

# Eye on Evaluation



EVALUATION AND RESEARCH DEPARTMENT



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## ACADEMICALLY GIFTED (AG) BASICS PROGRAM

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### ABSTRACT

*This study focuses on access to and academic effectiveness of the Academically Gifted (AG) Basics Program at four magnet schools in the Wake County Public School System (WCPSS). The magnet schools are Fuller and Hunter elementary schools and Carnage and Ligon middle schools. Although AG-identified students receive special instruction at all WCPSS schools, the services in AG Basics schools are different in structure and intensity. Magnet application data for the 2005-06 school year show that the AG Basics Program is attracting students from all areas of Wake County; however, the percentage of applications accepted does vary somewhat by region. The performance of AG students at these schools, as measured by the End-of-Grade (EOG) exams, is relatively similar to other AG students in WCPSS schools. Additional measures of academic performance are not examined. Based on EOG results, AG students appear to have access to a quality education throughout WCPSS. This study also shows strong performance in reading and mathematics among all Level IV students regardless of the school they attend; however, all Level IV students have room for improvement.*

### BACKGROUND AND SUMMARY

This evaluation was conducted in response to a request made by the Wake County Board of Education. Several board members raised questions regarding access to and academic effectiveness of the Academically Gifted (AG) Basics Program at four magnet schools in the Wake County Public School System (WCPSS). The AG Basics Program is offered in conjunction with the Gifted and Talented (GT) Program at Fuller and Hunter elementary schools and Carnage and Ligon middle schools.

#### Key Topics

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The authors would like to acknowledge the intellectual contributions from Nancy Baenen and David Holdzkom, *WCPSS Evaluation and Research Department*.

Five key questions were formulated to address the Board's request. The first four questions address issues related to students who are academically gifted, whereas the final question examines the achievement of all Level IV students. Results presented are based on analyses of WCPSS student data over several years: 2003-04, 2004-05, and 2005-06.

**Question 1: What type and level of services are provided through the AG Basics Program compared to AG services in other schools? Do students in the AG Basics Program get more service?**

Academically Gifted students receive special instruction at all WCPSS schools. However, the structure and intensity of services in the schools with the AG Basics Program are substantially different. Students in the AG Basics Program are grouped with other AG-identified students for accelerated instruction in all four basic subjects: mathematics, language arts, science, and social studies. These students attend classes with non-AG students for their elective courses. At schools without the AG Basics Program, AG-identified students typically attend one or two supplemental classes per week in reading and/or mathematics in which they are grouped with other AG students. On the other days of the week, students receive instruction in these subjects in regular classes with other non-AG students. Options for instructional differentiation are matched to individual student's needs.

**Question 2: Is the AG Basics Program attracting students?**

Magnet application data for the 2005-06 school year show that AG Basics schools are attracting students from all areas of Wake County. Compared to other magnet schools, the AG Basics schools have higher-than-average application numbers. However, each school has a different acceptance rate, depending on the number of available magnet seats each year.

**Question 3: Do all areas of WCPSS have access to the AG Basics Program?**

All students in WCPSS can apply to magnet schools. The AG Basics Program serves students in the whole district, but the schools serve different geographic regions of the county. Depending on their place of residence, students who apply to the AG Basics Program are assigned to one of the elementary schools or one of the middle schools. Fuller serves the western and southern parts of the county, and Hunter serves the northern and eastern sections. Similarly, Carnage and Ligon receive applications from students residing in different sections of the county. The percentage of applications accepted varies somewhat by region of the county due to the criteria used by the school district in the magnet selection process.

**Question 4: Has the AG Basics Program been more effective in terms of achievement outcomes for students compared to other schools and to WCPSS overall?**

Despite the structure and intensity of the AG Basics Program, the academic performance of AG students at these schools, as measured by the End-of-Grade (EOG) exams, does not appear to be considerably different from other AG students in WCPSS. Overall, the expected and high growth composites of AG students attending AG Basics schools are similar to those of other AG students in WCPSS. On the basis of these findings, it appears that AG students have access to

high-quality AG instruction throughout WCPSS. Although the AG Basics magnet schools offer unique services to AG students, AG students attending other WCPSS schools also appear to be academically successful.

**Question 5: Do the distribution of EOG scores for Level IV students differ among AG Basics schools and WCPSS overall?**

EOG pre- and posttest results for 2004-05 show similar achievement patterns among Level IV students in AG Basics schools and those in other WCPSS schools. A slightly higher percentage of Level IV students who attend AG Basics schools scored within the highest Level IV range on Reading and Mathematics EOGs compared to similar WCPSS students. However, progress within Level IV ranges does not vary substantially. Similar percentages of students scored within a higher range or remained in the same range between pre- and posttests. The most variation was seen at the middle school level, perhaps indicating that Level IV students receive some additional benefits of attending an AG Basics middle school that are not measured in this report. Overall, EOG results show strong performance in reading and mathematics among all Level IV students regardless of the school they attend; however, the opportunity for improvement exists for all Level IV students, even the highest achievers. Educators should strive to continually challenge and motivate this group of students to realize their maximum potential.

## ACADEMICALLY GIFTED (AG) BASICS PROGRAM

### PROGRAM DESCRIPTION

The AG Basics Program is offered in conjunction with the Gifted and Talented (GT) Program at four magnet schools in WCPSS.

- Elementary Schools
  - Fuller
  - Hunter
- Middle Schools
  - Carnage
  - Ligon

Students participating in the AG Basics Program must qualify for differentiated services in Gifted Education, i.e., they must have been identified as Academically Gifted. Fuller and Hunter elementary schools offer the AG Basics Program for AG-identified 4<sup>th</sup>- and 5<sup>th</sup>-grade students. These schools also offer some AG services to students in kindergarten through 3<sup>rd</sup> grade, but the services are less structured and more flexible. Kindergarten through 2<sup>nd</sup>-grade students are not usually formally identified as AG; however students may be screened based on their gifted characteristics. Teachers then provide differentiated learning experiences to these students in their regular classroom. Third-grade students also receive a variety of in-class experiences designed to elicit high academic performance. Students who demonstrate potential in these activities may receive additional activities in language arts and mathematics under the guidance of the AG resource teacher. The AG Basics Program at Carnage and Ligon middle schools serves students in grades 6, 7, and 8. Enloe High School offers a continuation of this program through advanced courses and electives.

**Question 1: What type and level of services are provided through the AG Basics Program compared to AG services in other schools? Do students in the AG Basics Program get more services?**

The AG Basics program is based on research showing that academically gifted students have exceptional potential that must be recognized, nurtured, challenged, and expanded. All students identified as academically gifted receive differentiated services in WCPSS schools. However, the structure and intensity of services in the AG Basics schools are substantially different. The philosophy of the AG Basics Program is implemented through curriculum and instructional strategies that provide differentiated services based on students' academically gifted characteristics. Students in the AG Basics Program are grouped with other AG-identified students for accelerated instruction, according to their individual characteristics, in all four basic subjects: mathematics, language arts, science, and social studies. AG-identified students at these schools are also served through the GT Program, in which they participate in heterogeneously mixed classes for their elective courses.

Because of the nature of the AG Basics Program, the four schools that offer this program are allotted more AG-certified teachers than schools without this program. A half-time AG teacher is also allotted for K-3 students at Fuller and Hunter elementary schools. The instructional

services provided at the K-3 level are less structured and less intense than at grades 4 and 5. The K-3 level instructional services also typically involve flexible grouping based on teacher recommendations. In grades 4 through 8, the AG Basics Program is more structured, with AG students receiving instruction in the four core subjects in homogenously grouped classes taught by AG-certified instructors.

At schools without the AG Basics Program, AG-identified students typically attend one or two supplemental classes per week in reading and/or mathematics in which they are grouped with other AG students. On the other days of the week, students receive instruction in these subjects in their regular classes. Options for instructional differentiation are matched to individual students needs.

