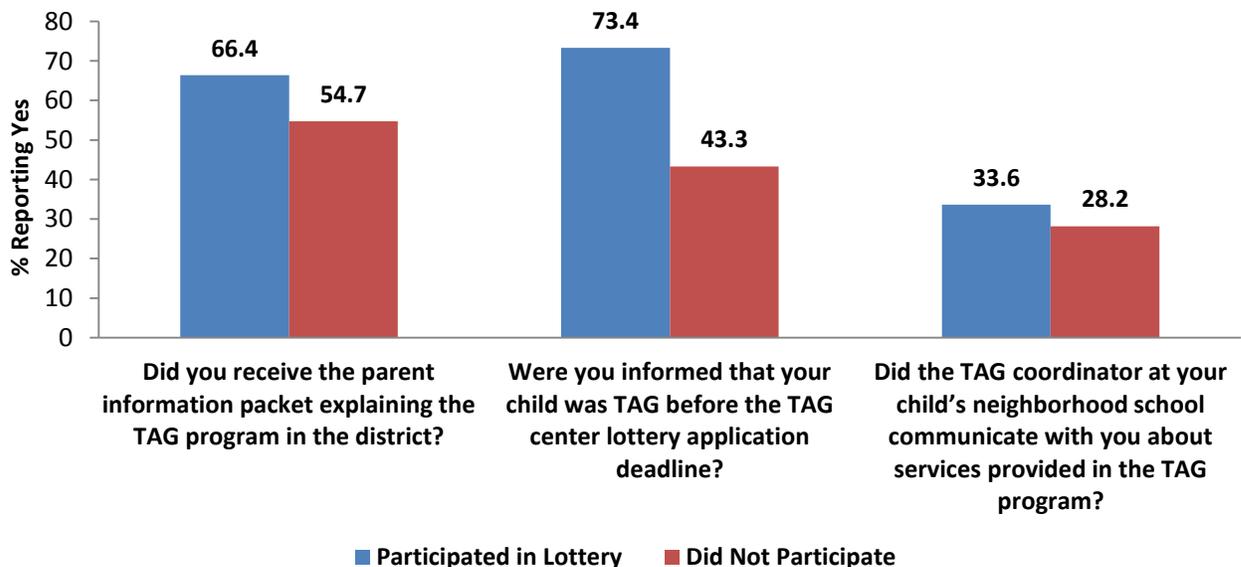
Figure 5 displays TAG parents' perceptions of the accessibility of information on the TAG program. Only a quarter of parents reported that information about the TAG program was easily accessible while 20 percent reported that information about TAG was not at all accessible. Close to a third of parents who did not participate in the lottery reported that the information about the TAG program was not at all accessible, compared to 13 percent of those who did participate. In addition, we asked parents whether 1) the TAG identification process was clearly explained and 2) the steps to apply to the TAG lottery were explained clearly (a figure of results is not displayed for these survey items). Around 66 percent of parents agreed that the TAG identification process was clearly explained to them. There was not much of a difference between those who participated in the lottery and those who did not. On the other hand, only 47 percent of parents who did not participate versus 67 percent of parents who participated felt that the next steps to apply to the lottery to enroll their child in a TAG Center were clearly explained.

**Figure 5: TAG Parents' Reports of Accessibility of TAG Information**



Typically, TAG parents are provided with information about the TAG program via a parent information packet and are informed of their child’s TAG status before the lottery deadline. Figure 6 presents the percent of parents’ reporting that they did receive the aforementioned information for parents who participated in the lottery (blue bar) and those who did not participate in the lottery (red bar).

