THE GOVERNOR'S OFFICE of STUDENT ACHIEVEMENT

An Analysis of the Retention Rates of Georgia Public School Teachers

Contents of Report

The purpose of this report is to examine teacher retention using Georgia public school employment data from school years 1997-98 to 2008-2009.

Section I defines the specific questions this report addresses. Section II contains a description of issues regarding the measurement of teacher retention, and section III describes the data and methodology used to measure teacher retention. Section IV contains the results, and concluding remarks are offered in section V.

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The author thanks Eric Wearne, Jerry Eads, and Christopher Clark for helpful comments. Any remaining errors are the author's. Any views expressed in this report belong to the author alone and do not necessarily represent the views of the Governor's Office of Student Achievement, the Georgia Professional Standards Commission, or Georgia College & State University.

Introduction

"***About half of all teachers leave the profession within five years, according to the National Center for Education Statistics."Atlanta Journal-Constitution (2009)***[1]

"The proportion of new teachers who leave the profession has hovered around 50 percent for decades, said Barry A. Farber, a professor of education and psychology at Columbia University" Washington Post (2006)[2]

The notion that 50 percent of new teachers leave public education within five years has been the longstanding conventional wisdom in education policy circles. Retaining teachers may be important because several studies find that novice teachers are less effective on average than teachers with two, three or more years of experience in the classroom (see for example, Rivkin, et al. (2001)). If new teachers leave just as they gain valuable teaching experience, then replacing them with rookie teachers could harm student achievement.[3]

Given the potential for teacher retention to impact the quality of the teaching force, this report seeks to analyze teacher retention in Georgia's public education system. Specifically, this report uses data on all public school employees from the 1998-99 to 2008-09 academic years to address the following questions:

1) What percent of new teachers leave the public education system in Georgia early in their careers?

2) To what extent do new teachers who leave early in their careers return to teaching?

3) To what extent do new teachers move into other professional occupations within the public education sector?

4) What differences are present, if any, among the career paths of teachers by demographics, geography, and subject?

By addressing all four of these questions together, this study will provide a comprehensive understanding of teacher retention in Georgia.

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[1] http://blogs.ajc.com/get-schooled-blog/2009/06/05/why-do-georgia%E2%80%99s-teachers-leave/ , retrieved April 16, 2010.

[2] http://www.washingtonpost.com/wpdyn/content/article/2006/05/08/AR2006050801344.html , retrieved April 16, 2010.

[3] Of course, if less effective novice teachers are leaving, then teacher attrition may be beneficial for student achievement.

II. Measuring Teacher Retention

There is a large body of academic research on teacher retention—Scafidi, et al., (2007) provides a survey of this literature. Often, researchers code any move that a teacher makes as attrition. Thus, if an individual is teaching one year and is not teaching the next, then that individual is counted as having left the teaching force. However, that one measure of teacher attrition may not capture the overall pattern of the career paths of teachers. For example, some teachers may leave teaching and soon return, and some teachers may move into a non-teaching job within the public education sector. There is limited evidence on both of these possibilities.

Teachers who Leave and Later Return

If an individual begins teaching in Georgia in a public school and leaves teaching for only a short time before returning, it is not accurate to say that the individual has "left the teaching profession" forever. Using a small sample of teachers who graduated from high school in 1972 (the National Longitudinal Survey of the High School Class of 72, NLS-72), Stinebrickner (2001, 2002) finds that about half of those teachers who leave do return to teaching. Given that most of his teachers graduated college in 1976 or thereabouts, that his sample size was small, and that the NLS-72 data is more than a generation old, it is time to revisit this question with statewide data.

Teachers Moving into Non-Teaching Jobs within the Public Education Sector

Using data on teachers from New York State, Brewer (1996) reports that it is very common for public school administrators to be former teachers. Scafidi, et al. (2007) documents that these types of transitions also occurred for new public school teachers in Georgia in the 1990s.

Defining Teacher Retention

Given the reality that some new teachers have only short spells out of teaching before they return and that some new teachers move into other professional occupations within public education, one must be careful when defining teacher retention. In this report, teachers are counted as retained when they are in the Georgia public education system and they are not retained when they are not in the public education system. Further, individuals who were new teachers and later transitioned into another professional occupation within the public education system are counted as retained—since they remain in public education; that is, they never left. The specific "business" rules regarding how teacher retention is defined are described in the next section.

III. Data and Methodology

Using administrative data on all employees of the public school system in Georgia from the Certified Personnel Index (CPI) files from academic years 1997-98 to 2008-2009, this report analyzes the career patterns of teachers. The annual CPI files were provided by the Georgia Department of Education. Each public school employee in a given year is listed in the CPI and has a numerical identifier and a job code.