## STUDENT PARTICIPATION

Table 1 shows the number of students identified as Academically Gifted in reading and/or mathematics at the four AG Basics magnet schools for the 2005-06 school year.

- The majority of 4<sup>th</sup>- and 5<sup>th</sup>-grade students at Fuller Elementary and 6<sup>th</sup>- through 8<sup>th</sup>-grade students at Ligon Middle were AG-identified.
- Slightly fewer than half of 4<sup>th</sup>- and 5<sup>th</sup>-grade students at Hunter Elementary were AG-identified.
- Carnage Middle identified about one third of their students as AG.

**Table 1**  
**AG Students in the AG Basics Magnet Schools, 2005-06**

<b>Elementary Schools</b>	<b>Number of Students in Grades 4 and 5</b>	<b>Number of AG Students</b>	<b>% AG</b>
Fuller	200	105	52.5%
Hunter	256	118	46.1%
<b>Middle Schools</b>	<b>Number of Students in Grades 6-8</b>	<b>Number of AG Students</b>	<b>% AG</b>
Carnage	1,112	393	35.3%
Ligon	1,052	642	61.0%

Figure 1 provides the total number of AG students in the 84 WCPSS elementary schools during the 2004-05 school year.

- In 2004-05, the median number of AG students at WCPSS elementary schools was 47 students per school, with a range of 11 to 150.
- Compared to other elementary schools in the district without the AG Basics Program, the number of AG students at Fuller and Hunter was well above the median.
- Fuller and Hunter were among the elementary schools that had the largest numbers of AG students.
- Several year-round elementary schools, by virtue of their larger size, had more AG-identified students than Fuller and Hunter.

**Figure 1**  
**Number of AG Students in WCPSS Elementary Schools, 2004-05**

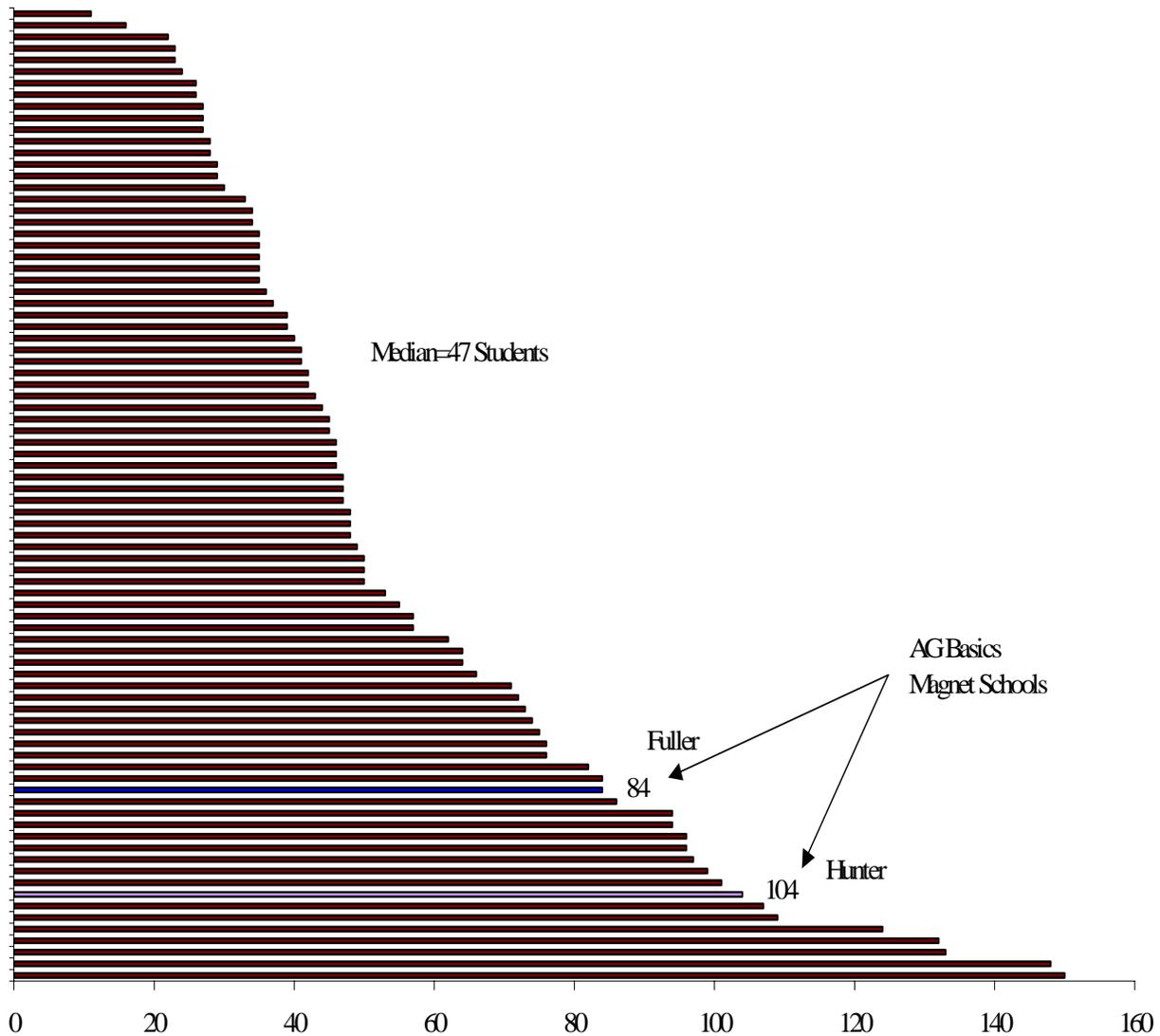
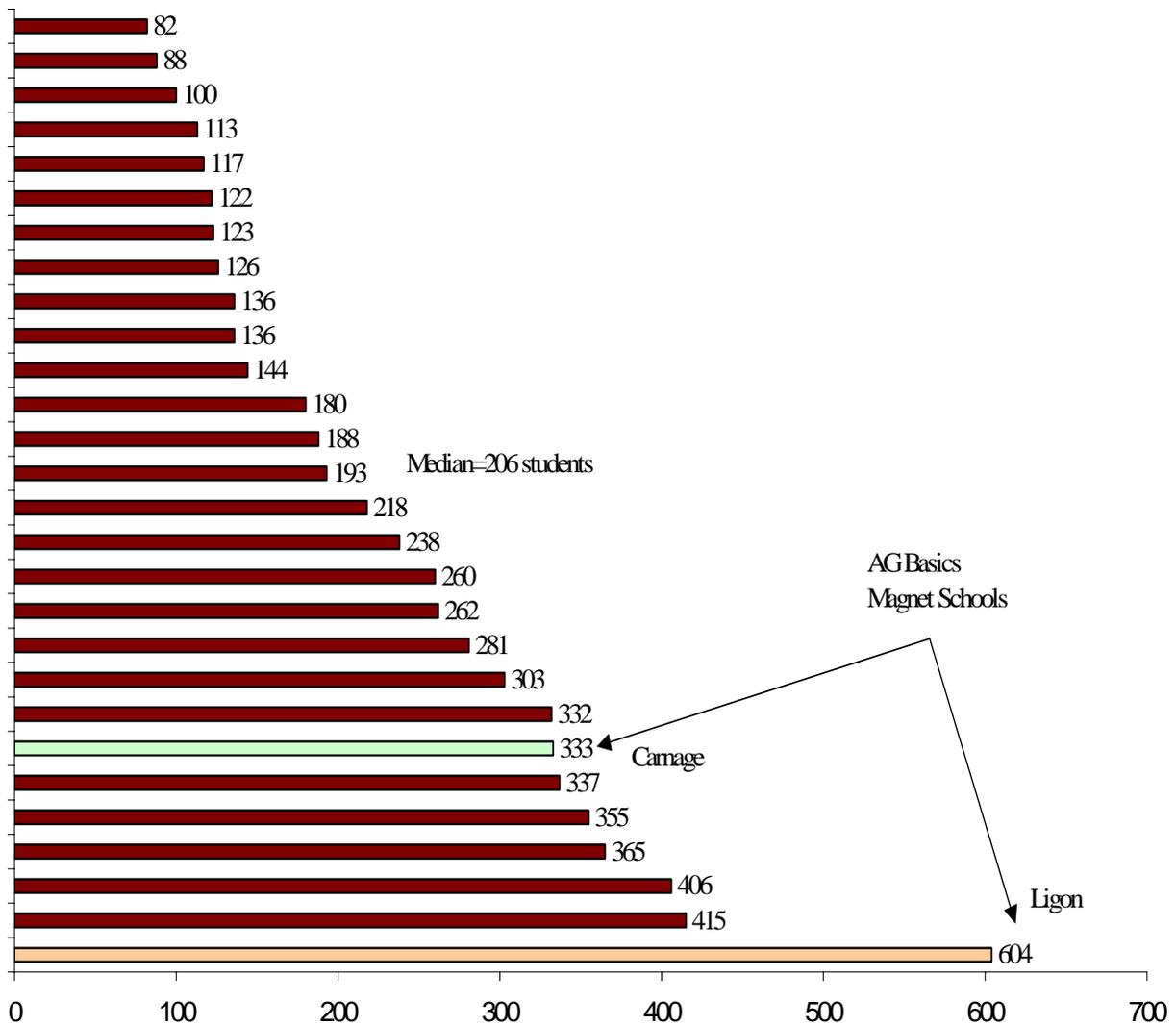


