The 2015
Georgia Public P-12
Teacher Workforce

A Status Report

Kelly Henson, Executive Secretary
Georgia Professional Standards Commission

November 2015

Cyndy Stephens
Tom Hall
Chuck McCampbell

Produced under allocation of federal Transition to Teaching Program grant funds awarded to the Georgia Professional Standards Commission by the United States Department of Education.

Table of Contents

Figures and Tables

The Georgia Public P-12 Education Workforce Status Report 2015

Executive Summary and Selected Findings

1. During the past ten years the number of Georgia's teachers has varied greatly, synchronized with the effects of a fluctuating economy. At the same time, student enrollments continued to grow every year.
2. The percentages of minority teachers have increased over the past ten years, but not as much as percentages of minority students have increased.
3. Over the past five years Georgia's newly hired teachers left the workforce after their first year of teaching at an average rate of 13%. After five years of teaching, 44% of teachers newly hired in 2010 were no long teaching in 2015. Attrition of Georgia's high school teachers was the highest among all teaching subgroups in 2014, (7%). Attrition of special education teachers who left teaching in 2014 was low (6%), but an additional 8% left special education roles to become regular classroom teachers in 2015.
4. Attrition rates in schools with high poverty are significantly higher than in schools with low poverty. Teacher pay analysis reveals that high attrition was linked to teacher pay in only for one region of the state: Southwest Georgia. Among districts in the Southwest Georgia RESA, teachers in high poverty schools with high attrition rates had lower average salaries than did teachers in low poverty schools with low attrition rates. Additional research may be valuable to discover individual schools where similar links exist among poverty, attrition, and teacher pay.
5. Attrition rates of mathematics and foreign language teachers are highest among all high school subject areas, followed next by science. Notably these subject areas are among the lowest in production by Georgia's teacher preparation programs.
6. Throughout the state, high sick leave counts were significantly correlated with high attrition rates. Therefore monitoring sick leave rates could provide early indicators of staffing needs for the following year, especially in high schools and elementary schools.
7. Each year 25% to 30% of Georgia's new teacher hiring comes from teachers who have "taken a break" from teaching for a while. Data show that most teachers who leave Georgia's public P-12 workforce do not return soon. After staying out of teaching for ten years, the probability of a teacher returning to public school teaching in Georgia is less than 1%.
8. Production from Georgia's traditional educator preparation programs peaked at 6,873 completers in 2011, but declined to 5,421 in 2013. Over half (2,977) of these 5,421 completers found Georgia teaching positions in 2014, when the new hiring demand was almost 11,000 teachers. "Rookie" teachers from traditional Georgia preparation programs have accounted for fewer new hires each year since 2010, declining from nearly 50% in 2010 to 27.5% in 2014, while out-of-state educators have accounted for an increased percentage. Ten years ago in FY 2005, teachers from traditional Georgia preparation programs accounted for 24.1% of new hires. The pattern of the last five years may be accounted for largely as a recovery from the effects of the recession, with more new teachers coming from out-of-state sources as the economy improves and the hiring demand for teachers increases.
9. Available data from the most recent five years indicate that the state's GaTAPP alternative preparation program has steadily contributed from 5.9% to 6.6% of the annually supply of new teachers. The proportion of the new teacher supply from other sources (teachers from other states and countries, transfers from private school teaching, etc.) has nearly tripled over the recent five year span from 2010 (13.2%) to 2014 (37.9%).
10. From 2006 to 2013, the percentage of newly minted "rookie" teachers who took positions as paraprofessionals rose from 3.5% to 9.0%. Records from 2006 to 2015 show that 80% to 90% of these paraprofessionals later found regular positions as teachers. The 5-year retention rate for rookie teachers who first worked in paraprofessional positions was significantly better than the retention rate for their rookie colleagues who found teaching positions immediately after program completion.

2015 Status

Classroom Teachers	111,126	86.1%
Administrators	9,392	7.3%
Support Personnel	8,585	6.6%
Total	**129,103**	**100%**

These data were compiled from the Fall CPI file (Certified Personnel Information, collected by the Georgia Department of Education) for the school year 2014-2015. Administrators and Support Personnel were included in these counts (and other counts throughout this report) only if certificates were required for their job assignments.

2015 Hiring

Classroom Teachers Hired	11,080	9.8% of all 2015 teachers
Administrators Hired	1,412	15.0% of all 2015 administrators
Support Personnel Hired	1,069	12.5% of all 2015 support personnel
Total Hired	**13,561**	**10.4% of all 2015 certified educators**

New hiring each year must meet the demand caused by three main sources: student growth, educator attrition from the prior year, and policy changes. New hiring is tabulated by counting the educators present in the fall who were not there the prior spring.

2015 Student Growth

2014 Fall FTE Count	2015 Fall FTE Count	Percentage Growth
1,716,905	1,736,416	1.1%

Source: Georgia Department of Education FTE Counts

Figure 1. Georgia Public P-12 School Enrollments, 2006-2015

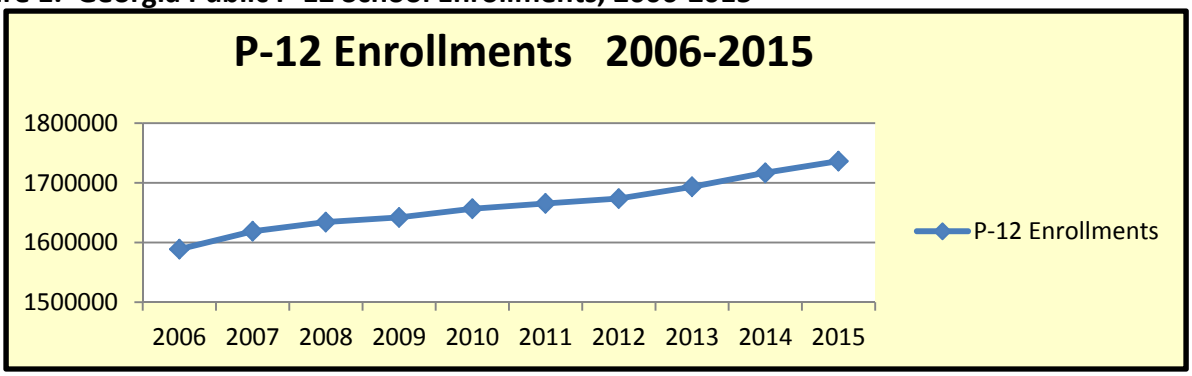
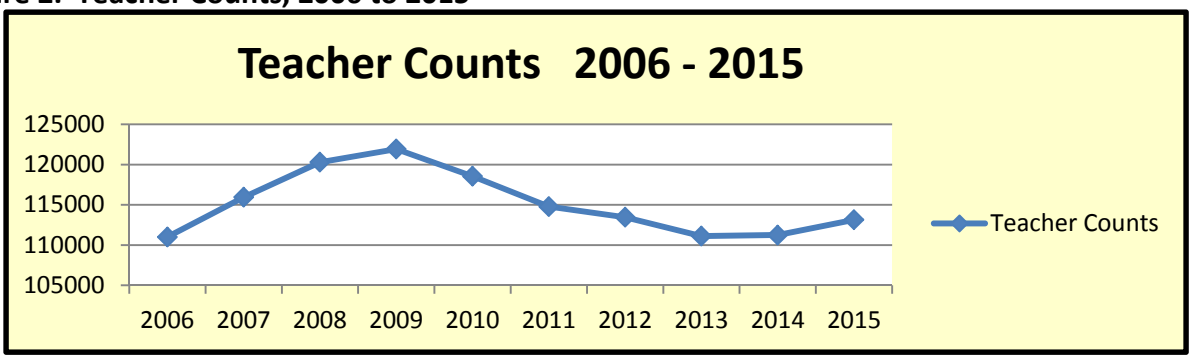


Figure 2. Teacher Counts, 2006 to 2015



Section 1 - Teacher Workforce Demographics

Georgia's public school enrollment numbers increased each year from 2006 to 2015, even when economic times were lean. Teacher counts kept pace with increases in student enrollments until bad economic times in the years from 2009 to 2013.