These identifiers and job codes allow researchers to track the movement of individuals in and out of public education—and perhaps in again; and to track the movement of individuals across occupations within public education.

The analysis focuses on three cohorts of teachers who began teaching in either the 1998-99, 1999-00, or 2000-01 academic years. As discussed below, using these three cohorts allows a reasonable definition of new teacher and provides eight to ten years of subsequent data on teacher retention.

Who is a Teacher?

Any individual with a job code greater than 79 and less than 200 is coded as being a teacher—except for job codes 135 (Literacy Coach) and 155 (Adult Education). The definition of each job code for each year is found here.

All other public school employees were placed into the following categories based on their job codes:

Administration – job codes: 600-621, 635-641, 645-651, and 670-672.

Education Support – job codes: 135, 302, 398, 408, 411, 413, 414, 433, 437, 440, 441, 445, 475, 476, 484, 625, 642, 665, 673, and 999.

Student Services – job codes: 300, 301, 306, 400-402, 404-407, 412, 438, 479-483, and 485.

Operations – job codes: 155, 303-305, 399, 409, 410, 415-432, 443-444, 446-452, 454-468, 470-474, 477, 478, 486-499, 622, 630, 643, 644, 660, 675, 680, and 691.

Paraprofessionals – job codes: 403, 434-436, 439, 442, and 453.

This classification system does not necessarily represent an official classification system for the state of Georgia or any state agency. The purpose of this classification system is merely to show the destinations of new teachers who transition into other occupations within public education.

Some public school employees perform more than one job. For example, for part of the day they may be a teacher and for part of the day they may be a counselor. For this study, if an individual is teaching at least part of the day, they are defined as a teacher.

Who is a New Teacher?

For this report, it is necessary to identify which individuals were new teachers in the 1998-99, 1999-00, and 2000-01 academic years. The CPI has consistent data that can easily be compared across time back to the 1997-98 academic year. This initial year is used to help identify new teachers.

For each of these three cohorts of teachers, the designation of "new teacher" was defined in two ways. First, any individual who (a) has a job code that indicates they are teaching, (b) is paid on pay step "E", (c) is categorized in the CPI as having zero years of experience, and (d) was not in any prior CPI going back to 1997-98 is defined as a new teacher. The second definition of "new teacher" considers only "young" new teachers who satisfy (a) through (d). That is, new teachers who were less than 26 years old

on August 1 of the academic year in which they began teaching. Thus, under this second definition, an individual must be a teacher as defined above, paid on pay step "E", listed as having zero years of experience, could not be present in any prior CPI back to 1997-98, and must be 25 years old or younger when the school year began to be deemed a "young new teacher".

Of course, both definitions of "new teacher" will contain at least some individuals who have taught previously—perhaps out of state or in a private school. Also, some may have taught in a Georgia public school prior to 1997-98. Restricting the definition of new teacher to only individuals less than age 26 when the academic year began minimizes these issues. All prior studies of teacher retention that use state administrative data face this issue.

When is a Teacher Defined as Retained?

If an individual is a new teacher in the 1998-99 academic year and is also teaching in the 1999-00 academic year, any study of teacher retention, including this one, would code that individual as remaining in the teaching force. For this report, individuals who transition into another professional occupation within the public education system are also coded as being retained in public education, as they did not leave. If a teacher becomes a librarian/media specialist or an assistant principal, for example, this should not be viewed as some sort of failure on the part of the public education system. It is reasonable to suspect that most reading this report (or even all) would view prior teaching experience as a plus for librarian/media specialists and administrators, all else equal.

If a new teacher is not present in any occupation in a subsequent CPI file, then that teacher is coded as having left public education. However, if that new teacher returns to the public education system, then they are coded as being retained for any years they are in public education.

To summarize, if a new teacher is employed in the public education system, he or she is counted as retained. If not, not.

Geographic Categories

One question of interest is to what extent teacher retention varies across the state. For this report, the school systems in state are divided into three categories: metro Atlanta systems, rural systems, and "other" systems—systems that are urban or suburban, but lie outside of metro Atlanta.

Metro Atlanta systems are defined as all county and city school systems that lie within the 20-county definition of metro Atlanta as defined by the Atlanta Regional Commission.[4] Rural school systems are defined as systems that have less than 5,000 students and lie outside of the 20-county metro Atlanta region. The "other" category includes systems that have 5,000 or more students and lie outside of the metro Atlanta region. These categories were chosen because of the similar patterns of teacher retention present within each category.

[4] http://www.atlantaregional.com/about-us/the-region , retrieved April 17, 2010.