Figure 2 provides the total number of AG students in the 28 WCPSS middle schools during the 2004-05 school year.

- In 2004-05, the median number of AG students at WCPSS middle schools was 206, with a range of 82 to 604.
- Compared to other middle schools in the district without the AG Basics Program, the number of AG students at Carnage and Ligon was well above the median.
- The number of AG students attending Ligon was not only the highest among middle schools within the district, it was also substantially larger than other middle schools.
- Carnage was among the middle schools with the largest number of AG students.

**Figure 2**  
**Number of AG Students in WCPSS Middle Schools, 2004-05**



## PROGRAM ATTRACTIVENESS AND ACCESS

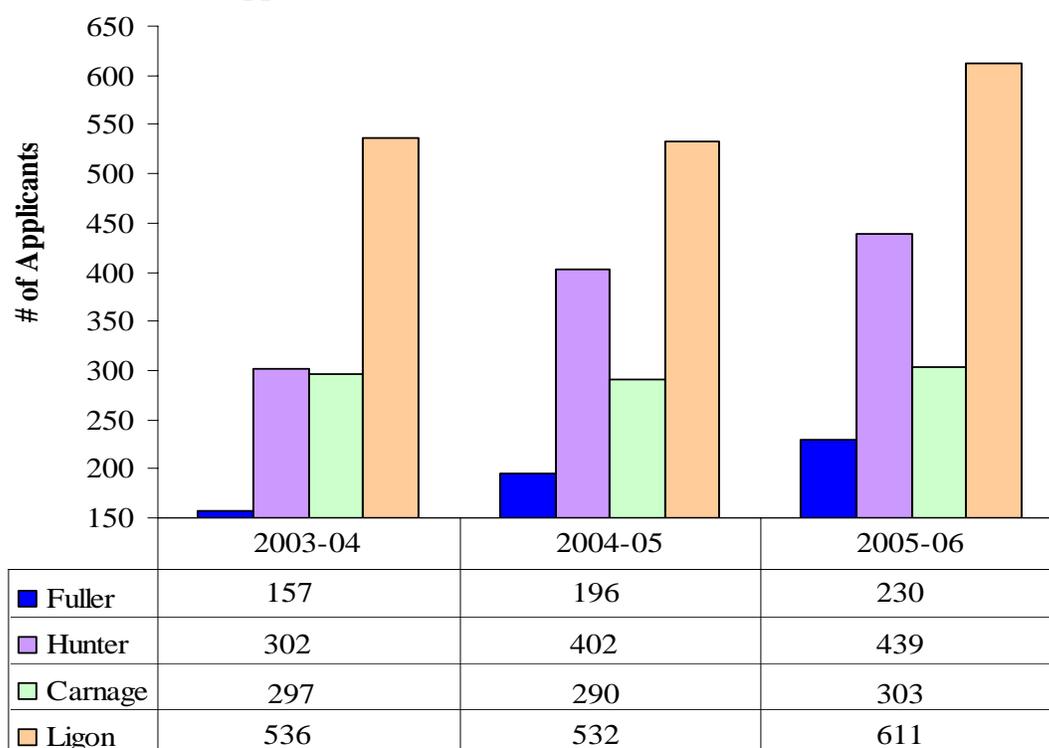
### Question 2: Is the AG Basics Program attracting students?

Fuller and Hunter elementary schools and Carnage and Ligon middle schools are among the oldest magnet schools in WCPSS. In addition to the AG Basics Program, these schools offer a variety of electives, including performing arts. The themes at these schools are designed to attract students from other schools in the district in order to accomplish system strategic objectives, such as efficient utilization of schools and socioeconomic diversity.

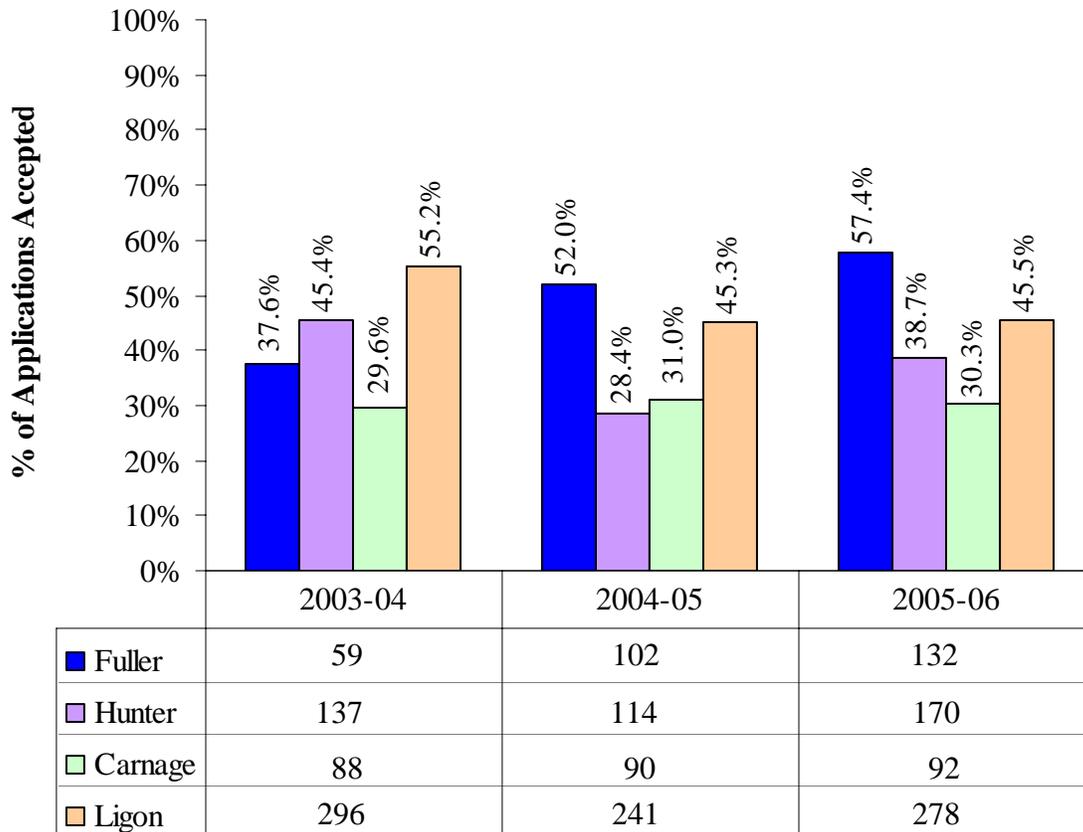
Based on a review of magnet application data over the past three years, the four AG Basics schools appear to be very successful in attracting students. Figure 3 shows the number of magnet applications to each AG Basics school, and Figure 4 presents the acceptance rates.