Both minority male and minority female teachers made substantial gains in counts and workforce percentages during this past ten years as shown in Table 1. From 2006 to 2010 the minority teacher workforce grew from under 25% to 28%. According to the most recent US Census estimates available (2014), the percentage of Georgia residents reporting a non-white race was 37.9%. *http://www.census.gov/quickfacts/ Sept 10, 2015 and http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk Sept 10, 2015* (Similar statistics are reported by the GA Dept. of Labor: 65% white, 30% African-American, and 5% other races: *https://www.doleta.gov/performance/results/AnnualReports/2010_economic_reports/ga_economic_report_py2010.pdf, GA DOL 2010 Annual Report, downloaded Nov 11, 2015*)

Table 1. Teacher Ethnicity, 2006 and 2015

	2006 Counts	2006 Percentages	2015 Counts	2015 Percentages
Minority Females	20,982	18.9%	25,133	22.2%
White Females	68,804	62.0%	65,533	57.9%
Minority Males	5,098	4.6%	6,510	5.8%
White Males	16,136	14.5%	15,974	14.1%

According to the GA DOL report cited above, Georgia's population in 2009 was 9,829,211 with an annual growth rate of 1.4%. Extending this projection forward, a reasonable estimate of the 2015 Georgia population would be 10,684,308. Assuming the same demographic mix as in 2009, the white portion of Georgia's 2015 population would be around 6.9 million while minorities would number around 3.7 million. In 2015 there were 81,507 white teachers, meaning that 1.2% of Georgia's total white population were teachers. By similar reasoning, the 31,643 minority teachers would represent 0.9% of Georgia's minority population.

The typical teacher is 43 years old with 13 years of Georgia experience, but demographic subgroups vary greatly in experience. Minority teachers have noticeably smaller experience means than white teachers.

Table 2a. Teacher Age and Experience, 2006 and 2015

	2006 Age	2015 Age	2006 Experience *	2015 Experience *
All Teachers	42.1	42.9	12.3	13.0
Minority Females	41.6	42.8	11.8	11.9
White Females	42.2	42.8	12.8	13.6
Minority Males	41.4	43.0	9.5	10.8
White Males	42.3	43.2	12.1	13.5

** Georgia Experience. Special GA DOE rules apply to the process of calculating Georgia Experience.*

Table 2b. Grouped Teacher Experience Distribution, 2006 and 2015

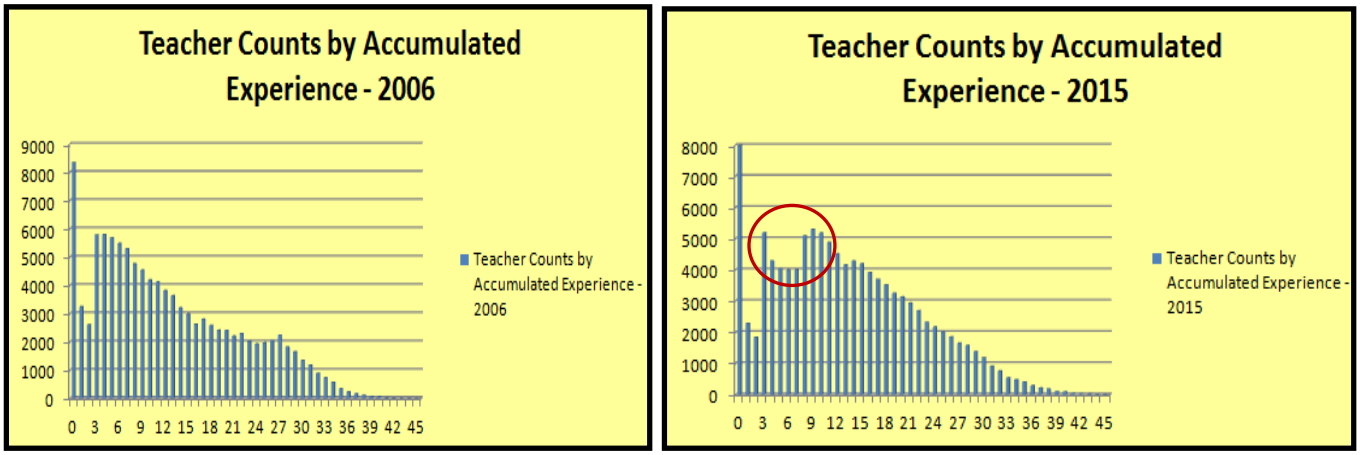
Years GA Experience	Teachers by Group, 2006	Percentage of Groups, 2006	Teachers by Group, 2015	Percentage of Groups, 2015
0 – 4	25,789	23.4%	21,609	19.1%
5 – 9	25,797	23.4%	22,444	19.9%
10 – 14	18,995	17.2%	23,055	20.4%
15 – 19	13,432	12.2%	18,596	16.5%
20 – 24	10,871	9.8%	13,283	11.8%
25 – 29	9,745	8.8%	8,497	7.5%
30 – 34	4,730	4.3%	3,889	3.4%
35 – 39	932	0.8%	1,224	1.1%
> 39 Years	118	0.1%	261	0.2%

Table 2c. Grouped Teacher Age Distribution, 2006 and 2015

Teacher Age	Teachers by Group, 2006	Percentage of Groups, 2006	Teachers by Group, 2015	Percentage of Groups, 2015
Less than 25	2,214	2.0%	1,835	1.6%
25 – 29	14,714	13.3%	11,697	10.4%
30 – 34	16,271	14.7%	15,248	13.5%
35 – 39	16,102	14.6%	16,587	14.7%
40 – 44	13,475	12.2%	17,794	15.8%
45 – 49	14,063	12.7%	16,807	14.9%
50 – 54	15,450	14.0%	13,941	12.4%
55 – 59	12,580	11.4%	10,756	9.5%
> 60 Years	5,540	5.0%	8,193	7.3%

The percentage of teachers aged 25 to 29 fell during the ten-year time span, from 13.3% to 10.4%. Likely this decline is due to the low rate of hiring for newly prepared "rookie" teachers during lean economic times from 2010 to 2014, explained in a later section of this report. (See Table 16.)