Math and Science Teachers

There is a concern that math and science teachers experience lower rates of retention than other teachers. To measure any differences in retention rates, this report creates a separate category for math and science teachers. Using the subject codes for teachers present in the CPI files, teachers were coded as being math teachers if they had a subject code between 270 and 278. Science teachers were defined as having a subject code in the ranges of 260-268 or 400-418. The subject codes and their definitions can be found here. Any teacher who taught at least one math or science class is defined as a math or science teacher.

Each of these definitions is used to analyze teacher retention, and the results of the analysis are in the next section.

IV. Results

This report considers the career paths of all new teachers from three cohorts—1998-99, 1999-00, and 2000-01—to analyze teacher retention in Georgia. For the 1998-99 cohort of new teachers, career paths can be observed for 10 subsequent years. For the 1999-00 cohort of new teachers, career paths can be observed for 9 subsequent years and for the 2000-01 cohort 8 subsequent years.

What percent of new teachers leave the public education system in Georgia early in their careers?

In figure 1, retention rates of all new Georgia teachers are reported. Figure 2 reports the retention rates for only new Georgia teachers who were less than 26 years old when they began teaching.

In both figures the preferred method for calculating teacher retention—including individuals who remain in public education in a non-teaching capacity and including individuals who return to teaching as retained for the years they are in public education—is compared to two other methods in order to show the extent to which transitions within public education and returning teachers are important to consider when computing retention rates. To read these figures, year 1 is the year they began teaching. Thus, an individual who remains 10 years later would be retained in year 11.

As shown in figure 1, the traditional method of computing teacher retention—once a teacher stops teaching they are considered as having left the profession even if they have another professional occupation within public education or they return to teaching—suggests that after nine years, 50 percent of new teachers remain teaching in Georgia (blue line in figure 1).[5] Even using this flawed definition of teacher retention that overstates the extent to which individuals leave public education, the retention of teachers is substantially higher in Georgia than suggested by the conventional wisdom that 50 percent of teachers have left the profession within the first five years of teaching.

[5] As stated previously, teachers who leave the Georgia public education system may be teaching in a private school or in a public school in another state. Understandably, state administrative data on teachers does not contain information on teachers who move to another state.

Figure 1 also shows the impact of considering new teachers who remain in public education as retained (red line in figure 1). This method of computing teacher retention suggests that after ten years, 54.3 percent of new teachers remain in public education.

However, substantial numbers of new teachers who leave soon return to public education--this fact is shown in the top (green) line in figure 1. Of all new teachers in this analysis, 62.8 percent were working in the Georgia public education system ten years later. At the five year mark, 74.7 percent of new teachers were still in public education in Georgia—a much higher retention rate than suggested by the conventional wisdom. Thus, Georgia retains its public educators at a rate that is significantly higher than is often stated.