**Figure 6: TAG Parents’ Reports of Being Informed of TAG Program**

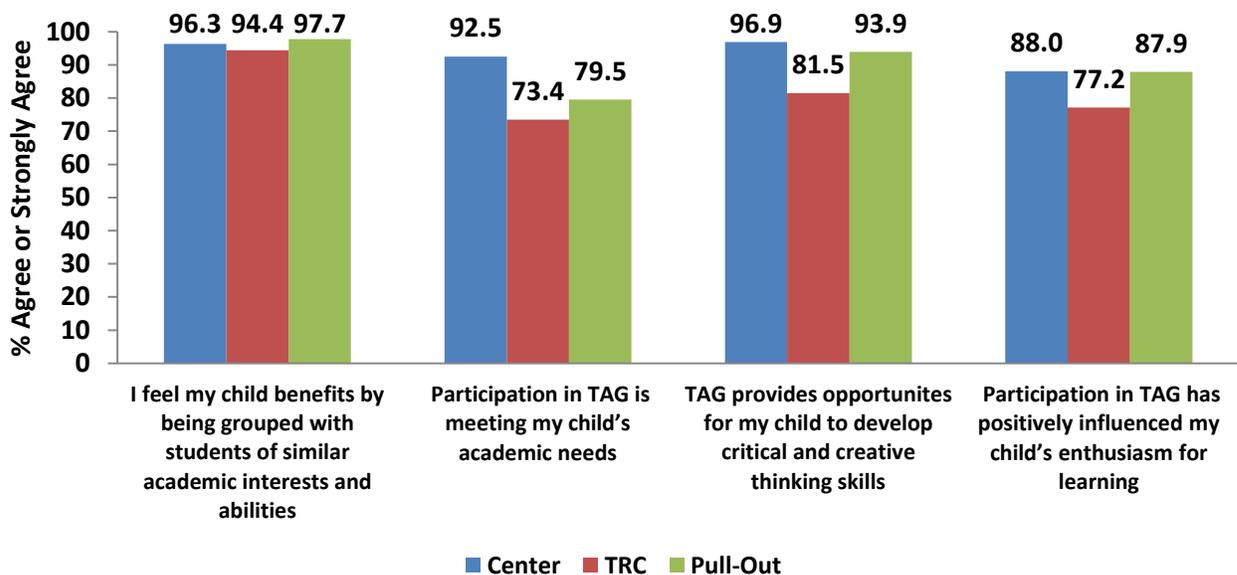


Schools also have TAG coordinators that can serve as a resource to parents interested in the TAG program. However, it is important to note that some parents reported not remembering. As the figure illustrated, a higher percent of those parents who participated in the lottery reported receiving the parent information packet (66% of lottery participators vs. 55% of non-participators) as well as being informed of their child’s TAG identification in time for the lottery (73% of lottery participators vs. 43% of non-participators). Interestingly, a small portion of parents reported receiving information from the neighborhood school’s TAG coordinator (34% of lottery participators vs. 28% of non-participators). It is clear from the survey data that it would be beneficial to the parents to improve the communication and information provided from the district and schools.

### Parent Satisfaction with the Academic Benefits of the TAG Program

Another factor influencing whether TAG parents choose to apply and enroll in the TAG centers or stay in the neighborhood school is their perceptions of the TAG services their child receive. The survey asked TAG parents to report how satisfied they were with the TAG services. Figure 7 displays parents’ perceptions of the academic benefits of the TAG programs.

Figure 7: TAG Parents' Satisfaction with TAG Benefits to Child

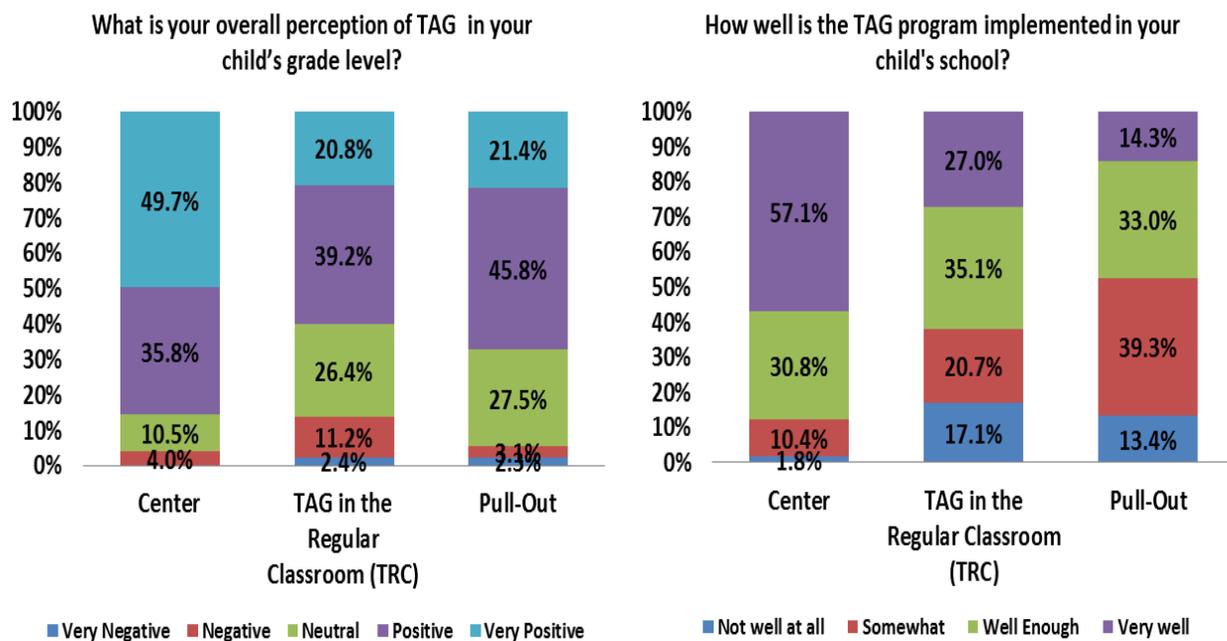


As displayed in Figure 7, most parents (between 73% and 98%) agreed that the TAG program benefited their child academically because the child was able to be grouped with similar children, the program was meeting their child’s academic needs, the program provided opportunities for their child to develop crucial and creative skills, and the TAG program has

positively influenced their child’s enthusiasm for learning. In general, parents of TAG Center students responded the most favorably than other parents, while parents of TAG in the Regular Classroom (TRC) students responded the least favorably.

Parents also reported on their overall perception of the TAG program in Figure 8. Similar to the results displays in Figure 7, TAG center parents responded most favorably (i.e., Very Positive or Positive and Very Well or Well Enough) when asked how they perceived their child’s program in his or her grade level and when asked how well the TAG program was implemented in their child’s school. Around 86 percent and 88 percent of center parents expressed a positive perception of the TAG program in their child’s grade level and how the TAG program is implemented in their child’s school. This is not surprising since the majority of the TAG center parents who responded to the survey had a child enrolled in a school-wide TAG center. Thus, their perception of TAG center program implementation is being driven by these two school-wide TAG centers.

**Figure 8: TAG Parents' Overall Perception of TAG Program**



On the other hand, the variation in program implementation for the Pull-Out and TRC program models would depend on how well the neighborhood school provides TAG services so there would be more variation in parent perceptions of them. The results from Figure 7 and Figure 8 suggest that while parents are generally satisfied with the various aspects of the TAG program in regard to academic benefits, there is a need to assess the implementation of the

various program models in the neighborhood schools to ensure fidelity of implementation and consistency across schools.