- All four schools had more than sufficient applicants to fill the magnet seats available.
- The number of students applying to Fuller and Hunter increased each year between 2003-04 and 2005-06.
- The number of students applying and accepted to Carnage remained steady over the three-year period.
- Ligon had a larger number of applications in 2005-06 than in prior years.
- As the number of students applying to Hunter and Ligon increased, the percentage of applicants accepted declined slightly.
- Larger numbers of applicants did not always lead to lower acceptance rates. Fuller accepted higher percentages of applicants each year between 2003-04 and 2005-06.

**Figure 3**  
**Total Applications to AG Basics Schools, 2003-04 to 2005-06**



**Figure 4**  
**Percentage of AG Basics School Applicants Accepted, 2003-04 to 2005-06**



**Question 3: Do all areas of WCPSS have access to the AG Basics Program?**

All students in WCPSS can apply to magnet schools. The AG Basics Program serves students in the whole district, with the schools serving different geographic regions of the county. Depending on their place of residence, students who apply to the AG Basics Program are assigned to one of the elementary schools or one of the middle schools. Fuller serves the western and southern parts of the county, while Hunter serves the northern and eastern sections. Similarly, Carnage and Ligon receive applications from students residing in different sections of the county.

Although there generally are no special performance standards or test scores required for admission to WCPSS magnet schools, admission to the AG Basics Program at the middle school level requires students to be identified as academically gifted. However, the selection of magnet students is based on a number of criteria, including applicant’s residential node and characteristics of the applicant’s base school, such as overcrowding, socioeconomic diversity, and academic achievement.

The WCPSS Magnet Programs web site lists the following criteria for acceptance into magnet schools:

- on-time application
- transportation patterns
- siblings
- school capacity
- classroom capacity
- diversity
- present magnet status of applicant

The WCPSS Department of Growth Management is responsible for operating the magnet application process. The department uses a computerized selection model to assign students priority points based on the above criteria. Ten percent of magnet seats are filled based on a random lottery.

Based on a review of magnet application data for 2005-06, the four schools with the AG Basics Program are attracting applicants from schools across the district. Table 2 shows the number of applicants applying to AG Basics schools, as well as the average and range in the number of applicants per base school.

- A total of 230 students from 35 different base schools applied to Fuller in 2005-06.
- Among these 35 base schools, the average number of students applying to Fuller was 6.6 students, and the range was 1 to 30.
- Ligon had the highest number of applicants from the largest number of base schools in 2005-06.
- Hunter had the highest average number of applicants per base school at 10.2.

**Table 2**  
**Applications to AG Basics Schools by Base School, 2005-06**

School	Number of Applicants	Number of Base Schools	Number of Applicants per Base School	
			Mean	Range
Fuller	230	35	6.6	1-30
Hunter	439	43	10.2	1-34
Carnage	303	52	5.8	1-16
Ligon	611	75	8.1	1-24

An examination of applications by Wake County school board districts, which are based on geographic areas of the county, confirms that students from throughout the county are applying to the magnet schools with AG Basics programs. As mentioned earlier, only 10% of the slots are filled by a random lottery. Therefore, variation in acceptance rates largely reflects the weighted criteria used by the district for strategic purposes.

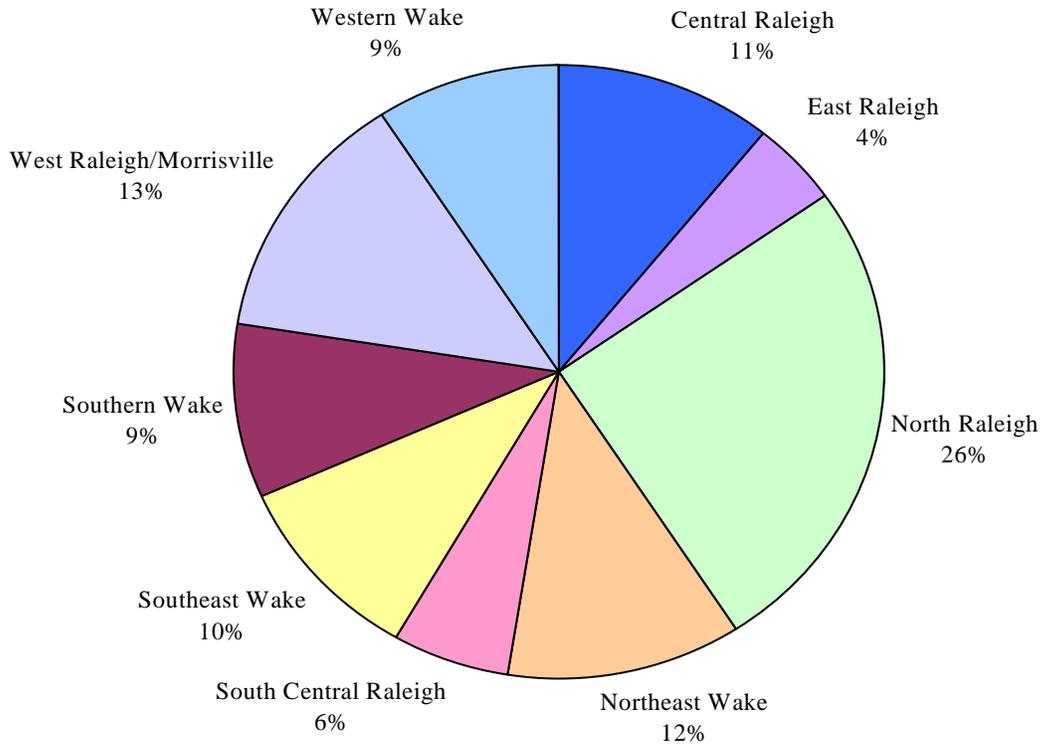
Figure 5 displays the percentage of applicants to Fuller and Hunter elementary schools by Wake County school board district for 2005-06. The acceptance rates for applications from different parts of the district are also noted.

- At the elementary level, students from North Raleigh represented the largest share of applications (26%).
- Applications were distributed more equally among the other board districts (between 9% and 13%), with the exception of the two districts where most of the other magnet schools are located, East Raleigh (4%) and South Central Raleigh (6%).
- The overall percentage of applications accepted at elementary schools with the AG Basics Program was 45.1%.
- The acceptance rate ranged from 6.7% for East Raleigh to 70.5% for Southern Wake and Western Wake.

Figure 6 shows the percentage of applicants to Carnage and Ligon middle schools by school board district for 2005-06 as well as the acceptance rates.