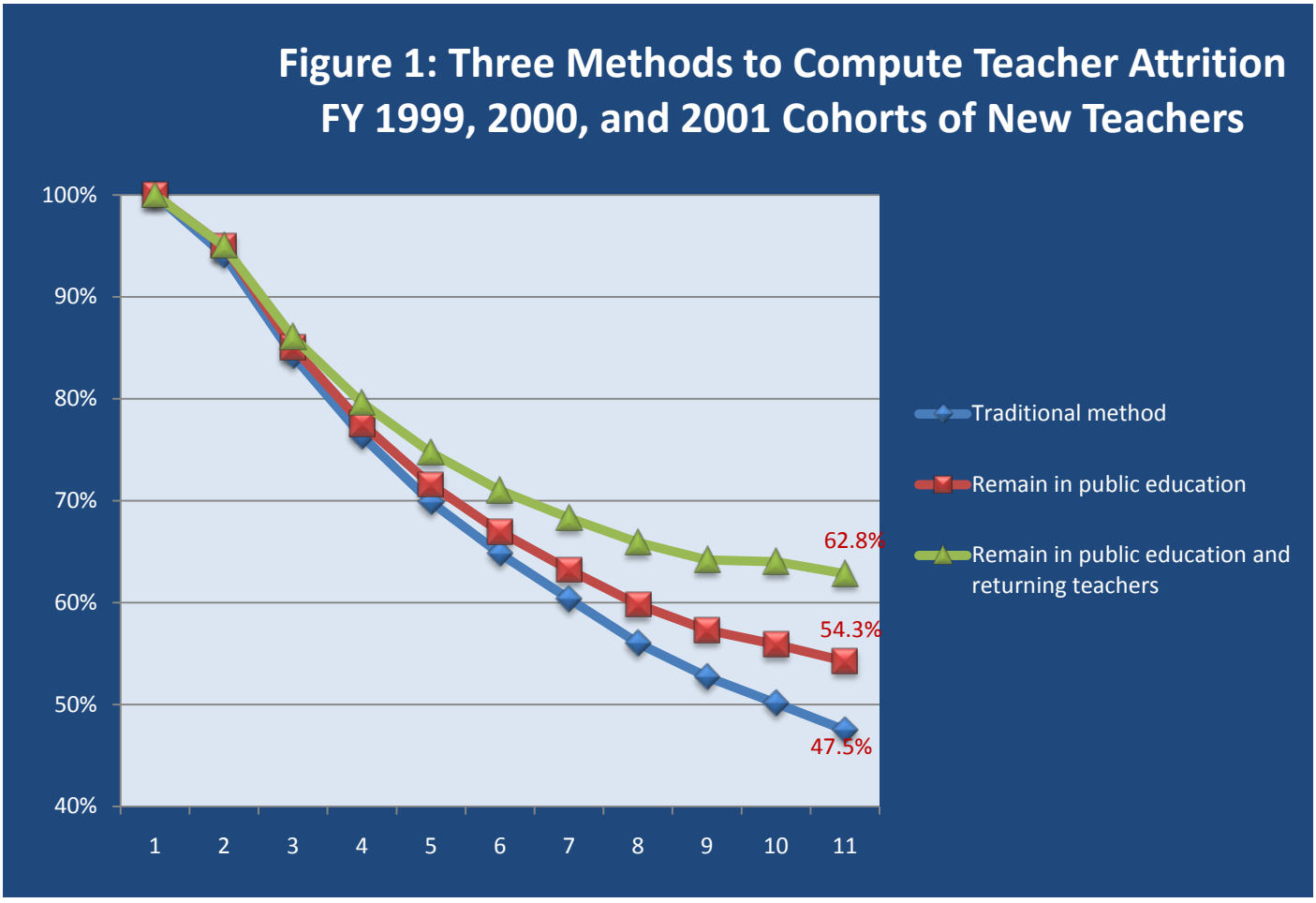
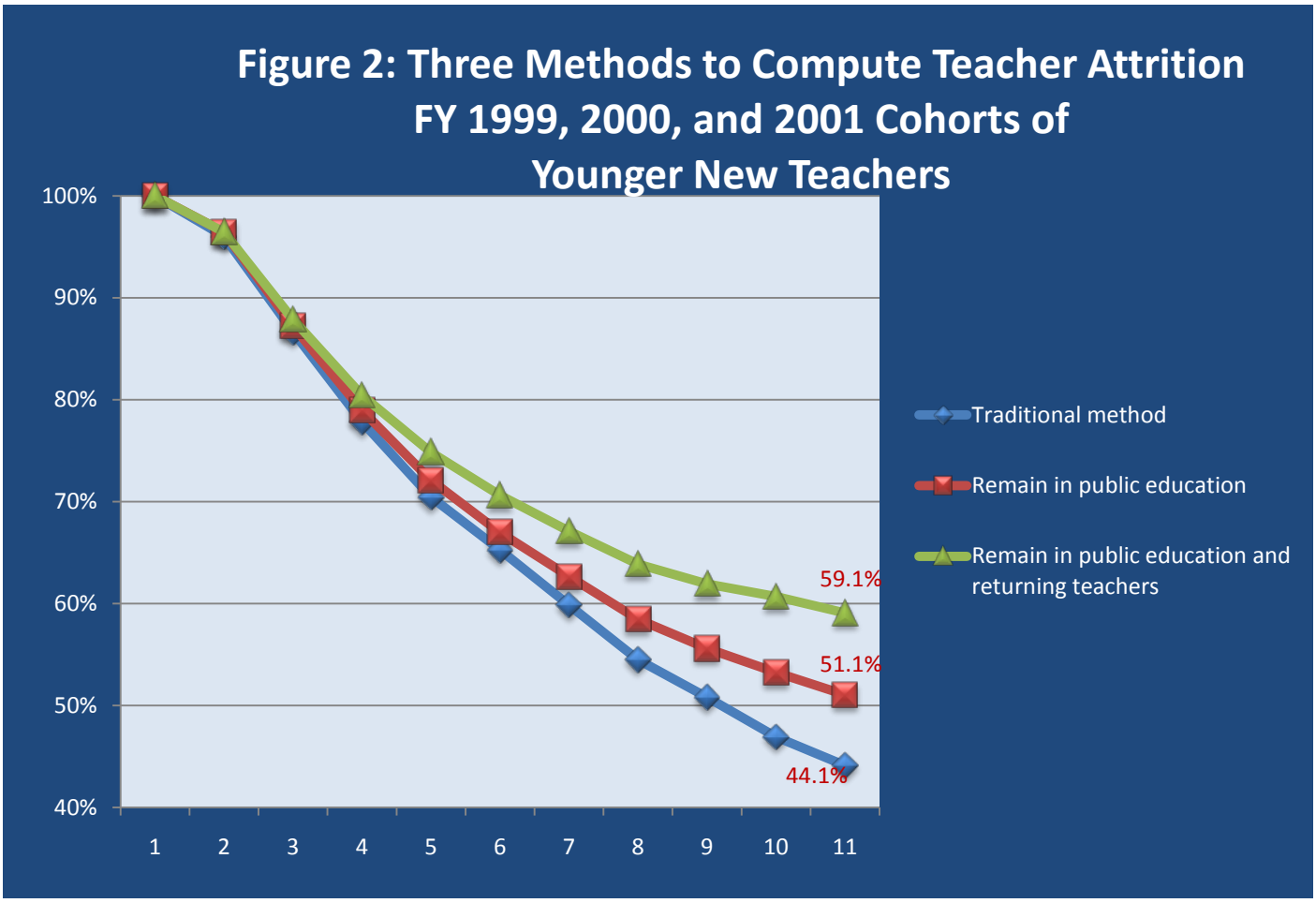