Figure 3. Teacher Counts by Experience, 2006 and 2015



Note the circled area of the 2015 graph at experience years 4, 5, 6, and 7. The experience count values for those years are remarkably unlike the analogous counts for similar years in the 2006 graph. For 2015 these "unusual" experience bars likely reflect the effects of unusual employment patterns associated with lean economic years in 2009, 2010, 2011, and 2012.

Section 2 - Teacher Attrition

Teacher retention is a matter of great concern throughout the nation. In Georgia approximately 70% of teacher hiring statewide is done to replace teachers who left the workforce. Retention is considered a measure of the efficacy of teacher recruiting and teacher preparation, and it may possibly be associated with student performance. High attrition can force school districts to devote valuable resources to the processes of recruitment, hiring, and induction, resources that might otherwise be spent on support of student instruction. For this report, attrition generally indicates departure from the workforce, not a transition to a non-teaching position. However in Tables 3a and 5a, attrition counts also include teachers who transferred into non-teaching roles. Data were provided by the Georgia Department of Education's Certified Personnel Information (CPI) file (GaDOE, www.gadoe.org).

Table 3a. Statewide Cumulative* Teacher Attrition, 2008 - 2015

Fiscal Year	Teacher Workforce from Fall CPI	Cumulative Attrition after 1 Year	Cumulative Attrition after 2 Years	Cumulative Attrition after 3 Years	Cumulative Attrition after 4 Years	Cumulative Attrition after 5 Years
2008	118,150	10,461 9%	18,464 16%	26,951 23%	33,777 29%	40,606 34%
2009	120,105	10,090 8%	20,023 17%	27,777 23%	35,311 29%	42,636 35%
2010	116,834	11,112 10%	19,555 17%	27,620 24%	35,371 30%	42,309 36%
2011	112.680	9,787 9%	18,498 16%	26,829 24%	34,130 30%	
2012	111,321	10,244 9%	19,413 17%	27,370 25%		
2013	109,184	10,665 10%	19,277 18%			
2014	109,231	10,491 10%				
2015	111,126					

** "Cumulative attrition" means absence from the workforce or teaching role in a GaDOE cycle 1 CPI report in the indicated year following continuous employment since the hire year.*

Table 3b. Teacher Attrition* by Category, 2014

Subject	2013-14 Count (Spring CPI)	Not in Fall 2014-15 CPI	Attrition Percentage
Kindergarten	9,750	630	6.5%
Elementary	40,337	2,637	6.5%
Middle	18,582	1,307	7.0%
High	24,455	1,759	7.2%
Special Ed	18,159	1,153	6.3%
ESOL	2,236	158	7.1%

** Attrition counts includes only those teachers no longer in the workforce in any certified role.*

Table 3b shows Special education teacher attrition was 6.3% for 2014, seemingly lower than all other categories of teachers. However an additional 1490 teachers left their special education positions after 2014 and took regular education teaching jobs in 2015, accounting for another 8.2% loss from 2014 special education teachers. Special education teachers who transitioned to regular classroom teacher roles in 2015 had a mean age of 39.6 and mean Georgia experience of 10.9 years. Special education teachers who left after 2014 and did not appear in the 2015 CPI file in any role had a mean age of 47.3 and a mean Georgia experience of 13.7 years.

Special education teachers moved into regular education jobs at the rate of 8.2% from 2014 to 2015.

Teachers Who Change Districts (Teacher Mobility)

District attrition is more complex than attrition from the state workforce. Districts can lose teachers in two ways: loss from the state workforce (state attrition) and loss to other districts (mobility). When these two types of losses were combined and tabulated at the district level, over 100 school systems had "district attrition" of over 10% for 2014.

Table 4 shows percentages of teachers each year whose employer was a different school district the following year. In these data mobility seemed to ebb and flow with the strength of the economy: in good times over 4% of teachers moved to different districts, but in lean times the mobility rate dropped as low as 1.5% as teachers held on to their positions.

Table 4. Teacher Mobility Rates 2006 through 2014

2006	2007	2008	2009	2010	2011	2012	2013	2014
5.1%	4.7%	3.7%	1.6%	1.5%	2.1%	2.2%	3.0%	4.3%

Sick Leave and Attrition

For high schools and elementary schools statewide, higher sick leave rates were significantly correlated with higher attrition rates. Teachers from 2014 who *did not continue* in 2015 (not found in CPI records) accumulated **11.2 sick leave days per teacher.** Comparing this statistic to a similar one for teachers who *did continue* into 2015, it was found that continuing teachers accumulated **7.9 days of sick leave per teacher.** From these results, high sick leave would seem to be an early warning of high attrition to follow, especially for high schools and elementary schools.

High sick leave may be an early warning of high attrition to follow, especially for high schools and elementary schools.

Attrition of Newly Hired Teachers

Table 5a. Statewide Cumulative Attrition of New Teacher Hires *, 2008 - 2015

Fiscal Year	New Teacher Hires from Fall CPI	Cumulative Attrition after 1 Year		Cumulative Attrition after 2 Years		Cumulative Attrition after 3 Years		Cumulative Attrition after 4 Years		Cumulative Attrition after 5 Years	
2008	10,198	1,385	14%	2,339	23%	3,334	33%	3,919	38%	4,457	44%
2009	8,153	1,080	13%	2,063	25%	2,688	33%	3,117	38%	3,571	44%
2010	3,991	631	16%	1,032	26%	1,339	34%	1,530	38%	1,738	44%
2011	4,722	612	13%	1,072	23%	1,482	31%	1,737	37%		
2012	4,978	641	13%	1,185	24%	1,595	32%				
2013	4,902	591	12%	1,006	21%						
2014	6,406	817	13%								
2015	8,038										

** "New teacher hire" is any teacher not present in any preceding GaDOE CPI cycle 1 or cycle 2 report with a "teacher" job code (back to 1986). Attrition counts include workforce exits plus former teachers who transitioned into non-teaching roles.*

Research by Ingersoll and Perda based on a recent School and Staffing Survey (SASS) found a national 5-year attrition result of around 41%. [Seven Trends: The Transformation of the Teaching Force, Consortium for Policy Research in Education, April 2014, p. 24] SASS is administered by the US Department of Education (https://nces.ed.gov/surveys/sass/)

It is reasonable to expect some newly hired teachers to leave the workforce the first year and then return in later years. This phenomenon was common for white female teachers entering Georgia's workforce in 2012. That group retained only 67.4% of their number the first year, but it had built back to 70.9% retention after three years. In the other three groups retention dropped annually over the three year time frame.