In sum, the issue of parents not being interested in the TAG center is two-fold. On one hand, parents expressing that they are not interested in the TAG center because they prefer the neighborhood school for many positive reasons (e.g., it is reputable, provides high-quality TAG services, is a better fit) is reassuring. As discussed above, many parents are satisfied with the academic benefits the TAG services provide in the non-center schools. On the other hand, parents expressing they are not interested in the TAG center because of lack of TAG center options and dissatisfaction with the TAG center model or curriculum may be an issue that the district would want to address. A reevaluation of the number of centers available, the locations of those centers, as well as of the curriculum and model used in the TAG Centers may be useful.

#### **D. TAG Student Achievement and Readiness for Middle School**

*Research Question 2:* Are TAG center-based TAG students better prepared for middle school relative to non-center-based TAG students?

*Research Question 3:* Are students identified as TAG in Grade 1 who enter in TAG centers in Grade 2 better prepared for middle school relative to TAG-identified students who enter TAG centers in either Grade 3 or Grade 4?

The purpose of the second and third research questions was to examine whether TAG students enrolled in centers are better prepared for middle school compared to other TAG students and to examine whether the timing of entry in a TAG center has an impact on middle school preparedness. Examining the effect of attending a TAG center is important because it can provide a better understanding on the added value of a child attending a TAG center versus receiving TAG services in the neighborhood school. Examining the effect of entering a TAG center in Grade 2 or later will provide insight on whether TAG students benefit from being identified as TAG in Grade 1 and entering a center in Grade 2.

We used Grade 5 end-of-year proficiency in reading and math measured by PARCC as a proxy for readiness for middle school. For the purpose of our analyses, we considered levels 4 or 5 to be proficient but also included levels 3, 4, or 5 in the descriptive statistics discussed below to provide additional information about students' achievement. The analysis was based on data from students who were identified as TAG in Grade 1 in SY11 or SY12 (and who were in Grade 5 in SY15 or SY16). Table 14 displays the descriptive statistics for the average PARCC proficiency rate for this sample across SY15 and SY16. The table also includes the overall Grade

5 PARCC achievement for the district and for non-TAG students for context. It is important to note that the proficiency rates presented in Table 14 are purely descriptive and do not account for differences in student characteristics. The estimated proficiency rates, which do control for pre-TAG characteristics, are discussed in the next section.

**Table 14: Grade 5 End-of Year Reading and Math Proficiency for Sample, SY15 and SY16**

Achievement	PARCC Reading (Levels 4 and 5)		PARCC Math (Levels 4 and 5)		PARCC Reading (Levels 3,4, and 5)		PARCC Math (Levels 3,4, and 5)	
	#	%	#	%	#	%	#	%
<b>All TAG Students<sup>2</sup> (n= 1,818)</b>	1,138	62.60	984	54.13	1,625	89.38	1,550	85.26
<b>Non-Center (n= 1,248)</b>	784	62.82	697	55.85	1,115	89.34	1,062	85.10
<b>Center (n = 570)</b>	354	62.11	287	50.35	510	89.47	488	85.61
Grade 2 entry (n=423)	250	60.53	207	50.12	373	90.31	355	85.96
Grade 3/4 entry (n=152)	97	66.90	75	51.72	127	87.59	123	84.83
<b>All PGCPs Students (n=18,581)</b>	4,266	23.29	3,126	16.82	9,899	53.11	8,102	43.47
<b>All non-TAG Students (n=15,861)</b>	2,504	16.11	1,592	10.07	7,383	46.55	5,695	35.91

Overall, between 50 percent and 67 percent of the TAG students in the sample demonstrate PARCC proficiency in reading and math, compared to an overall district Grade 5 proficiency of between 17 and 23 percent and a Grade 5 proficiency of non-TAG students between 10 and 16 percent. See Table 14. Thus, it is clear that the TAG students are meeting proficiency at much higher levels compared to non-TAG students. TAG students, regardless of center or non-center placement or center entry timing had similar proficiency levels with most differences in percentages being relatively small. However, a slightly higher percent of non-center TAG students were proficient in reading and math compared to center TAG students. In addition, a somewhat higher percent of students entering a TAG center later (grades 3 or 4) were proficient in reading and math compared to those who enrolled in Grade 2. Finally, a very high percentage of TAG students (between 85 and 89 percent) for SY15 and SY16 combined achieved levels 3 or higher on the PARCC reading and math assessments. We cannot simply attribute the difference in proficiency to TAG center enrollment or second grade entry without considering the socio-demographic characteristics of students in both cases. As discussed in the methods section, we estimated proficiency rates that take into account these observed differences to establish whether TAG center students (vs. non-center) and Grade 2 entry into center (vs. Grade 3 or 4 entry) performed differently on Grade 5 PARCC assessments. The results are discussed in the following section.

<sup>2</sup> This number only includes students who were identified as TAG in Grade 1.

## Estimating Differences in Grade 5 Achievement by TAG Placement and Center Entry

We ran two separate models to address the second and third research questions. These models estimated the effects of TAG center enrollment (center TAG vs. non-center TAG students) and TAG center entry (Grade 2 entry vs. Grade 3 or 4 entry student) on middle school readiness using the treatment effect with propensity score matching function in Stata (as explained in the Analysis section above).