Figure 2 repeats this exercise for "young" new teachers—who were less than age 26 on August 1 of their first year teaching in Georgia. These younger new teachers have a lower retention rate—59.1 percent of these younger new teachers remained in public education in Georgia after 10 years (green line, figure 2). However, their retention rate is well above the rate suggested by the conventional wisdom.



To what extent do new teachers who leave early in their careers return to teaching?

The top rows of tables 1 and 2 show that fewer than 50 percent of new teachers ever leave teaching during the 8-10 year periods under study—teachers who began in 1998-99 are observed for 10 subsequent years, but teachers who began in 2000-01 are observed for only 8 subsequent years. As shown in table 1, of the 13,966 new teachers in the three cohorts, 6,260 (or 44.7 percent) ever made one transition out of public education. Of those 6,260 teachers, 1,422 (or 22.7 percent) returned to the teaching within the time period under study.

The pattern for younger new teachers is similar. Table 2 reports that of the 4,811 younger new teachers in the analysis, 2,237 (or 46.5 percent) ever left public education during the 8-10 years under study. Of those 2,237 who made an exit from teaching, 443 (or 19.8 percent) returned.

Table 1: All New Teachers					
FY99, FY00, FY01 Cohorts of New Teachers					
	Total	**Ever Leave Teaching**	**Percent who Ever Leave (8-10 yr period)**	**Leavers who Return**	**Percent of Leavers who Return**
All	13,996	6,260	44.7%	1,422	22.7%
White	10,594	4,752	44.9%	910	19.1%
Nonwhite	3,402	1,508	44.3%	512	34.0%
Female	11,211	5,024	44.8%	1,150	22.9%
Male	2,785	1,236	44.4%	272	22.0%

Table 2: "Young" New Teachers					
Under age 26 when they started teaching and FY99, FY00, FY01 Cohorts of New Teachers					
	Total	**Ever Leave Teaching**	**Percent who Ever Leave (8-10 yr period)**	**Leavers who Return**	**Percent of Leavers who Return**
All	4,811	2,237	46.5%	443	19.8%
White	3,959	1,903	48.1%	324	17.0%
Nonwhite	852	334	39.2%	119	35.6%
Female	4,070	1,922	47.2%	368	19.1%
Male	741	315	42.5%	75	23.8%

Of the new teachers who made an exit from public education and returned in their first ten years of teaching, just over two-thirds returned to public education within two years. As shown in table 3, 67.3 percent of all new teachers who made an exit and returned and 69.6 of all younger new teachers who made an exit and returned, returned to public education within two years.

Table 3: Number of Years out of the Teaching Force before Returning

Returning teachers who began teaching in FY99, FY00, and FY01

All Teachers				"Young" Teachers Only		
Years away from Teaching	**Number**	**Percent of Total**		**Years away from Teaching**	**Number**	**Percent of Total**
1	619	43.5%		1	212	47.9%
2	338	23.8%		2	96	21.7%
3	176	12.4%		3	54	12.2%
4	137	9.6%		4	46	10.4%
5	70	4.9%		5	18	4.1%
6	46	3.2%		6	7	1.6%
7 or more	36	2.5%		7 or more	10	2.3%
Total	**1,422**	**100%**		**Total**	**443**	**100%**

To what extent do new teachers move into other professional occupations within the public education sector?