Table 5b. Attrition* Patterns for Newly Hired Teachers (by Demographic Groups)

Demographic Group	Hired in 2012	Left After 1 Year	Left After 2 Years	Left After 3 Years
White Females	4533	1479 32.6%	1012 22.3%	1321 29.1%
Minority Females	2021	301 14.9%	474 23.5%	603 29.8%
White Males	1185	164 13.8%	275 23.2%	348 29.4%
Minority Males	630	118 18.7%	187 29.7%	233 37.0%

** Attrition counts include only those teachers no longer in the workforce in any certified role.*

Table 5c. Attrition* Patterns for Newly Hired Teachers (by Teaching Categories)

Teaching Subgroup	Hired in 2012	Left After 1 Year	Left After 2 Years	Left After 3 Years
Kindergarten	892	76 8.5%	132 14.8%	178 20.0%
Elementary	2281	257 11.3%	432 18.9%	580 25.4%
Middle School	1417	190 13.4%	322 22.7%	385 27.2%
High School	2074	328 15.8%	525 25.3%	687 33.1%
Special Education	1420	152 10.7%	279 19.6%	329 23.2%
ESOL	103	15 15.5%	26 25.2%	32 31.1%

** Attrition counts include only those teachers no longer in the workforce in any certified role..*

High school attrition at the third year was higher than attrition for other teaching categories. Approximately a third of newly hired high school teachers left the workforce by the third year. Kindergarten teachers retained best, but even for that group around one of every five new hires left by the third year. Georgia's 5-year attrition data are shown in Table 6.

Table 6. Five-Year Cumulative Attrition* by Georgia Teaching Subgroups

Teaching Subgroup	Newly Hired in 2010	Attrition in 2015* (5 Year)
Kindergarten	383	112 29.2%
Elementary	1727	562 32.5%
Middle School	1100	367 33.4%
High School	1899	769 40.5%
Special Education	1347	429 31.8%
ESOL	104	42 40.4%

** Attrition in 2015 was measured by the number of teachers newly hired in 2010 who were not found in the GA DOE CPI (Certified Personnel Information) file in 2015 in any certified role.*

High school attrition data are problematic, since high school teachers are not produced in large numbers in Georgia. In 2013, the most recent year for which teacher preparation data are available at this time, the combined total of English, history, and mathematics teachers produced was 713. In 2015 Georgia public schools hired over 1100 teachers in the fields of English, history, and mathematics. Production in the sciences was also lower than the hiring demand. New hiring counts in leading fields are shown in Table 7.

In several key high school subjects teacher production lags behind hiring demands.

Table 7. Five-Year Attrition* for Leading Georgia High School Teaching Fields

Teaching Field	Newly Hired in 2010	Attrition in 2015* (5 Year)	
Mathematics	464	206	44.4%
English	278	109	39.2%
Science (All)	258	107	41.5%
Social Sciences (All)	226	91	40.3%
Foreign Languages	150	67	44.7%
Physical Education	73	19	26.0%

** Attrition in 2015 was measured by the number of teachers newly hired in 2010 who were not found in the GA DOE CPI (Certified Personnel Information) file in 2015 in any certified role.*

In the above table the fields of mathematics, science, and foreign language show poor retention rates as compared to the other fields. These fields are relatively low in production among Georgia teacher preparation programs, so these poor retention data are troublesome. More focused research and improvement efforts seem needed in order to assure newly hired teachers are suited to their new positions, to assist new teachers as they "settle" into productive teaching roles, and to identify and minimize factors that contribute to premature attrition of competent new teachers.

Math, science and foreign language teachers have low retention rates.

The Subtle Influences of Poverty

In Georgia this is a correlation between poverty and teacher attrition. Poverty in a school district is possibly associated with pay rates and hence might be indirectly associated with teacher attrition. [Public School Teacher Attrition and Mobility in the First Five Years, USDE, National Center for Education Statistics, April 2015, p3.] Data supporting this report seem to refute that hypothesis for Georgia statewide. To examine the influence of poverty on teacher attrition in Georgia, school districts were divided into two subsets, those with poverty levels of 75% and higher and those with less than 75% poverty. For this research, level of "poverty" was determined by the annual district free and reduced lunch percentages published by the Georgia Department of Education.

Table 8a. Attrition* of Newly Hired Teachers and Poverty in Georgia High Schools, 2010 to 2015

District Poverty Level	Newly Hired Teachers in 2010	Attrition in 2011 (1 Year)		Attrition in 2013 (3 Year)		Attrition in 2015 (5 Year)	
75% and higher	392	62	15.8%	153	39.0%	175	44.6%
Less than 75%	1508	266	17.6%	490	32.5%	595	39.5%

** Attrition counts include only those teachers no longer in the workforce in any certified role..*

To mitigate effects of the recession year 2010 on this incoming group of newly hired teachers, a similar tabulation was made on newly hired teachers in 2007, a year cited by the National Bureau for Economic Research (NBER) as being near a "peak" economic time. [http://www.nber.org/cycles/cyclesmain.html, National Bureau for Economic Research, retrieved Sept 22, 2915]

Table 8b. Attrition* of Newly Hired Teachers and Poverty in Georgia High Schools, 2007 to 2012

District Poverty Level	Newly Hired Teachers in 2007	Attrition in 2008 (1 Year)	Attrition in 2010 (3 Year)	Attrition in 2012 (5 Year)
75% and higher	501	87 17.4%	189 37.7%	231 46.1%
Less than 75%	2145	379 17.7%	685 31.9%	893 41.6%

** Attrition counts include only those teachers no longer in the workforce in any certified role..*

Teacher attrition rates are worse in districts with high poverty.

In Southwest GA RESA, attrition, poverty, and teacher pay appear related.

The pattern for Georgia attrition related to poverty difference was the same for 2007 as for 2010: after one year the attrition rates were about the same in both high poverty districts and low poverty districts; after three years they began to diverge with high poverty districts seeing slightly higher attrition rates; and at the five-year mark there was a clear and significant difference (P<.05). For both 2007 and 2010, five-year attrition rates were higher in districts with high poverty. The average salary for the 501 newly hired teachers in high poverty districts in 2007 was $40,001. For the 2145 newly hired teachers in low poverty districts in 2007, it was $40,294. These dollar averages are not significantly different, so it seems salary difference is likely not the cause of the attrition difference on a statewide level. When regional differences were examined, Southwest GA exhibited a link among poverty, teacher attrition and teacher pay. More research is needed to see similar links at the district and school level.

In order to seek the causes for differences between attrition rates for high poverty and low poverty high schools, the teacher attrition sets depicted in Table 8b were disaggregated by demographic group. The results are in Table 8c.