Tables 15 and 16 display the results from the analyses. The estimated proficiency rates represent the average proficiency rate for reading and for math for attending a TAG center (research question 2) or for entering a TAG center in Grade 2 (research question 3). According to the results for research question 2, if all students attended a TAG center, they would have an average proficiency rate of 63 percent in reading and 53 percent in math, and if all TAG students did not attend a TAG center, they would have an average proficiency rate of 63 percent in reading and 56 percent in math. See Table 15. This indicates that there is no impact of TAG center attendance on reading proficiency; however, the math proficiency rate would be approximately 3 percentage points lower if all students had attended a TAG center when compared to a scenario in which all students attended a non-center school. The program effects (i.e., the differences in the proficiency rates) for both reading and math are not statistically significant at  $p < 0.05$ .

**Table 15: Average Proficiency Rates for Research Questions 2**

Research Question 2: Center TAG vs. Non-Center TAG students	Average Proficiency Rate		Impact: Diff in Proficiency Rates	p-value	N
	If <u>All</u> attended Center TAG	If <u>All</u> attended Non-Center TAG			
Reading	63.16%	63.07%	0.09%	.973	1,796
Math	52.78%	55.60%	-2.82%	.268	1,796

*Note.* Matching variables: gender, race/ethnicity, Grade1 FARMS, SPED, ESOL status, and Grade 1 OLSAT scores.

The results from research question 3 suggest that if all students had entered a TAG center in Grade 2 they would have had a lower average proficiency rate in reading and in math compared to entering a TAG center later by about 6 percent (60% for Grade 2 entry vs. 66% for Grade 3 or 4 entry) in reading and 2 percent (49% for Grade 2 entry vs. 51% for Grade 3 or 4 entry) in math, respectively. See Table 16. As with findings reported in the previous paragraph,

the program effects are not statistically significant at  $p < 0.05$ . More detailed output is included in Appendix 2 Table 19.

**Table 16: Average Proficiency Rates for Research Questions 3**

Research Question 3: Grade 2 Center entry vs. Grade 3 or 4 Center entry	Average Proficiency Rate		Impact: Diff in Proficiency Rates	p-value	N
	If <u>All</u> entered TAG Center in Grade 2	If <u>All</u> entered TAG Center in Grade 3 or 4			
Reading	59.90%	65.54%	-5.64%	.216	543
Math	48.51%	50.92%	-2.41%	.606	543

*Note.* Matching variables: gender, race/ethnicity, Grade1 FARMS, SPED, ESOL status, and Grade 1 OLSAT scores.

Because none of the differences are statistically significant (i.e., p-value is less than .05), we cannot conclude with sufficient confidence that attending a TAG center or that attending a TAG center starting at Grade 2 impacts the middle school readiness of TAG students. The results indicate that there is no significant difference in the probability of being prepared for middle school based on TAG center enrollment or TAG center entry timing. That is, students who receive TAG services are equally prepared for middle school regardless of the method of service delivery. Among students who start receiving TAG services in the second grade, receiving all TAG services in a center or enrolling in a center in Grade 2 does not make a difference for their readiness for middle school.

The results imply that being in TAG is likely to be beneficial to students regardless of school placement, as evidenced by the majority of the TAG students being proficient in math and reading in time for middle school. This is not particularly surprising; however, the results are encouraging as they demonstrate TAG students are likely to be provided high-quality academic services regardless of whether they are in a TAG Center or a neighborhood school or specialty or charter school. In fact, results from the survey discussed above suggest that most TAG parents are satisfied with the TAG program regardless of placement.

## IV. SUMMARY AND CONCLUSION

A summary of the findings discussed in the previous sections along with conclusions are presented here.

### A. Lottery Applications and TAG Center Under-Enrollment

A goal of the study was to understand the reasons for second grade under-enrollment in TAG Centers in PGCPs. The evidence gathered in this report indicates that the main source of under-enrollment in the TAG centers seems to be a result of the declining number of the TAG lottery applicant pool (i.e., TAG-identified students) into the lottery, especially in SY16. The data gathered in this study indicates that the number of TAG-identified students was the lowest for SY16 and, on average, around 40 percent of parents of first grade TAG-identified students applied for the lottery in the last eight school years. The trend data shows that the placement rate to join a center have dramatically increased over the eight school years investigated. In SY09, a little over half of applicants were offered a placement in a TAG center during the first round of selection. Since SY13, the odds of winning placement in a TAG center have become almost a certainty, resulting in the fact that those who apply to the lottery are practically guaranteed a seat in the TAG centers. The data also demonstrates that the proportion of parents who accepted the placement offer to enroll their students in a TAG center increased from 53 percent in SY09 to 82 percent in SY16. Overall, the eight year aggregate acceptance rate is 73 percent with SY16 having the highest acceptance rate.

The data also shows that as the enrollment capacity of TAG centers increased over the years, the number of applications into TAG centers declined. For the SY15 and SY16 lottery, all TAG centers were undersubscribed: the enrollment capacity exceeded the number of applications. For example, the number of applications for SY16 was 22 percent fewer than the number of available spaces at the TAG centers. Without taking the feeder pattern into TAG centers into account, the number of applications should have been 598 for the SY16 lottery in order for the centers to fill all their spots through the lottery system. Therefore, the number of applications required for full capacity enrollment accounts for 86 percent of TAG-identified first graders. This requires more than doubling the number of lottery applicants, which were 294 for SY16. Since SY13, the number of applications for the school-wide TAG centers grew to be twice as much as the applications for the school-in-school TAG centers. This trend continued into SY16, when school-wide centers received two and half times more applications than school-in-school centers. Thus, the decline in lottery applications is a much bigger problem for school-in-school centers than it is for school-wide centers.