Previous research has suggested that at least some teachers transition into other professional occupations within public education. Using the job codes present in the CPI files, all jobs in public education were categorized as being in

- teaching
- administration
- operations
- education support
- student services.

Table 4 shows the extent to which new teachers make transitions into these other occupations in public education within 10 years after entering the Georgia public education system. Of the 6,619 new teachers who made some kind of transition within ten years, 918 (or 13.9 percent) moved into another occupation in public education. The most common moves were into administration and education support. For younger new teachers, 12.5 percent who made some kind of transition within ten years did so by moving into another occupation within public education. Thus, it is not uncommon for new

teachers to transition into other professional occupations within public education. The most common occupations that these former teachers entered were librarian/media specialist, technology specialist, assistant principal, instructional supervisor, and principal. It seems misleading to deem teachers who make these transitions as "leaving" public education.

Table 4: Teacher Transitions to Other Positions within Public Education

(FY99, FY00, FY01 cohorts of new teachers)

	All New Teachers	Percent Making Transition	"Young" Only	Percent Making Transition
Exit Teaching	**6,619**		**2,737**	
Become Administrator	371	5.6%	140	5.1%
Become Operations	78	1.2%	27	1.0%
Become Education Support	383	5.8%	150	5.5%
Become Student Services	86	1.3%	24	0.9%
Make a Transition within Public Education	**918**	**13.9%**	**341**	**12.5%**

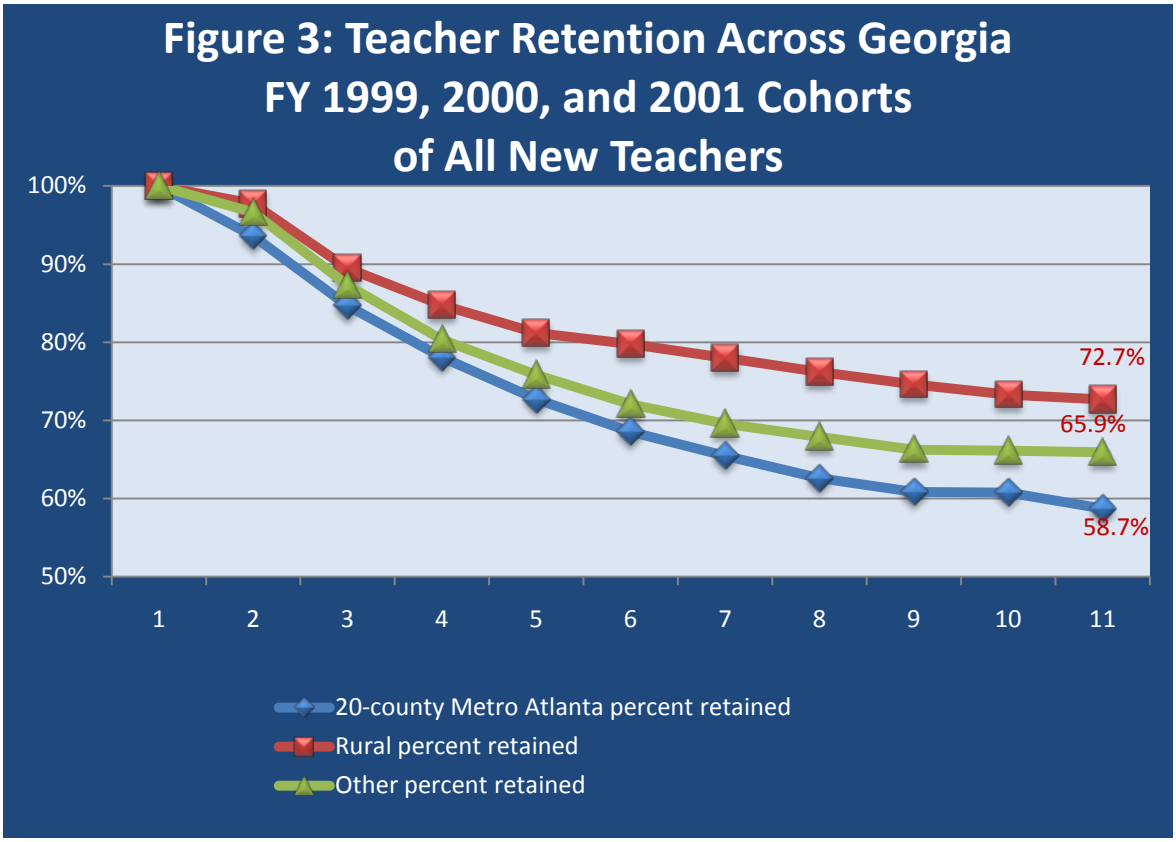
What differences are present, if any, among the career paths of teachers by demographics, geography, and subject?