Table 8c. High School Attrition* 2007 to 2012, by Demographic Subgroup and Poverty Level

District Poverty Level	Demographic Group	Newly Hired Teachers in 2007	Attrition in 2008 (1 Year)	Attrition in 2010 (3 Year)	Attrition in 2012 (5 Year)
75% and Higher Free and Reduced Lunch	Minority Females	159	29 18.2%	63 39.6%	77 48.4%
	White Females	145	17 11.7%	51 35.2%	60 41.4%
	Minority Males	75	11 14.7%	26 34.7%	33 44.0%
	White Males	122	30 24.6%	49 40.2%	61 50.0%
	Total	**501**	**87 17.4%**	**189 37.7%**	**231 46.1%**
Note: 29 is 18.2% of 159, 17 is 11.7% of 145, 11 is 14.7% of 75, etc.					
Less than 75% Free and Reduced Lunch	Minority Females	356	67 18.8%	122 34.3%	161 45.2%
	White Females	951	168 17.7%	295 31.0%	391 41.1%
	Minority Males	168	27 16.1%	57 33.9%	73 43.5%
	White Males	670	117 17.5%	210 31.3%	268 40.0%
	Total	**2145**	**379 17.7%**	**685 31.9%**	**893 41.6%**

** Attrition counts include only those teachers no longer in the workforce in any certified role..*

Between high and low poverty levels, newly hired white male teachers left their jobs in significantly greater percentages than did other demographic groups. The attrition studies in Georgia reported here suggest that the zeal a new teacher brings to the classroom fades in three years and even more after five years. Ingersoll and Perda summarized teacher responses to the national School and Staffing Survey who described their reasons for leaving the profession. (Seven Trends: The Transformation of the Teaching Force, Consortium for Policy Research in Education, April 2014, p. 24) The following reasons were cited most often:

20.8% Termination for budgetary or performance reasons
35.4% Family Personal reasons
38.9% Pursuit of additional education or a different career
45.3% Dissatisfaction (school or working conditions, salaries, classroom resources, student misbehavior)

In the Ingersoll and Perda research, teacher respondents were allowed to give more than one reason for leaving, so the percentages add to a sum greater than 100%. It would be informative to conduct future research surveying "leaving" teachers in Georgia in order to find their reasons for leaving. In particular it might be productive to determine factors that link poverty among students to teachers' decisions to leave. Research toward identifying such factors was done ten years earlier in Georgia with the conclusion that, "… the common notion that teachers are more likely to leave high poverty schools is correct…" Stinebrickner, Todd R. and Scafidi, Benjamin P. and Sjoquist, David L., Race, Poverty, and Teacher Mobility (August 2005). Andrew Young School of Policy Studies Research Paper Series No. 06-51. Available at SSRN:

http://ssrn.com/abstract=902032 or http://dx.doi.org/10.2139/ssrn.902032

These results regarding poverty and attrition should motivate the Georgia education community to thoroughly prepare new teachers to be successful with students from all sociologies and to fully support rookie teachers in their newly acquired positions with persistent and helpful coaching and mentoring. Additional research is needed on links among poverty, attrition, and teacher pay in districts and in individual schools.

Returning Teachers

Each year a sizable number of newly hired teachers are returning teachers who left the workforce for a time. For planning purposes it is important to have research-based estimates of how many returning teachers can be expected in each year's supply. We examine this component of teacher supply from two perspectives:

1. How much of each year's teacher hiring demand is supplied by returning teachers?
2. When teachers leave the workforce, will they return and how long will they stay out?

The following five-year history of returning teachers as percentages of the annual supply gives an answer to question 1.

Table 9. Counts and Percentages of Returning Teachers in the Annual Supply, 2011 to 2015

	2011	2012	2013	2014	2015
Newly Hired Teachers (the Annual Supply)	6941	8369	8132	10,806	13,234
Teachers Returning after a Break in Service	2129	2308	2191	3100	4023
Percent of Supply who are Returning Teachers	30.7%	27.6%	26.9%	28.7%	30.4%

In this chart, "returning teachers" are returning to teaching from at least one year's absence from Georgia's public school workforce. "Returning teachers" were those teachers among the newly hired set whose records were found in the prior history of the Certified Personnel Information (CPI) file, searching as far back as 1986. Since records go back as far as 1986, it is safe to generalize from these percentages: we expect with a high level of confidence that at least 25% of each year's teacher demand will met by teachers who have worked in the Georgia public teaching force before.

Question 2 is similar to question 1, equally interesting, but harder to incorporate into workforce predictions. Nevertheless in this report we include estimates of how long teachers remain out of the workforce before they return. To get the most complete picture possible we included teacher attrition over the past 15 years and tabulated five "10-year return windows". We limited the spans to ten years under the assumption that no substantial expectation of return should be held for teachers who have been out of the Georgia public school teaching force for more than ten years. Attrition was tabulated only for teachers, but if teachers returned in other capacities for which a certificate is required (e.g. counselor, principal) we counted them as "returned".

Table 10a. Ten-Year History of Returning Teachers

	Each cell holds the count and percentage of teachers who returned after the indicated number of years break in service. Example: In the first row 7,413 teachers from the year 2000 work force did not return in 2001, but 767 of them (10.3%) came back to the public school work force in 2002.									
Year and Attrition*	**After 1 Year Absence**	**After 2 Years Absence**	**After 3 Years Absence**	**After 4 Years Absence**	**After 5 Years Absence**	**After 6 Years Absence**	**After 7 Years Absence**	**After 8 Years Absence**	**After 9 Years Absence**	**After 10 Years Absence**
2000	767	443	264	174	159	126	97	74	29	34
7,413	10.3%	6.2%	3.6%	2.3%	2.1%	1.7%	1.3%	1.0%	0.4%	0.5%
2001	751	393	233	195	173	128	71	36	39	27
7,084	10.6%	5.5%	3.3%	2.8%	2.4%	1.8%	1.0%	0.5%	0.6%	0.4%
2002	775	405	274	214	136	89	34	46	31	34
7,499	10.3%	5.4%	3.7%	2.9%	1.8%	1.2%	0.5%	0.6%	0.4%	0.5%
2003	972	488	325	194	135	58	41	40	40	48
8,285	11.7%	5.9%	3.9%	2.3%	1.6%	0.7%	0.5%	0.5%	0.5%	0.6%
2004	777	469	225	135	50	59	60	34	51	59
7,216	10.8%	6.5%	3.1%	1.9%	0.7%	0.8%	0.8%	0.5%	0.7%	0.8%

** Attrition was defined by "teaching in the Spring CPI" but "absent in the following Fall CPI in any certified role."*

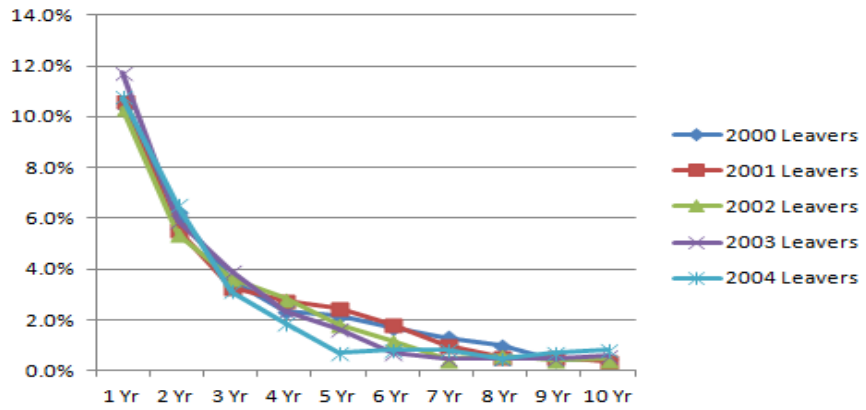
Taking the average of each column gives an estimate of what portion of the leaving teachers will return after an absence of each number of years. The averages are given in the table below.