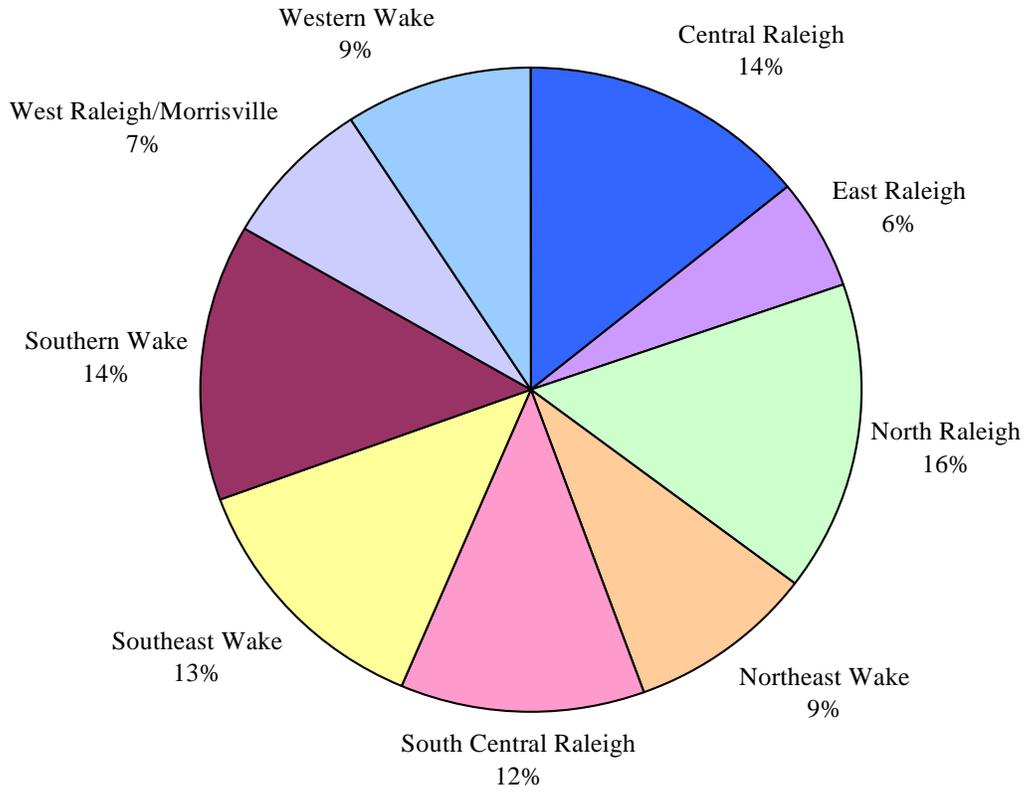
- At the middle school level, the geographic distribution of applications to the magnet schools with the AG Basics Program was evenly dispersed (the range was 6% to 16%).
- Among AG Basics middle schools, the overall percentage of applications accepted was 40.5%.
- In contrast to the elementary schools, acceptance rates at the middle schools fell into a much smaller range, from 25.2% for Southeast Wake to 48.8% for Western Wake.

**Figure 5**  
**Applications to Fuller and Hunter Magnet Elementary Schools**  
**By School Board District, 2005-06**



School Board District	Total Apps	Accepted	Denied	% Accepted
Central Raleigh	73	23	50	31.5%
East Raleigh	30	2	28	6.7%
North Raleigh	170	92	78	54.1%
Northeast Wake	78	18	60	23.1%
South Central Raleigh	40	11	29	27.5%
Southeast Wake	66	24	42	36.4%
Southern Wake	61	43	18	70.5%
West Raleigh/Morrisville	90	46	44	51.1%
Western Wake	61	43	18	70.5%
<b>Total</b>	<b>669</b>	<b>302</b>	<b>367</b>	<b>45.1%</b>

**Figure 6**  
**Applications to Carnage and Ligon Magnet Middle Schools**  
**By School Board District, 2005-06**



School Board District	Total Apps	Accepted	Denied	% Accepted
Central Raleigh	129	57	72	44.2%
East Raleigh	52	22	30	42.3%
North Raleigh	142	63	79	44.4%
Northeast Wake	82	38	44	46.3%
South Central Raleigh	111	52	59	46.8%
Southeast Wake	119	30	89	25.2%
Southern Wake	127	37	90	29.1%
West Raleigh/Morrisville	68	30	38	44.1%
Western Wake	84	41	43	48.8%
<b>Total</b>	<b>914</b>	<b>370</b>	<b>544</b>	<b>40.5%</b>

## STUDENT ACHIEVEMENT RESULTS

AG students at schools districtwide have been making consistent academic growth over the past four years at both elementary and middle school levels, as measured by the EOG Reading and Mathematics exams. North Carolina's ABCs program establishes a growth standard for each school. Expected growth is based on the school's previous performance, statewide average growth, and a statistical adjustment applied when comparing test scores of students across years. All this information is placed in a formula that indicates whether a school met expected growth or high growth standards. Schools achieve *expected growth* if the composite indicates, on average, one year's growth for one year of instruction. To meet *high growth*, a school must attain 110% of its expected growth.

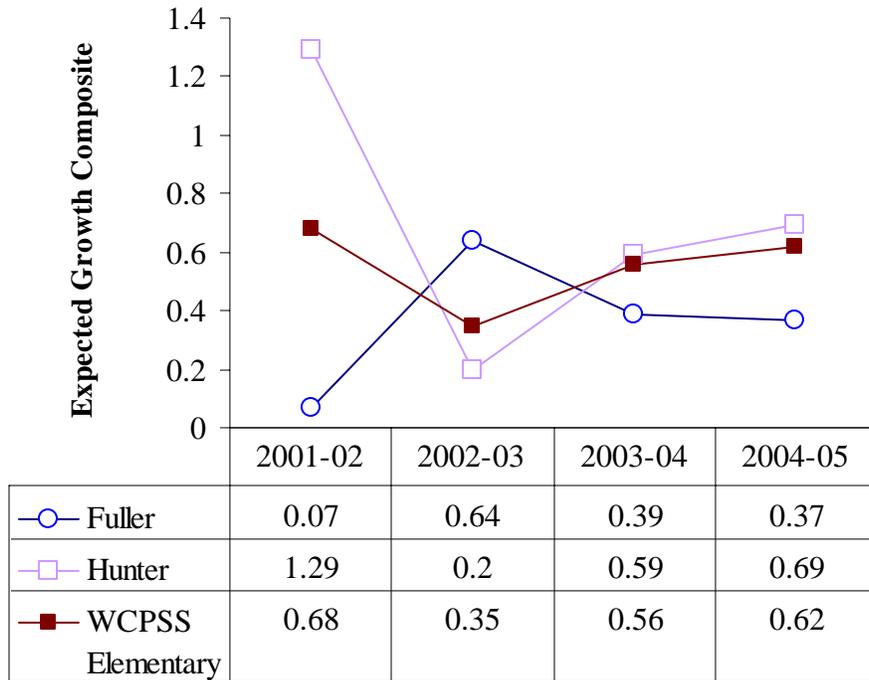
It is important to keep in mind that EOG scores represent only one measure of academic achievement, and thus should not be relied on exclusively to draw conclusions about the quality of instruction in the AG Basics Program. Other types of measures include: course grades, teacher observations, as well as student and parent perceptions. This report looks only at schools' expected and high growth composites because they are indicators of academic achievement and are readily available at the district level.

### **Question 4: Has the AG Basics Program been more effective in terms of achievement outcomes for students compared to other schools and to WCPSS overall?**

Figure 7 shows the expected growth composite for AG students at Fuller and Hunter compared to all WCPSS elementary AG students for 2001-02 through 2004-05. Figure 8 presents expected growth composites for AG students at Carnage and Ligon compared to all AG students in middle schools for the same time period. Schools that have an expected growth composite of zero (0.00) or greater met expected growth.

- Despite the structure and intensity of the AG Basics Program at the four magnet schools, the performance of AG students at these schools on EOG exams does not appear to be very different from other AG students in WCPSS.
- Expected growth composites for AG students at Fuller and Hunter were fairly close to the district AG growth composites. However, Figure 7 shows a quite different pattern of expected growth composites during 2001-02 and 2002-03. The lines are more parallel beginning in 2003-04. Hunter follows a similar pattern to middle schools.
- The expected growth among AG students at Carnage and Ligon magnet middle schools closely reflected districtwide growth for similar students. Figure 8 shows the intuitively expected pattern of roughly parallel lines overtime with modest differences. Carnage was slightly below the district in 2004-05.