Table 1 shows that for all new teachers, the percent of teachers who ever leave is almost identical for white and nonwhite teachers and for female and male teachers. However, the percent of nonwhite teachers who make an exit and later return to public education is significantly higher than the return rate of white teachers—34 percent of nonwhite teachers who leave later return, while only 19.1 percent of white former teachers return to public education. The return rates for female and male former teachers are similar—22.9 percent for females and 22 percent for males.

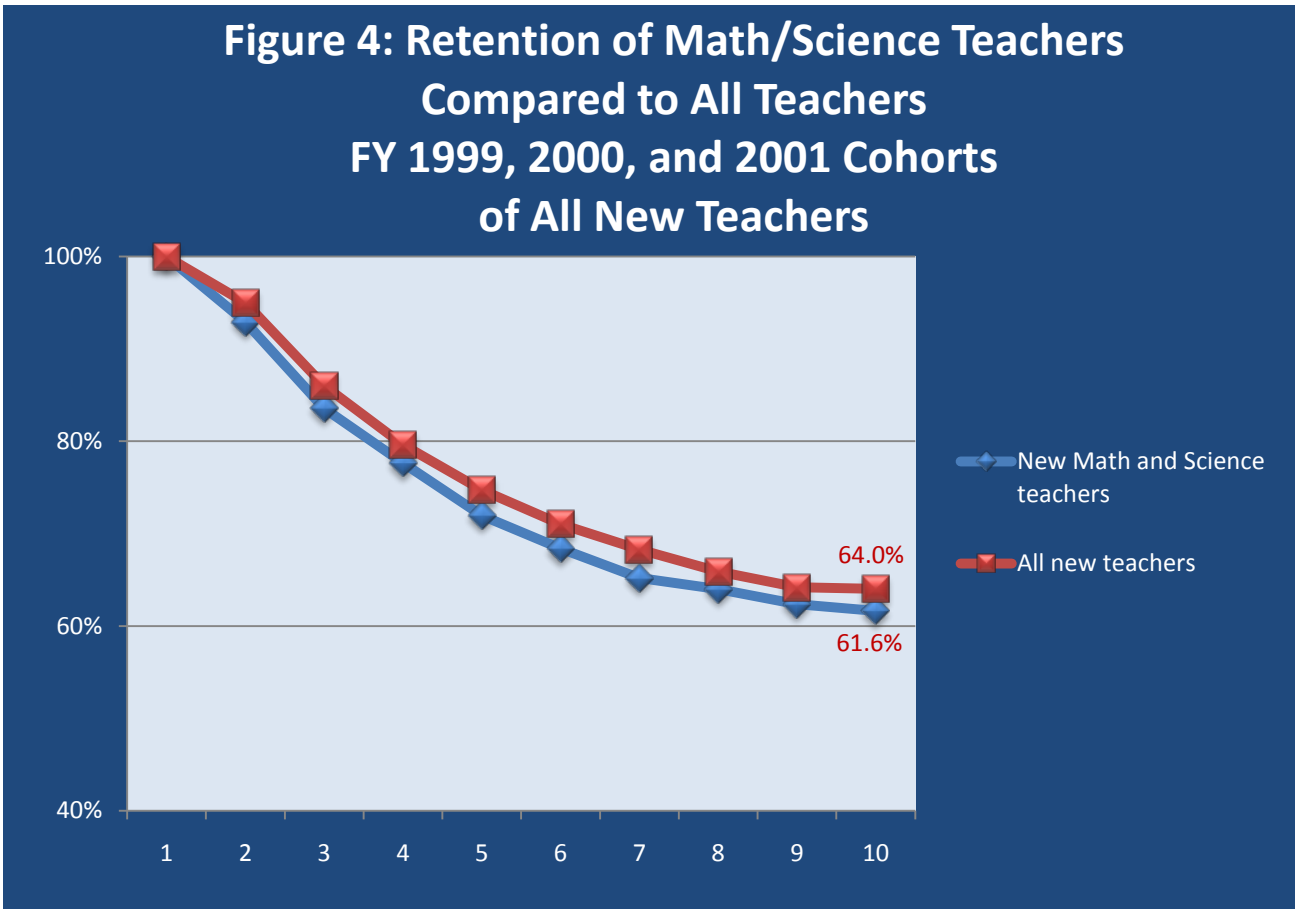
The corresponding results for younger new teachers in table 2 are a bit different. Among these younger new teachers, white and female teachers have higher exit rates than nonwhite and male teachers, respectively. While 48.1 percent of younger new white teachers ever left the public education system in Georgia at some point during the ten year period after they began, only 39.2 percent of younger

nonwhite teachers ever left. Also, 47.2 percent of younger new female teachers ever left the public education system in Georgia at some point during the ten year period after they began, and only 42.5 percent of younger male teachers ever left. Nonwhite young teachers who made an exit were more than twice as likely to return to public education as white young teachers—35.6 percent relative to 17 percent for whites. And, 23.8 percent of young male teachers who left made a return, while only 19.1 percent of young females who made an exit did so.