Table 10b. Means of Returning Teachers Percentages by Years of Break in Service

Absence:	**1 Yr**	**2 Yr**	**3 Yr**	**4 Yr**	**5 Yr**	**6 Yr**	**7 Yr**	**8 Yr**	**9 Yr**	**10 Yr**
Means:	10.8%	5.9%	3.5%	2.4%	1.7%	1.2%	0.8%	0.6%	0.5%	0.5%

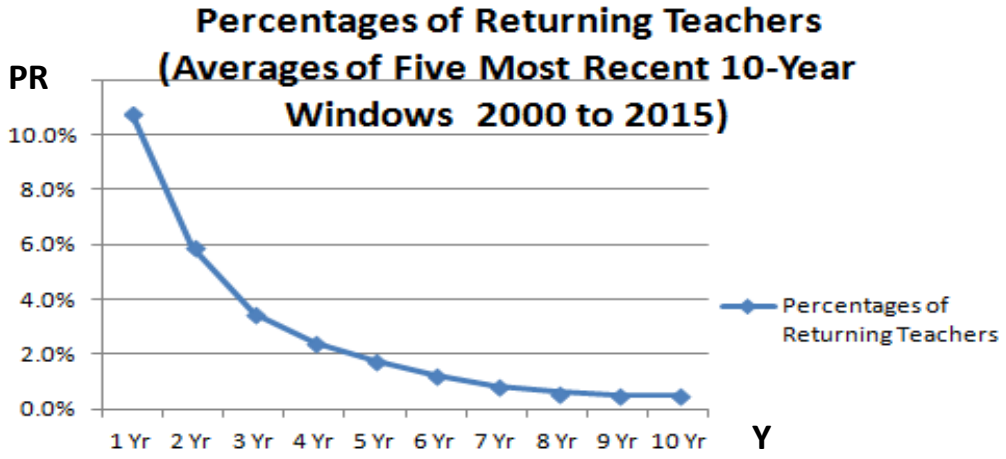
The data for individual years of leavers and their returning rates over the subsequent ten year interval yield five graphs that are all very similar:

Figure 4. Percentages of Returning Teachers by Years of Break in Service



The graph of the means below shows a curve of returning rates which can provide an ongoing approximation model for predicting how many of Georgia's "leaving" teachers will return to the public workforce, and when.

Figure 5. Percentages of Returning Teachers by Years of Break in Service – A Composite Model



One equation seems to model this pattern well enough to provide usable estimates for Georgia: PR(Y) = $10\%/Y$ where PR(Y) stands for the percentage of returning teachers and Y represents the years intervening before return to the teaching force.

CPI data analysis showed that over 7,500 teachers from the 2013-14 workforce did not return in the Fall of 2014-15. Based on this estimation function, 10% of these (around 750 teachers) will likely return to work in the fall of 2015-16 after a 1-year absence.

Who Returns?

The following table shows demographics of each "first year" returning teacher set for the years 2002 through 2006. These are the teachers who return after one year out of the workforce. There is some variability demonstrated throughout these years, but the percentages are similar to the demographic percentages of the overall teaching force.

Table 11. Percentages of Returning Teachers after a 1-Year Break in Service, by Demographic Group

Demographic Group	Attrition from 2000, Returning in 2002	Attrition from 2001, Returning in 2003	Attrition from 2002, Returning in 2004	Attrition from 2003, Returning in 2005	Attrition from 2004, Returning in 2006	Group Means
White Females	58.4%	61.3%	52.1%	56.1%	56.8%	56.6%
Minority Females	21.1%	21.0%	29.8%	24.4%	25.9%	25.3%
White Males	14.3%	13.0%	10.7%	13.0%	12.7%	12.4%
Minority Males	6.1%	4.7%	7.4%	6.6%	4.6%	5.8%
Totals:	767	751	775	972	777	

Comparing the return of teachers from the 2013 attrition group after a one-year break in service, we see a notable difference from the earlier years displayed in the above table. The return percentages in 2015 show a dramatic increase in the percentage of minority females and minority males returning, and a decrease in the percentage of returning white female teachers.

Table 12. Teachers Returning in 2014-15 After a 1-Year Break in Service, by Demographic Group

Demographic Group	Attrition from 2013, Returning in 2015
White Females	45.3%
Minority Females	33.4%
White Males	13.2%
Minority Males	8.1%
Total:	614

All Sources of New Teachers

Georgia's supply of newly hired teachers each fall can be grouped into four sources:

1. Returns - Returning Teachers, described above
2. Rookies -Teachers who recently completed Georgia "traditional" teacher preparation programs
3. GaTAPP - Non-Traditional Teachers, not originally prepared to become teachers, now being prepared in GaTAPP programs, Georgia's Teacher Academy for Preparation and Pedagogy
4. Other Sources – Mostly teachers prepared in other states (and countries) who have now found positions in Georgia and teachers who formerly taught in private schools, now taking positions in public schools

Table 9 shown earlier in this report gives an estimate of the percentage of newly hired teachers who are returning from prior years of service in Georgia's public school teaching force: a minimum of 25% in recent years, and sometimes as high as 30%.

In recent years "rookies" have decreased in their numbers, because hiring was reduced in the years 2009-2011 and because teacher production numbers were reduced. The following table shows five recent years, 2010-2014, tabulating rookie teachers as a percentage of the newly hired teacher "supply". The year 2013 is the most recent one for which we have program completer statistics, so 2014 is the most recent year we include in this hiring chart.

Table 13. Annual "Rookie" Teacher Hiring Rates

Hiring Year (Fall)	Total New Teachers Hired	Georgia Prior Year Traditional Program Completers Hired as New Teachers	Percentage of New Hires Who were Rookies from Georgia Traditional Programs
2010	6763	3357	49.6%
2011	6941	3368	48.5%
2012	8369	3373	40.3%
2013	8132	3127	38.5%
2014	10806	2977	27.5%

These same five years provide the best framework for tabulation of the four sources of supply.

Table 14. Four Sources of Annual Teacher Supply

Hiring Year (Fall)	Total New Teachers Hired	(1) Georgia Teachers Returning after a Break in Service	(2) Rookies from Georgia Programs	(3) GaTAPP Non-Traditional Teachers	(4) Other Sources *
2010	6763	30.6%	49.6%	6.6%	13.2%
2011	6941	30.7%	48.5%	5.9%	14.9%
2012	8369	27.6%	40.3%	6.4%	25.7%
2013	8132	26.9%	38.5%	6.5%	28.1%
2014	10806	28.7%	27.5%	5.9%	37.9%

** Other Sources: For this chart, it is assumed that the remainder after accounting for Returnees, Rookies and GaTAPP teachers must be mostly teachers from other states (or countries) or imports from non-public schools. Thus 100% - 30.6% - 49.6% - 6.6% yields 13.2%.*

Section 3 – Georgia Teacher Production and Yield to Public P-12 Classrooms

Production from Georgia's traditional educator preparation programs has averaged almost 5900 new teachers per year since 2006, and production peaked at 6,873 completers in 2011. Table 15 shows the annual details of how Georgia's teacher preparation programs have filled the needs of Georgia's RESAs. The average of all the RESA supply numbers from traditional programs is 48.6%. The statewide supply contribution percentages from non-traditional sources (GaTAPP) appear dependable but consistently under 7%.