**Figure 7**  
**Expected Growth Composites for AG Students at Fuller and Hunter**  
**Compared to All WCPSS Elementary AG Students, 2001-02 through 2004-05**



**Figure 8**  
**Expected Growth Composites for AG Students at Carnage and Ligon**  
**Compared to All WCPSS Middle AG Students, 2001-02 through 2004-05**

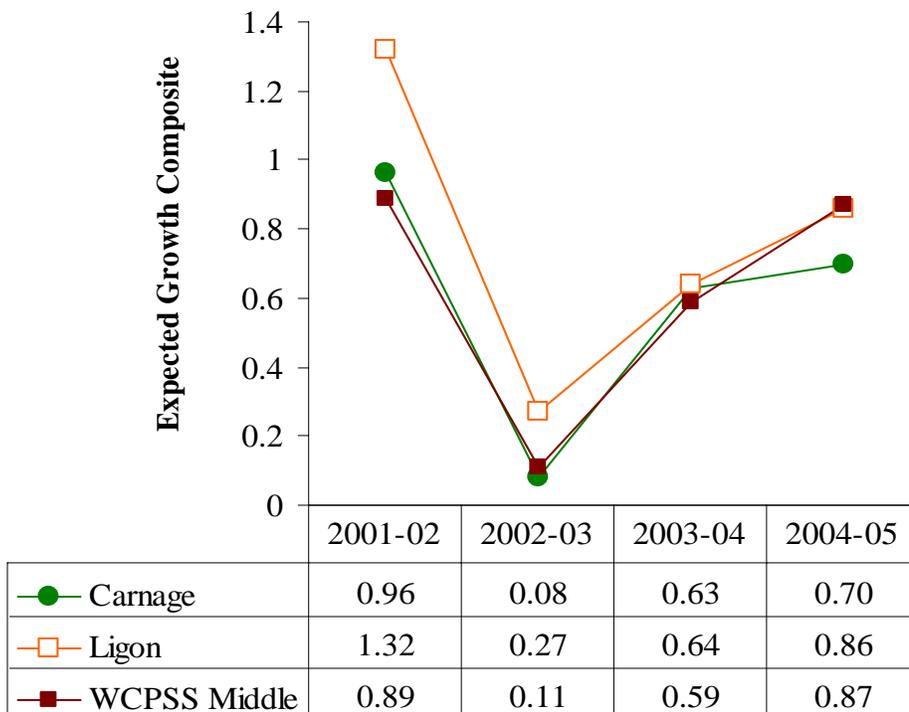
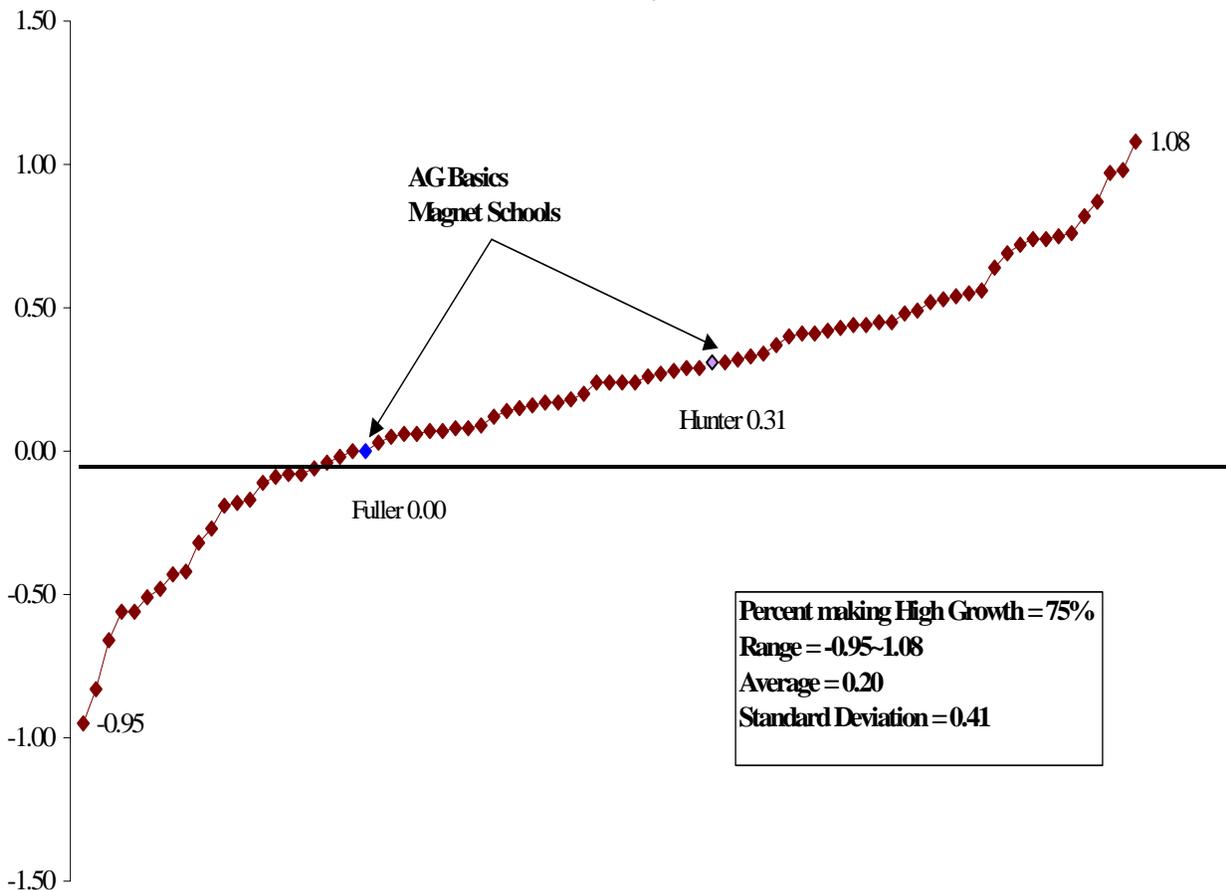