Different types of school systems across the state had different retention patterns for new teachers. Using the three cohorts of all new teachers, figure 3 shows that school systems outside of metro Atlanta with less than 5,000 students had the highest retention rates for new teachers. After ten years, 72.7 percent of new teachers in these "rural" systems remained in public education. "Other" school systems—those outside metro Atlanta with 5,000 or more students—retained 65.9 percent of teachers after ten years. For county and city school systems in the 20-county metro Atlanta region, 58.7 percent of new teachers remained in public education after ten years.



There has long been a concern regarding retention of math and science teachers. Figure 4 compares the retention rates of new math and science teachers to the retention rates for all new teachers. The results indicate that new math and science teachers do have a bit lower retention rate than other teachers—after nine years, 61.6 percent of new math and science teachers remained in public education (blue line) compared to 64 percent for all new teachers (red line).



V. Conclusion

This study analyzed the career patterns of all 13,966 individuals who were new public school teachers in Georgia in the 1998-99, 1999-00, and 2000-01 school years. The results indicate that the public education system in Georgia retains new teachers at a significantly higher rate than the conventional wisdom which says that half of all new teachers leave within five years. Specifically, 74.7 percent of all new teachers and 74.8 percent of new young teachers (under age 26 when they began teaching) were retained in the Georgia public education system after five years. After ten years, 62.8 percent of the 1998-99 cohort of new teachers remained in the public education system in Georgia (figure 1). To be very clear, the conventional wisdom which says that half of all teachers leave in the first five years is very incorrect, at least in Georgia. Even using the naïve retention rates that do not consider the actual transitions of teachers within public education and back into public education after an exit, the conventional wisdom on teacher retention is incorrect.

Previous research that calculated retention rates of teachers often ignored the reality that many new teachers transitioned into other professions within public education (administration, education support services, etc.) and that many teachers who leave return to teaching after a short time. Of the 13,996 new teachers in the three cohorts under study, 6,619 of them made a transition during the decade

under study. Of the 6,619 who made a transition, 13.9 percent moved to another position within public education, and 22.7 percent returned to teaching after a hiatus. Of the 918 who returned to teaching, 43.5 percent returned after a one-year hiatus, and another 23.8 percent returned after a two-year hiatus (table 3). Therefore, over 67 percent of new teachers who "leave" and return to public education in Georgia return to a Georgia public school within two years.

The results of this report indicate that when calculating retention rates of new teachers, it is important to consider the realities that new teachers move into other professional occupations within public education and that a significant number of new teachers who leave public education return after a short time.

Teachers who were younger when they began teaching—less than 26 years old—had somewhat lower retention rates than other new teachers—59.1 percent of new young teachers remained in the Georgia public education system after ten years compared to 62.8 percent for all new teachers (figures 1 and 2).

For younger new teachers, nonwhite teachers and male teachers had higher retention rates than white and female teachers, respectively (table 2). In addition, male teachers who left were slightly more likely to return to public education than female teachers who left. And, nonwhite teachers who left teaching were more than twice as likely to return to public education as white teachers—35.6 percent versus 17.0 percent for younger new teachers (table 2). For all new teachers, the leave rates were virtually identical between white and nonwhite teachers and female and male teachers (table 1).

Retention rates vary widely across the state (figure 3). Teachers who began their careers in rural school systems had the highest retention rates—72.7 percent of these teachers remained in public education ten years after they began teaching. Teachers who began in the twenty-county metro Atlanta region had the lowest retention rates—only 58.7 percent of teachers who began their careers in metro Atlanta remained in public education after ten years. Of course, even this retention rate for metro Atlanta is significantly above the conventional wisdom that half of all teachers have left public education after five years. Among teachers who began in urban and suburban school systems outside of metro Atlanta, 65.9 percent were retained in the public education system after ten years.

Finally, math and science teachers had somewhat lower retention rates relative to other teachers (figure 4). After the time period under study in this report, Georgia began paying higher salaries to new math and science teachers. It will be interesting to see whether these higher salaries increase recruitment and retention of math and science teachers.

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