Table 15 – Regional Supply of Teachers New to Georgia

RESA	Newly Hired Teachers, New to Georgia, 2010	Newly Prepared in Georgia from Non-Traditional Programs 2009-2013	Non-Traditional Percentage Contribution of Teachers New to GA	Newly Prepared in Georgia, from Traditional Programs 2009-2013	Traditional Percentage Contribution of Teachers New to GA
Central Savannah River Area RESA	179	8	4.5%	91	50.8%
Chattahoochee-Flint RESA	200	10	5.0%	78	39.0%
Coastal Plains RESA	179	12	6.7%	101	56.4%
First District RESA	331	16	4.8%	161	48.6%
Griffin RESA	250	22	8.8%	103	41.2%
Heart of Georgia RESA	43	1	2.3%	28	65.1%
Metro RESA	1,555	97	6.2%	515	33.1%
Middle Georgia RESA	206	28	13.6%	94	45.6%
North Georgia RESA	82	1	1.2%	35	42.7%
Northeast Georgia RESA	208	9	4.3%	129	62.0%
Northwest Georgia RESA	235	5	2.1%	117	49.8%
Oconee RESA	56	9	16.1%	31	55.4%
Okefenokee RESA	43	3	7.0%	25	58.1%
Pioneer RESA	113	3	2.7%	52	46.0%
Southwest Georgia RESA	123	17	13.8%	46	37.4%
West Georgia RESA	160	12	7.5%	74	46.3%
				Average for All RESAs:	48.6%

It is important to note that three of Georgia's regions depended on non-traditional programs to supply over 10% of "brand new" teachers, teachers who are newly hired and have no prior Georgia experience. Traditional teacher preparation programs exist within the geographic boundaries of all three of those areas and supply a good number of teachers, but they do not supply all the teachers needed. Often it takes two or three years for new teachers to complete a non-traditional program in Georgia. Because of interruptions in programs and in staffing patterns, it is necessary to examine completer data from several years to see how non-traditional programs contribute to a particular year's supply. For Table 15, which focuses on FY2010, data was examined for completers in years 2009 through 2013.

The combined total of new teachers produced by traditional programs and GaTAPP programs does not meet the increasing demand for new teachers in Georgia. From 2010 to 2014 the portion of new teacher supply provided by "other sources" almost tripled. Until teacher production in Georgia increases substantially, vigorous efforts will remain necessary in Georgia school districts to recruit and retain teachers from these "other sources".

In 2006 there was a large increase in the number of Georgia P-12 students. That year the P-12 enrollment increased by almost 45,000 students, a growth of 2.8%: the biggest on record for the past 20 years. The next year the enrollment counts jumped by another 30,000 students. This student growth demanded more teachers, and thus began the "perfect storm" in Georgia's recent teacher supply and demand history.

During these past 10 years, Georgia's student enrollment has never declined. Over this time Georgia's student enrollment grew from **1,598,461** in 2006 to **1,736,416** in 2015, a growth of nearly 140,000 students. During this same time the number of Georgia's teachers increased by almost 2,000. In these past ten years the state's overall ratio of students to teachers has risen from 14.4 to 15.3.

Since 2006 Georgia's teacher production pipeline increased each year up until 2011, when traditional and non-traditional providers combined to produce a total of 6873 new educators. From that point the supply has fallen to 5421 new program completers in 2013, the most recent year for which data are available. Not all of the 5421 new completers went on to receive Georgia educator certification; only 5051 did. (See Table 16.) And not all of those 5051 were new teachers; program completers include newly prepared counselors, school psychologists, and administrators of various types. Only 4976 of the 5051 were newly certified teachers. Table 16 contains the numbers and percentages of completers became Georgia certified and who found employment as Georgia public school teachers the **next year after their program completion**.

Table 16. First Year Teacher Yield from Traditional Preparation Programs, 2006-2013

Completer Year	Completer Counts	Completers Who Received Georgia Certification	Completers Employed Next Year after Program Completion	Percentage of Completers Employed the Next Year after Program Completion	Percentage of "Certified" Completers Employed the Next Year after Program Completion
2006	5030	4920	3955	78.6%	80.4%
2007	5294	5134	4399	83.1%	85.7%
2008	5337	5147	4108	77.0%	79.8%
2009	6222	5962	3357	54.0%	56.3%
2010	6551	6179	3368	51.4%	54.5%
2011	6873	6471	3373	49.1%	52.1%
2012	6340	5933	3127	49.3%	52.7%
2013	5421	5051	2977	54.9%	58.9%

Effects of the Economic Recession on New Teacher Production

Production from Georgia's traditional educator preparation programs peaked at 6,873 completers in 2011, but declined to 5,421 in 2013. Over half (2,977) of these 5,421 completers found Georgia teaching positions in 2014, when the new hiring demand was almost 11,000 teachers. "Rookie" teachers from traditional Georgia preparation programs have accounted for fewer new hires each year since 2010, declining from nearly 50% in 2010 to 27.5% in 2014, while out-of-state educators have accounted for an increased percentage. Ten years ago in FY 2005, teachers from traditional Georgia preparation programs accounted for 24.1% of new hires. The pattern of the last five years may be accounted for largely as a recovery from the effects of the recession, with more new teachers coming from out-of-state sources as the economy improves and the hiring demand for teachers increases.

Completers Who Don't Get Teaching Jobs Right Away

Understandably not every new completer finds a job match the next year. It may be because they are seeking employment in a saturated geographical setting, or they may wait to apply. As already discussed, poor economic conditions also can reduce the success of job seeking.

A. Some delay their first year entry into teaching positions, with unknown employment in the interim. See the following table for this "delayed" employment group (CDT, Completer-Delay-Teaching) whose records were not found in the CPI records between completion date and their first teaching position.

Table 17. (CDT group) Completers Employed as Teachers after a One-Year Delay following Program Completion

	Unduplicated Employment Counts in Subsequent Years after a Delay of One Year							
Completer Year and (Completer Counts)	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
2006 (5030) [950 not in 2007]	181 (19.1%) *	62 (6.5%)	14 (1.5%)	6 (0.6%)	10 (1.1%)	11 (1.2%)	11 (1.2%)	10 (1.1%)
2007 (5294) [999 not in 2008]	X	192 (19.2%)	34 (3.4%)	25 (2.5%)	20 (2.0%)	13 (1.3%)	12 (1.2%)	0 (0.0%)
2008 (5337) [1282 not in 2009]	X	X	110 (8.6%)**	93 (7.3%)	51 (4.0%)	30 (2.3%)	35 (2.7%)	30 (2.3%)
2009 (6222) [2779 not in 2010]	X	X	X	549 (19.8%)	243 (8.7%)	139 (5.0%)	116 (4.2%)	125 (4.5%)
2010 (6551) [2961 not in 2011]	X	X	X	X	456 (15.4%	259 (8.7%)	197 (6.7%)	184 (6.2%
2011 (6873) [3228 not in 2012]	X	X	X	X	X	508 (15.7%)	339 (10.5%)	284 (8.8%)
2012 (6340) [2943 not in 2013]	X	X	X	X	X	X	517 (17.6%)	372 (12.6%)
2013 (5421) [2264 not in 2014]	X	X	X	X	X	X	X	485 (21.4%)

** (percentages are based on each year's count of delayed completers)*

*** 2010 was a difficult year to seek employment in Georgia, so 8.6% may be considered abnormally low.*

Although the job acquisition rate after one year of delay appears to range from 8.6% to 21.4% for this sample of eight years of completer records, it should be noted that 2010 was a very difficult year to seek a teaching position. The year 2010 was a lean year economically, and teacher hiring was at a low point compared to other years: 6.9% as compared to a typical teacher hire rate of 10%. The year 2010 should be viewed as an anomaly in this data set. The more typical hire rate is about 18% for completers who delay their job seeking for a year. Note: these data do not include paraprofessionals whose job acquisition rate is detailed in the next section.