The second source of under-enrollment is related to the decisions parents make after they are offered placement into TAG centers. The rate of parent acceptance dramatically increased from 53 percent for SY09 to 82 percent for SY16. In addition, across these eight schools years, about a quarter of parents declined placement or failed to meet post-lottery deadlines to register their children in the assigned TAG centers. In SY15 and SY16, of those parents who did not accept placement, about three-fourths missed deadlines for submitting necessary paperwork. In sum, TAG centers remain under capacity by about 33 percent on the aggregate, with under-enrollment at about 50 percent in four of six school-in-school TAG centers.

## **B. Parent Perceptions of Lottery Participation and TAG Center Enrollment**

Over a third (35%), or 268, of the parents of TAG-identified students who responded to the survey reported that they have never applied to a TAG center lottery. About 60 percent of parents reported that they participated in the TAG center lottery in spring 2014, 2015, or 2016. A small percentage of parents (4%) had children who attended a TAG center but have never applied to the lottery. The survey asked those 268 parents who have never participated in the TAG center lottery (and were not currently in a center) the reasons why they chose not to participate. The data indicates that lack of awareness (35%) and a lack of information about the TAG center (27%) are the top two reasons for not participating in the lottery. Thus, one can infer that the low participation in the TAG center lottery can be attributed, in part, to lack of awareness and lack of information. Beyond the lack of awareness about the TAG centers, many parents expressed a lack of interest in the TAG center because of the following: preference for the neighborhood school (26%), dissatisfaction with the distance to the TAG center (17%), a desire to not separate siblings (16%), and the decision to enroll child in a charter or specialty school (14%). In sum, the reasons for TAG parents not pursuing a TAG center experience can be categorized in two major issues: lack of awareness and lack of interest.

Half (50%) of the parents who responded to the survey had a child who was enrolled in a TAG center. The reasons why parents chose to enroll their child in a TAG center are not surprising. A high majority (73%) of the parents reported that the TAG center would provide the best opportunities, about 57 percent of parents reported that the TAG center provides high-quality TAG services. Many of the parents also expressed dissatisfaction with their child's neighborhood school, including that their child was not being challenged (46%), the TAG services offered in the neighborhood school were not good enough (37%), and that the neighborhood school was not reputable (18%). About 38 reported that they were being strategic by enrolling their child in a TAG center so that their child can automatically be placed in a TAG center in middle school.

Parents were asked report in the survey how informed they were about the TAG Program, TAG centers, and the TAG identification and center lottery process. Overall, most parents reported that they only knew a little bit or not much at all about the TAG services provided at the neighborhood school (83%) and at the TAG center (80%). As expected, those parents who didn't participate in the lottery reported lack of knowledge about the TAG program and services at a higher rate. About 88 percent and 93 percent of parents did not participate in the lottery reported knowing little or not much about neighborhood school TAG and center TAG compared to 80 percent and 71 percent of parents who participated in the lottery. Around 66 percent of parents agreed that the TAG identification process was clearly explained to them. There was not much of a difference by lottery participation. On the other hand, only 47 percent of parents who did not participate versus 67 percent of parents who did felt that the next steps to apply to the lottery to enroll their child in a TAG center were clearly explained.

Relative to parents who did not participate in the lottery, a higher percent of those parents who participated in the lottery reported receiving the parent information packet (66% of lottery participators vs. 55% of non-participants) as well as being informed of their child's TAG identification in time for the lottery (73% of lottery participators vs. 43% of non-participators). Interestingly, a small portion of parents reported receiving information from the neighborhood school's TAG coordinator (34% of lottery participators vs. 28% of non-participators), suggesting that TAG coordinators may need additional support and resources to enhance the dissemination of TAG information to parents. It is clear from the survey data that it would be beneficial to the parents to improve the communication and information provided from the district and schools.

However, the lack of interest issue is more complicated. On one hand, parents expressing that they are not interested in the TAG center because they prefer the neighborhood school for many positive reasons (e.g., it is reputable, provides high-quality TAG services, is a better fit) is reassuring. On the other hand, parents expressing they are not interested in the TAG center because of lack of TAG center options and dissatisfaction with the TAG center model or curriculum may be an issue that the district would want to address. A reevaluation of the number of centers available, the locations of those centers, as well as of the curriculum and model used in the TAG centers may be useful.

### **C. TAG Student Middle School Readiness**

The purpose of the second and third research questions was to examine whether TAG students enrolled in centers are better prepared for middle school compared to other TAG

students. We also examined whether the timing of entry in a TAG center had an impact on middle school preparedness. We used Grade 5 end-of-year proficiency in reading and math measured by PARCC as a proxy for readiness for middle school. The results indicate that there is no significant difference in the probability of being prepared for middle school based on TAG center enrollment or TAG center entry timing. Students who receive TAG services are well prepared for middle school regardless of the method of TAG service delivery or commencement of TAG services.