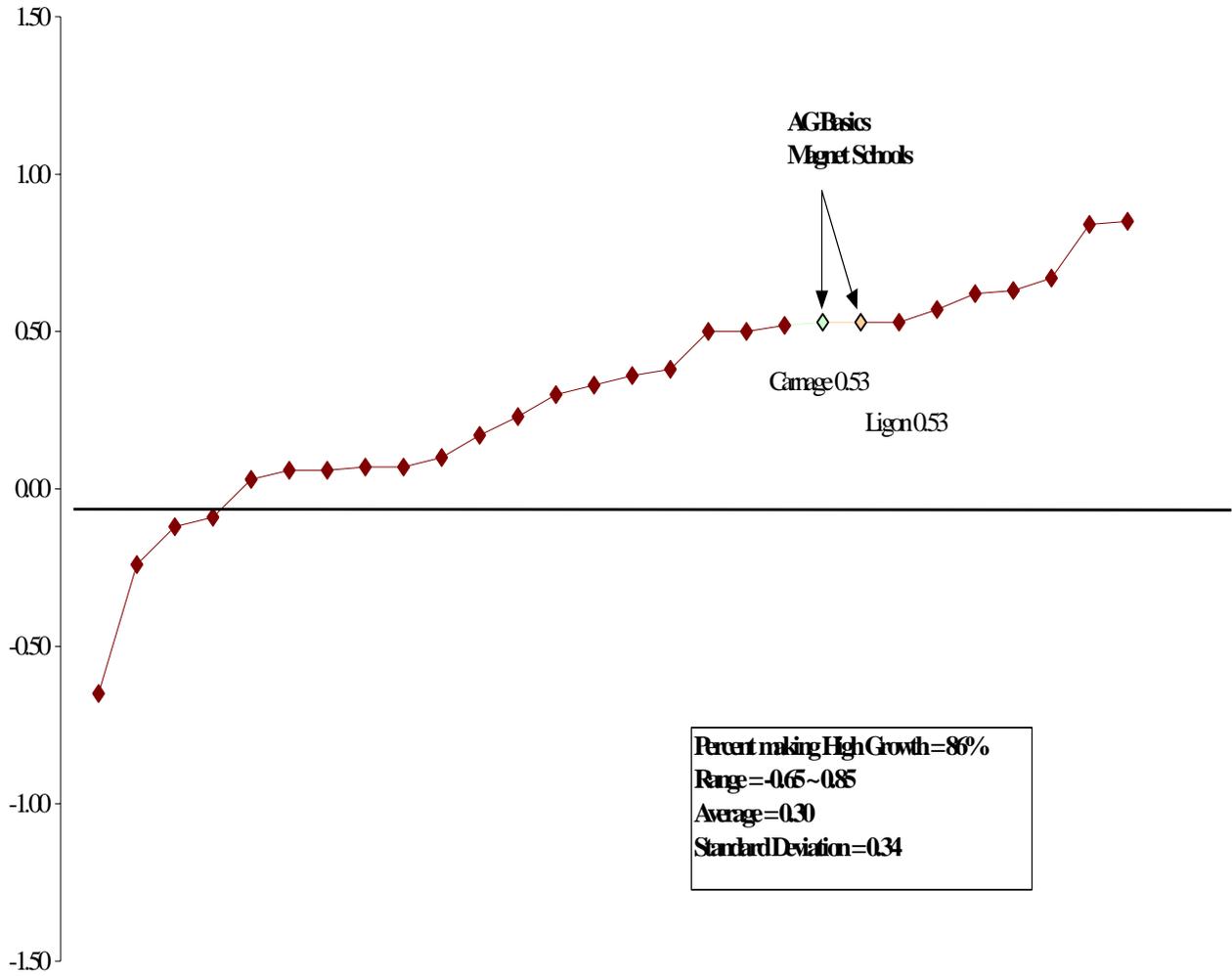
Figure 9 shows the high growth composites for all AG students in WCPSS elementary schools for 2004-05. Figure 10 offers the same presentation of results for middle schools. Schools that have a high growth composite of zero (0.00) or greater met high growth.

- Overall, the high growth composites of AG students attending AG Basics schools versus those in other WCPSS schools do not appear to be very different.
- Hunter’s high growth composite was above the average for WCPSS elementary schools. However, both Fuller and Hunter’s high growth composites were within one standard deviation of the mean.
- Carnage and Ligon had the same high growth composite, which was above the average for WCPSS middle schools, but still within one standard deviation of the mean.
- In 2004-05, at 63 of the elementary schools (75%), AG students achieved high growth on Reading and Mathematics EOG exams.
- AG students achieved high growth on Reading and Mathematics EOG exams at 24 of the 28 middle schools (86%).

**Figure 9**  
**High Growth Composites for AG Students**  
**at WCPSS Elementary Schools, 2004-05**



**Figure 10**  
**High Growth Composites for AG Students**  
**at WCPSS Middle Schools, 2004-05**



**Question 5: Do the distribution of EOG scores for Level IV students differ among AG Basics schools and WCPSS overall?**

Several transition matrices were produced in order to examine the more general question of whether progress varied among Level IV students in the four AG Basics schools and in WCPSS overall. To conduct this analysis, Reading and Mathematics EOG Level IV scale scores were divided into four equal sections: lower range, mid-lower range, mid-upper range, and upper range. Students were then placed into the corresponding range based on their scale scores. The intervals were held constant between EOG pre- and posttests to facilitate a more robust examination of the pattern of Level IV students' progress overtime. It is important to note that students who scored close to the dividing points might fluctuate between ranges on the pre- and posttest.

The following tables display the percentages of students scoring within each Level IV range on the Reading and Mathematics EOG pretest and posttest in 2004-05. The shaded cells in each transition matrix indicate the percentage of students who scored within the same Level IV range on both the EOG pre- and posttest. The cells above the shaded cells indicate the percentages of Level IV students who scored within a higher range on the EOG posttest.

Tables 3 and 4 show that Level IV students attending AG Basics schools performed reasonably similar to other Level IV students on the Reading EOG pre- and posttests. The difference in the percentage of students scoring in the upper range was most evident among students attending AG Basics elementary schools compared to other elementary students.

Regarding the distribution of Reading EOG scores:

- The percentage of students attending Fuller and Hunter who scored in the lower range was slightly lower compared to other Level IV elementary students.
- In general, fewer elementary students were likely to score within the upper range; however, the percentage of students attending Fuller and Hunter who scored in the upper range was somewhat higher than that of other Level IV elementary students.
- Slightly higher percentages of students attending Carnage and Ligon scored in the mid-upper and upper ranges compared to other Level IV middle students.

Concerning student progress between Reading EOG pre- and posttests:

- Slightly fewer than half of all elementary and middle school students scored within the same Level IV range on the Reading EOG pre- and posttest (as seen by adding the shaded cells).
- Similar percentages (approximately one fourth) of students scored within a higher range on the EOG posttest, compared to the pretest.
- Level IV students attending the AG Basics schools were somewhat more likely to score within a lower range on the EOG posttest, compared to the pretest, than their counterparts.

**Table 3**  
**Reading EOG Transition Matrix for Level IV Elementary Students, 2004-05**

<b>Fuller and Hunter - AG Basics Elementary Students (N=274)</b>					
<b>Pretest</b>	<b>Posttest</b>				<b>Total</b>
	Lower Range	Mid-Lower Range	Mid-Upper Range	Upper Range	
Lower Range	10.9	10.2	2.9	0.4	24.4
Mid-Lower Range	9.8	19.7	10.2	2.2	41.9
Mid-Upper Range	1.8	8.8	8.8	2.2	21.6
Upper Range	0.7	1.5	7.7	2.2	12.1
<b>Total</b>	23.2	40.2	29.6	7.0	<b>100.0</b>
<b>Other WCPSS Elementary Students (N=9,288)</b>					
Lower Range	17.3	12.6	3.8	0.4	34.1
Mid-Lower Range	11.6	17.0	9.8	2.0	40.4
Mid-Upper Range	2.7	7.0	7.6	2.3	19.6
Upper Range	0.4	1.6	2.6	1.3	5.9
<b>Total</b>	32.0	38.2	23.8	6.0	<b>100.0</b>

Note: Shaded cells indicate no change in Level IV range between EOG pretest and posttest. Cells above shaded cells indicate improvement within Level IV.

**Table 4**  
**Reading EOG Transition Matrix for Level IV Middle Students, 2004-05**

<b>Carnage and Ligon - AG Basics Middle Students (N=995)</b>					
<b>Pretest</b>	<b>Posttest</b>				<b>Total</b>
	Lower Range	Mid-Lower Range	Mid-Upper Range	Upper Range	
Lower Range	15.5	9.7	2.2	0.1	27.5
Mid-Lower Range	12.0	20.4	9.9	1.2	43.5
Mid-Upper Range	2.2	11.9	8.3	2.1	24.5
Upper Range	0.1	1.6	2.2	0.6	4.5
<b>Total</b>	29.8	43.6	22.6	4.0	<b>100.0</b>
<b>Other WCPSS Middle Students (N=8,825)</b>					
Lower Range	25.3	14.1	2.4	0.1	41.9
Mid-Lower Range	13.4	19.0	6.7	0.7	39.8
Mid-Upper Range	2.9	6.8	4.6	1.0	15.3
Upper Range	0.3	1.2	1.1	0.4	3.0
<b>Total</b>	41.9	41.1	14.8	2.2	<b>100.0</b>

Note: Shaded cells indicate no change in Level IV range between EOG pretest and posttest. Cells above shaded cells indicate improvement within Level IV.