B. Some completers take jobs as paraprofessionals or other non-teaching duties while waiting for a favorable position to open for which they may apply. See the next table for paraprofessional hiring the first year after completion, the (CP) group (Completer-Paraprofessional).

Table 18. (CP Group) Completers Employed as Paraprofessionals their First Year

Completer Year	Completer Counts	Completers who Took Paraprofessional Jobs their First Year after Completion	Percentage of Completers as First Year Paraprofessionals
2006	5030	176	3.5%
2007	5294	161	3.0%
2008	5337	207	3.9%
2009	6222	357	5.7%
2010	6551	515	7.9%
2011	6873	659	9.6%
2012	6340	601	9.5%
2013	5421	489	9.0%

The paraprofessional employment rate for new completers has almost tripled over the past few years. Although this practice might not be the conventional "plan" for new completers searching for a teaching position, it has a beneficial effect for both school principals and the paraprofessionals themselves. Principals can observe the potential teachers on the job, working with students and other teachers. Thus the paraprofessional employment provides a clinical observation setting that could serve the principal far better than a job interview. Conversely the paraprofessional work time gives the new completer an opportunity to assure that teaching is the right career and to see whether "this school, this principal, and these teacher colleagues" add up to the right fit for beginning a teaching career.

New elementary teachers who serve as paraprofessionals have higher retention rates than those who don't.

The improved retention associated with serving in a paraprofessional role before assuming a teacher of record position is exhibited in the chart below. It shows three-year and five-year retention rates for teachers in "same year" cohorts of completers who took two different pathways into teaching jobs. The two pathways are labeled C-T (Completers who took Teaching positions the next year after completing their programs [n = 3955, 4399, 4108]) and C-P-T (Completers who took Paraprofessional positions the next year after completing their programs [n = 139, 135, 148] and then found teaching positions the year following a single year as a paraprofessional).

Table 19. Retention Comparisons of Completers <u>With</u> and <u>Without</u> Paraprofessional Experience

	3-Year Retention		5-Year Retention	
Completer Year	**C-T**	**C-P-T**	**C-T**	**C-P-T**
2006	81.7%	87.1%	73.5%	83.5%
2007	79.9%	86.7%	72.7%	81.5%
2008	79.7%	92.6%	71.5%	82.4%

Most newly minted teachers working as paraprofessionals do have jobs as teachers eventually. It may be the second year, third year, or even later. The following table shows how completers from 2006 to 2013 transitioned

into paraprofessional jobs and then into teaching jobs. (For ease of tracking groups, these teachers are labeled CPT to indicate their career track was characterized as Completer then Paraprofessional then Teacher.)

Table 20. (C-P-T Group) Teaching Jobs for Completers Serving as Paraprofessionals

Completer Year	Completers who Took Parapro Jobs their First Year after Completion	Number of New Completers / Parapros In Teaching Positions in Later Years	Percent of New Completers / Parapros In Teaching Positions in Later Years	Employment Database was Queried for these Years
2006	176	150	85.2%	2006-2015 (10 years)
2007	161	146	90.7%	2007-2015 (9 years)
2008	207	180	87.0%	2008-2015 (8 years)
2009	357	300	84.0%	2009-2015 (7 years)
2010	515	439	85.2%	2010-2015 (6 years)
2011	659	549	83.3%	2011-2015 (5 years)
2012	601	498	82.9%	2012-2015 (4 years)
2013	489	384	78.5%	2013-2015 (3 years)

Table 21. Top Ten Teaching Fields for Teacher Preparation in FY 2013

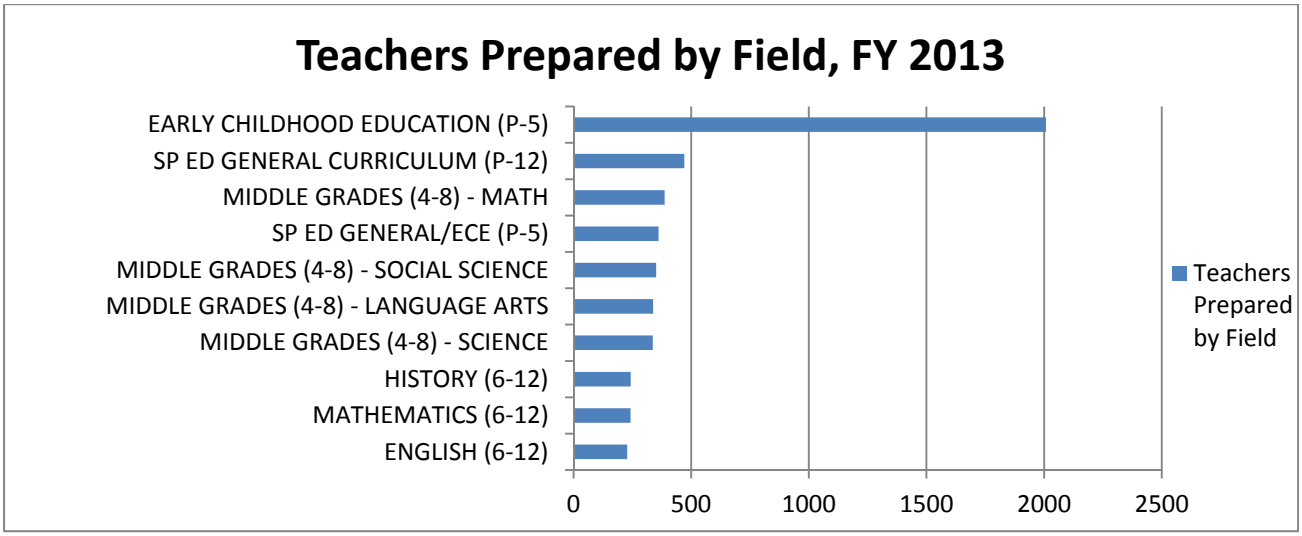


Table 22. Teacher Preparation (2013, Most Recent Data Available, Top Ten Production Fields)

Teaching Field	Traditionally Prepared	Alternatively Prepared	Total Prepared
Early Childhood Education	1971	38	2008
Special Education, General Curriculum	373	98	471
Middle Grades Math	371	16	387
Special Education with Early Childhood Education	352	9	361
Middle Grades Social Science	341	11	352
Middle Grades Language Arts	332	7	339
Middle Grades Science	311	29	340
Secondary History	233	10	243
Secondary Mathematics	193	49	242
Secondary English	212	16	228