## V. RECOMMENDATIONS

Based on the findings presented in this report, R&E makes the following recommendations:

- **Improve the dissemination of information about the TAG program, TAG lottery, and TAG Center.** It is clear from the findings from this study that many parents of TAG students feel that they are not fully informed about the TAG services provided in the district. Many parents included comments stating that they needed more information about TAG or they did not feel like they were able to make informed decisions about their TAG child regarding Center enrollment. It would be beneficial for the district to implement new ways of disseminating information (e.g., through webinars, new TAG parent orientations, or Town Hall meetings) about and communicating with parents about TAG program and services (through direct emails and text reminders to parents in addition to sending notes home with students).
- **Ensure TAG identification is completed before the lottery deadline and parents are informed about their children’s TAG status and the opportunity to apply to a TAG center.** It is clear from the findings from this study that some students were formally recorded as TAG after the application for the lottery had closed. The data from the parent survey also demonstrates that parents express concerns with the disseminating of TAG information in a timely manner. It is important to make sure the process of identification for TAG is complete and parents are informed in advance of the lottery.
- **Adopt universal lottery for all TAG identified first graders.** The results from the analysis of the TAG center application and placement data indicate that in order for TAG centers to be filled to full capacity via lottery, at least 75 percent of the newly identified TAG first graders must be entered into the center lottery. As the district works on improving parent awareness of the lottery, the most practical solution to the problem of under-subscription in the TAG centers is to implement a universal lottery where all TAG-identified students are automatically entered into the lottery and parents of selected students will then opt-in or opt-out. This would also ensure equity in access to the TAG centers.
- **Consolidate TAG centers and rearrangement of TAG feeder patterns.** According to the results, under-enrollment is about 50 percent in four out of the six school-in-school TAG centers. In addition, many parents reported that the distance to their

assigned TAG center was a barrier to enrolling their child in a center. It would be beneficial for the district to re-examine the locations of the TAG centers and the center feeder patterns to ensure they are responsive to the distribution of TAG-identified students and parent concerns of transportation.

- **Establish a system of accountability that monitors the implementation of TAG services at neighborhood schools.** Parents' perception of their neighborhood school's TAG program differed by program model (Pull-out vs. TRC) and by school. Many parents were pleased with the TAG services at the neighborhood school, while others commented that TAG services provided at their neighborhood school were inconsistent or nonexistent. Thus, it is important to ensure that all TAG students regardless of school placement receive high-quality TAG services. It would be useful for the district to establish a monitoring system that ensures that there is consistency in the delivery of TAG services, to the extent that is possible, across all elementary schools.

## Appendices

### Appendix 1: TAG Parent Survey

#### Survey for Parent of Talented and Gifted (TAG) Students

**\*\*As a reminder, we are asking about your TAG-identified child named in your invite email. Please keep this in mind as you complete the survey.\*\***

#### **Thank you for taking the time to complete the TAG Parent Survey!**

Why are you asking for my input? The Research and Evaluation unit of the Prince George's County Public School System is conducting a research study on the Talented and Gifted (TAG) Program for elementary students. An important component of this study is the survey of parents of TAG students. You have been invited to complete this survey because you have a TAG child who was identified in Grade 1 and is currently in Grade 2, Grade 3, or Grade 4. The feedback you will provide in the next 20-25 minutes will provide useful information about the district's elementary TAG program. You may have more than one TAG identified child attending Prince George's County Public Schools, please complete this survey in relation to the child referenced in the email. Please complete the survey by Monday, November 28, 2016 by 11:59 pm.

**Will you be reporting out my personal responses?** Your candid responses are invaluable to this process; rest assured that your responses are confidential. Individual responses will not be shared. All survey responses are confidential and will only be reported in a group format.

**How will I know how my responses are used?** A report will be prepared by the Research and Evaluation Unit to report out everything we learned about the elementary TAG program

#### **What school does your TAG-identified child attend this year?**

Once you click the drop-down box, you can start typing to find the school faster.

#### **What is the current grade level of your TAG-identified child?**

- 2nd Grade
- 3rd Grade
- 4th Grade

#### **What TAG services does your child receive at his or her school?**

- TAG Pull-Out
- TAG in the Regular Classroom
- I don't know which TAG services she or he are receiving.
- My child does not receive any TAG services at his or her school.

**Think back to when your child was first identified as TAG, how did you first find out he or she was identified as TAG?**

Select all that apply.

- A letter was sent from my child's school
- My child's first grade teacher told me
- The TAG coordinator at my child's school told me
- I reached out to my child's school
- I did not know until after he or she was receiving TAG services
- Other, please specify... \_\_\_\_\_

**TAG Identification Process**

**Please respond to the following statements.**

- |   | Yes                   | No                    | I don't<br>remember   |
|---|-----------------------|-----------------------|-----------------------|
| a. When your child was identified, did you receive the parent information packet explaining the TAG program in the district?  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. During the year your child was identified as TAG, were you informed that your child was TAG before the TAG center lottery application deadline?                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. During the year your child was identified as TAG, did the TAG coordinator in your child's neighborhood school communicate with you about services provided in the TAG program? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**How accessible to you has information been about the TAG program?**

- Easily Accessible
- Somewhat Accessible
- Not at all Accessible

**Please indicate the extent to which you agree or disagree with each statement.**

- |   | Strongly<br>Agree     | Agree                 | Disagree              | Strongly<br>Disagree  |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| a. The TAG identification process (i.e., how students are identified as TAG) was clearly explained to me as a parent. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

- b. After my child was identified as TAG, the next steps to apply to the lottery to enroll him or her in a TAG center were clearly explained to me.
- c. Based on my child's experience, I believe it is appropriate to test and identify students as TAG in Grade 1.
- d. Based on my child's experience, I believe students should not be tested for TAG until Grade 2 or later.
- e. Once a student is identified as TAG, I believe he or she should always be TAG and not have to be retested.

### **TAG Center Lottery and Enrollment Process**

**Please respond to the following statements.**

- |   | A<br>lot              | A little<br>bit       | Not<br>much           |
|---|-----------------------|-----------------------|-----------------------|
| How much do you currently know about the TAG services and enrichment opportunities offered at your neighborhood school? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| How much do you currently know about the TAG services and enrichment opportunities offered at a TAG center?             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**Think back to when your child was first identified as TAG, how did you find out about the TAG Center?**

Select all that apply.