Tables 5 and 6 show comparable performance in mathematics among all Level IV students regardless of the school they attend. Unlike the results for reading, the greatest difference in the percentage of students scoring in the upper range was found between students attending AG Basics middle schools and other middle school students.

Regarding the distribution of Mathematics EOG scores:

- The percentage of students attending Fuller and Hunter who scored in the lower range on the Mathematics EOG posttest was slightly lower compared to other Level IV elementary students,
- The percentages of students at Fuller and Hunter who scored in the mid-upper and upper ranges of Level IV were slightly higher than their counterparts.
- Students attending Carnage and Ligon were also somewhat more likely than their counterparts to score within the mid-upper range and upper range.

Concerning student progress between Mathematics EOG pre- and posttests:

- Most of the students who scored within the lower range on the Mathematics EOG pretest did not progress to upper range on the posttest, regardless of the school they attended.
- The majority of all elementary and middle school students scored within the same Level IV range on the Mathematics EOG pre- and posttest (as seen by adding the shaded cells).
- Similar percentages (around one fourth) of students scored within a higher range on the EOG posttest, compared to the pretest.

**Table 5**  
**Mathematics EOG Transition Matrix for Level IV Elementary Students, 2004-05**

<b>Fuller and Hunter - AG Basics Elementary Students (N=274)</b>					
<b>Pretest</b>	<b>Posttest</b>				
	<b>Lower Range</b>	<b>Mid-Lower Range</b>	<b>Mid-Upper Range</b>	<b>Upper Range</b>	<b>Total</b>
Lower Range	12.8	7.7	3.3	0.0	23.8
Mid-Lower Range	9.8	18.6	12.4	1.5	42.3
Mid-Upper Range	1.1	10.2	13.5	2.2	27.0
Upper Range	0.4	0.7	2.9	2.9	6.9
<b>Total</b>	24.1	37.2	32.1	6.6	<b>100.0</b>
<b>Other WCPSS Elementary Students (N=9,288)</b>					
Lower Range	18.3	13.3	1.9	0.0	33.5
Mid-Lower Range	9.1	23.7	10.1	0.8	43.7
Mid-Upper Range	1.3	7.6	8.6	1.7	19.2
Upper Range	0.2	0.9	1.8	0.7	3.6
<b>Total</b>	28.9	45.5	22.4	3.2	<b>100.0</b>

Note: Shaded cells indicate no change in Level IV range between EOG pretest and posttest. Cells above shaded cells indicate improvement within Level IV.

**Table 6**  
**Mathematics EOG Transition Matrix for Level IV Middle Students, 2004-05**

<b>Carnage and Ligon - AG Basics Middle Students (N=995)</b>					
<b>Pretest</b>	<b>Posttest</b>				
	<b>Lower Range</b>	<b>Mid-Lower Range</b>	<b>Mid-Upper Range</b>	<b>Upper Range</b>	<b>Total</b>
Lower Range	9.9	3.6	0.3	0.1	13.9
Mid-Lower Range	5.8	25.7	11.6	1.3	44.4
Mid-Upper Range	0.0	8.9	19.0	5.8	33.7
Upper Range	0.0	0.6	4.5	2.9	8.0
<b>Total</b>	15.7	38.8	35.4	10.1	<b>100.0</b>
<b>Other WCPSS Middle Students (N=8,825)</b>					
Lower Range	17.2	7.4	0.3	0.0	24.9
Mid-Lower Range	10.3	28.6	10.4	0.5	49.8
Mid-Upper Range	0.3	8.4	12.5	1.9	23.1
Upper Range	0.0	0.2	1.5	0.5	2.2
<b>Total</b>	27.8	44.6	24.7	2.9	<b>100.0</b>

Note: Shaded cells indicate no change in Level IV range between EOG pretest and posttest. Cells above shaded cells indicate improvement within Level IV.

## DISCUSSION

This report has addressed several questions regarding the AG Basics Program at four magnet schools: Fuller and Hunter elementary schools and Carnage and Ligon middle schools. The findings can be summarized as follows:

- The AG Basics Program provides more targeted instructional services to AG students than other schools districtwide. The structure and delivery of instruction in the AG Basics program is fundamentally different: students attend four core classes per day with other AG-identified students. These students are taught by AG-certified teachers, and are exposed to AG-oriented curriculum and pedagogy for longer periods of time than their peers at schools without the AG Basics Program.
- The AG Basics Program is clearly attractive to families in Wake County, as evidenced by magnet application trends. The four magnet schools that offer this program receive applications from more students than they can accommodate.
- Families throughout WCPSS have access to the AG Basics Program, as shown by the geographical distribution of magnet applications. Variation in acceptance rates by school board district occurs because of the strategic role assigned to magnet schools by the school system, i.e., to relieve over-crowding and to increase socioeconomic diversity.
- The AG Basics Program has been effective in promoting academic achievement among AG students at the four schools, as indicated by their performance on EOG exams in reading and math. However, the AG Basics Program has not produced consistent higher-than-average growth composites at all four schools compared to other schools in the district.
- There are only modest differences in the distribution of Level IV students' EOG scores at schools with the AG Basics Program compared with other schools in the district. AG Basics schools have only slightly more students scoring in the highest Level IV range on EOGs. The difference in the percentage of students scoring in the upper range of reading was most evident among students attending AG Basics elementary schools compared to other elementary students, whereas the greatest difference in the percentage of students scoring in the upper range of mathematics was found between students attending AG Basics middle schools and other middle school students. The academic performance patterns between EOG pre- and posttests do not vary substantially among Level IV students attending AG Basics schools compared to other Level IV students in the district. The most variation was seen at the middle school level, perhaps indicating that Level IV students receive some additional benefits of attending an AG Basics middle school that are not measured in this report.

It is important to note several limitations of this report when drawing general conclusions about the AG Basics Program. First, the description of the AG Basics Program design was limited to general features and did not include classroom observations or interviews with AG teachers at the schools. Second, the measures used to assess academic outcomes of the AG Basics Program were limited to EOG Reading and Mathematic test results for several years. While the growth composites derived from scores on these exams are often valid and reliable indicators of academic performance, they may not capture the full scope and depth of learning that occurs among students within the AG Basics Program. Course grades, curriculum alignment with state

standard courses of study, pacing of instruction, assessment practices and other quantitative and qualitative measures of academic performance were not examined in this evaluation.

Despite these research limitations, it is noteworthy that the AG Basics Program has produced students who perform very well on EOG exams, though not necessarily better than other AG students in WCPSS. There are several possible explanations for these findings. The AG Basics Program is not designed to more intensively prepare students for EOG exams. The curriculum and pedagogy used in the program are geared toward accelerated instruction and enrichment activities, so the effects of this approach may not be evident in EOG exam scores only. Another explanation concerns the characteristics of AG students. The traits and circumstances of AG students at all schools may be similar enough that differences in instructional programs do not make significant differences in their test performance. In addition to overall intelligence, AG students may be self-motivated learners, more likely to do homework and engage in other educational activities, and receive more academic support in their home environments.

The most important contribution of this study relates to the academic performance of WCPSS Level IV students. No Child Left Behind (NCLB) has brought attention to the educational gap in our nation and WCPSS is committed to closing the achievement gap in our district. The manner in which this gap is closed should reflect the improvement and progress of all students, including the best students in our district. One point of contention among the educational community is whether Level IV students have room to grow. The findings in this study indicate that Level IV students perform very well on Reading and Mathematics EOGs regardless of the school they attend. The results also show that Level IV students, even the highest achievers who attend AG Basics schools, do have room for improvement. This information presents a valuable opportunity for WCPSS educators to challenge and motivate this group of students to realize their maximum potential.