- Information was sent home from the neighborhood school (parent information packet)
- My child's kindergarten or first grade teacher talked to me about it
- I attended a TAG open house
- Word-of-mouth from other parents
- I read about it on the district's TAG website
- I did not know about the TAG Centers until after the TAG lottery deadline
- Other, please specify... \_\_\_\_\_

**When did you participate in the lottery to enroll your child in a TAG Center?**

If you did apply for the lottery, we will ask you about the results of the lottery on the next page.

- I applied for the Spring/Summer 2014 lottery for possible placement in a TAG Center in Fall 2014.
- I applied for the Spring 2015 lottery for possible placement in a TAG Center in Fall 2015.
- I applied for the Spring 2016 lottery for possible placement in a TAG Center in Fall 2016.
- I have never applied for the TAG Center lottery.

**Although your child is not currently enrolled in a TAG Center, have you ever enrolled your child in a TAG Center at some point?**

- Yes
- No

**If Yes, Why did you decide to transfer your child out of a TAG Center?**

### **TAG Center Lottery and Enrollment Process**

**You indicated that your child was enrolled in a TAG Center, when did you participate in the lottery to enroll him or her in the TAG Center?**

- I applied for the Spring/Summer 2014 lottery to enroll my child in a TAG Center in Fall 2014.
- I applied for the Spring 2015 lottery to enroll my child in a TAG Center in Fall 2015.
- I applied for the Spring 2016 lottery to enroll my child in a TAG Center in Fall 2016.
- I have never applied for the TAG Center lottery. The TAG Center is the neighborhood school.

**Why have you not applied for the lottery to enroll your child in a TAG center?**

Select all that apply.

- a. Was not aware of the TAG Center lottery
- b. Not given enough information about the TAG center
- c. My child would have been assigned to a TAG Center that would not be my choice
- d. My child was not ready to enroll in a TAG center
- e. Already have a child enrolled in the neighborhood school and don't want to separate my children
- f. TAG Center is too far from home/bus ride would be too long
- g. The TAG center in my area is not reputable or does not provide high-quality TAG services

- h. The TAG center in my area is not a dedicated TAG Center
- i. Prefer the neighborhood school because it already has high-quality TAG services
- j. Prefer the neighborhood school because it is high-performing/has a good reputation
- k. Decided to enroll my child in a charter school or specialty school
- Other, please specify... \_\_\_\_\_

**After applying to the lottery, why did you decide to not to enroll your child in a TAG center?**

Select all that apply.

- a. I entered the lottery but my child was not accepted or was put on the wait-list.
- b. My child was selected via the lottery, but I missed the deadline to accept his/her placement
- c. My child was assigned to a TAG center that was not my choice
- d. I decided that my child was not ready to enroll in a TAG center
- e. TAG Center is too far from home/bus ride would be too long
- f. TAG center in my area is not reputable or does not provide high-quality TAG services
- g. Prefer the neighborhood school because it already has high-quality TAG services
- h. Prefer the neighborhood school because it is high-performing/has a good reputation
- i. Decided to enroll my child in a charter school or specialty school
- Other, please specify... \_\_\_\_\_

**Why did you choose to enroll your child in a TAG center?**

Select all that apply.

- a. TAG center provides high-quality TAG services
- b. TAG Center would provide the best opportunities for my child
- c. The neighborhood school was not offering good enough TAG services
- d. My child was not being challenged in his or her neighborhood school
- e. The neighborhood school is not reputable or is known for being low-performing
- f. I wanted my child in an elementary TAG Center so they would be able to be in a TAG Center in middle school
- g. The TAG Center is the neighborhood school
- Other, please specify... \_\_\_\_\_

Please explain in further detail why you did not participate in the TAG Center lottery.

Please explain in further detail why you decided to not enroll your child in a TAG Center.

Please explain in further detail why you decided to enroll your child in a TAG Center.

Do you plan to enroll your child in a TAG Center in the future?

	Yes/No	Please explain your answer
Do you plan to enroll your child in a TAG Center later on?	<input type="radio"/> Yes	<input type="text"/>
	<input type="radio"/> No	

What are your concerns, comments, or suggestions for improvements for the district’s TAG identification and TAG Center enrollment process?

**Perceptions of the TAG Program and Program Effectiveness**

To what extent do the TAG classes provide enough challenge to your TAG identified child in the following subject areas?

	To a Great Extent	Adequately	Somewhat	Not at all	Do Not Know
Language Arts/English	<input type="radio"/>				
Mathematics	<input type="radio"/>				
Science	<input type="radio"/>				
Social Studies	<input type="radio"/>				

Please indicate the extent to which you agree or disagree with each statement.

Strongly Agree	Agree	Disagree	Strongly Disagree
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- a. Participation in TAG has positively influenced my child's enthusiasm for learning.
- b. Participation in TAG has influenced my child to value the process of learning.
- c. My child is adequately prepared for the advanced curriculum expected of him or her.
- d. Participation in TAG is meeting my child's academic needs.

**Perceptions of the TAG Program and Program Effectiveness**

**Please indicate the extent to which you agree or disagree with each statement.**

- |   | Strongly Agree        | Agree                 | Disagree              | Strongly Disagree     |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| a. TAG provides challenges for my child to develop critical and creative thinking skills.                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. I believe my child is becoming more of an independent learner by participating in TAG.                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. I feel my child benefits by being grouped with students of similar academic interests and abilities.                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. The TAG services my child receives has been effective in improving my child's academic achievement.                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. I have been provided with information about the content of the curriculum taught in TAG.                             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. The amount of the work my child completes in TAG is appropriate for his or her learning level.                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. The type of work (e.g., level of difficulty) my child completes in TAG is appropriate for his or her learning level. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. The TAG teacher communicates and collaborates with me about my child's learning needs.                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**How well is the TAG program implemented in your child's school?**

- Very well

- Well Enough
- Somewhat
- Not well at all
- I don't know

**What is your overall perception of TAG in your child's grade level?**

- Very Positive
- Positive
- Neutral
- Negative
- Very Negative

**You indicated that your child is not receiving TAG services at school. Do you believe that the curriculum at your child's school meets his or her academic needs? Why or why not?**

**What are your concerns, comments, or suggestions for improvements for the district's TAG program?**

## Appendix 2: Supplemental Data

Table 16 displays the proportion of selected demographic groups that were identified as TAG; that applied to the lottery and the percentage difference between the demographic group's proportion in the applicants; and its proportion in the TAG identified. [Overall, the demographic characteristics of TAG-identified students in Grade 1 in the last eight years (i.e., SY09 through SY16) were: 48 percent male, 65 percent Black, 19 percent Hispanic and 46 percent FARMS. In contrast, the demographic characteristics of all first graders during the same period were: 51 percent male, 61 percent Black, 30 percent Hispanic and 67 percent FARMS. (See Table 17 for a description of the demographic composition the first grade population from SY09 to SY16). These statistics suggest that, on the aggregate, the TAG student population tends to be female, Black, non-FARMS and non-Hispanic. Parents of Black, Female, non-FARM TAG students apply to the lottery at higher rate than their proportion of TAG identification. Parents of Hispanic and FARMS students consistently applied at a lower rate into the lottery.

**Table 17: Difference in the Demographic Characteristics of Lottery Applicants and TAG identified Students, SY09-SY16**

Student Characteristics	SY09			SY10			SY11			SY12		
	TAG-Elig	Appl.	% Diff									
Percent Male	48.8	45.2	-3.6	47.1	42.7	-4.4	45.8	47.9	2.1	47.1	46.7	-0.4
Percent African American/Black	65.1	79.1	14	66.6	74.2	7.6	66.8	77.3	10.5	63.1	75.2	12.1
Percent White	15.5	10.3	-5.2	12.7	8.6	-4.1	16.0	11.3	-4.7	21.6	12.7	-8.9
Percent Hispanic	20.5	10.3	-10.2	21.1	14.1	-7	19.2	10.1	-9.1	22.6	12.7	-9.9
Percent FARMS	45.6	42.2	-3.4	46.3	42.4	-3.9	46.4	36.6	-9.8	49.2	45.8	-3.4
Percent ELL	0.1	0.0	-0.1	0.1	0.0	-0.1	0.2	0.0	-0.2	0.4	0.0	-0.4
Percent SpEd	1.0	0.8	-0.2	1.2	1.0	-0.2	1.2	1.7	0.5	1.6	1.5	-0.1
Student Characteristics	SY13			SY14			SY15			SY16		
	TAG-Elig	Appl.	% Diff									
Percent Male	43.3	43.0	-0.3	42.8	42.0	-0.8	39.7	37.6	-2.1	43.1	43.5	0.4
Percent African American/Black	68.2	75.9	7.7	62.0	70.9	8.9	65.9	75.7	9.8	61.1	65.6	4.5
Percent White	23.4	16.6	-6.8	28.4	18.6	-9.8	26.3	16.3	-10	30.2	24.1	-6.1
Percent Hispanic	15.7	9.8	-5.9	17.8	10.6	-7.2	15.4	7.5	-7.9	17.1	13.0	-4.1
Percent FARMS	46.3	44.0	-2.3	43.0	38.3	-4.7	45.9	41.3	-4.6	40.4	38.8	-1.6
Percent ELL	0.4	0.3	-0.1	3.7	1.7	-2	8.4	4.3	-4.1	7.3	4.4	-2.9
Percent SpEd	1.1	1.3	0.2	1.1	1.1	0	2.1	2.1	0	2.2	2.0	-0.2

**Table 18: Demographic Characteristics of first grade cohorts, SY09-SY16**

Student Characteristics	SY2009	SY2010	SY2011	SY2012	SY2013	SY2014	SY2015	SY2016
<b>Percent Male</b>	51.3	51.2	51.6	51.2	51.6	51.5	51.1	50.6
<b>Percent African American/Black</b>	66.3	63.9	63.1	62.0	61.7	58.9	58.5	56.9
<b>Percent White</b>	25.2	9.5	11.8	19.9	30.0	35.0	34.2	36.9
<b>Percent Hispanic</b>	-	27.1	27.2	28.1	28.8	32.1	32.8	34.7
<b>Percent FARMs</b>	56.8	62.4	64.3	67.2	69.1	70.4	72.5	70.7
<b>Percent English language learners</b>	22.5	23.9	27.2	28.2	27.0	28.5	31.3	33.0
<b>Percent Special Ed.</b>	8.0	8.8	9.0	8.7	8.7	8.5	9.2	9.4

**Table 19: Average Treatment Effects of Middle School Readiness**

	Coef.	p-value	N	Std. Error	Effect Size
<b>Research Question 2: Center TAG vs. Non-Center TAG students</b>					
Reading	.0009	.973	1,796	.025	-.02
Math	-.0282	.268	1,796	.026	-.10
<b>Research Question 3: Grade 2 Center entry vs. Grade 3 or 4 Center entry students</b>					
Reading	-.0564	.216	543	.046	-.13
Math	-.0241	.606	543	.047	-.07