



QUEENS UNIVERSITY
OF CHARLOTTE

Teaching: A Profession for Today's Brightest and Best?

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Executive Summary

“Nearly 50% of all teachers who enter the field leave it within a mere five years, and the best and brightest teachers are often the first to leave.” Some research has shown that teachers who scored in the top quartile on standardized college entrance exams such as the SATs were twice as likely to leave teaching without returning as those in the bottom quartile. (Henke, Chen, and Geis, 2000)

This startling realization raises key questions:

- Are our brightest and best college graduates even going into the education profession? If not, is there a way we can get them to go into teaching?
- Once the brightest and best are in teaching, how can we get them to stay in the classroom?

This paper takes a look at who is going into education in North Carolina (NC) and whether there are any models that will attract and retain NC’s brightest in public school teaching. The paper goes further to raise questions needing to be answered to ensure a supply of effective teachers.

The following are three conclusions from the study:

- **Some of North Carolina’s brightest high school students will choose education as a profession given the right incentives.**

Based upon 2008 results of the College Board’s SAT Reasoning Test, it appears generally our state’s and our nation’s brightest high school students are not going into teaching. The average SAT scores in reading, math, and writing for high school seniors indicating education as a college major lag behind the national SAT average and those for majors most commonly mentioned by the students.

The exception to that is the SAT average for 500 high school students who North Carolina has named as Teaching Fellows. These high school seniors, given a \$6,500 per year scholarship if they commit to four years of teaching in a NC public school after graduation, had SAT scores significantly higher than other freshman across NC and the nation. North Carolina’s Teaching Fellows had an average of 1173 on the SAT compared to 1017 for all US students and to 968 for all NC high school students who indicated they would like to major in education. Thus it appears there are models, such as the Teaching Fellows Program, that do provide the right incentives for attracting some of our brightest into the education field.

- **Programs such as the Teaching Fellows Program can increase the supply of teachers and reduce the turnover rates at least through the first years.**

Programs such as the Teaching Fellows increase the supply of teachers in two ways. First, a larger percentage of Teaching Fellows enter teaching after college (92.5% versus 71% of all NC graduates with a teaching license). Secondly, a lower percentage of Teaching Fellows leave the classroom by the end of four years (26% of Teaching Fellows leave compared to 40% of all beginning teachers nationally).

By having more teachers entering the field and fewer teachers leaving the classroom, the supply is increased and the demand for new teachers is decreased. Lowering the turnover rate has huge fiscal implications for the state. On average, in North Carolina each turnover costs approximately \$13,000. Were the turnover rate after four years to be reduced to 26%, the statewide savings would be about \$12.5 million a year. Lowering turnover also reduces “intangible costs” in the schools- thus increasing student achievement.

- **While evidence indicates programs such as Teaching Fellows are able to bring some of our brightest into teaching and these teachers generally remain in the classroom at a rate higher than others at least during those crucial first years of teaching, additional questions about the Program remain unanswered:**
 - Does recruiting our brightest and best actually improve the quality within the classroom? Are these teachers more effective? If so, why? Is it because the curriculum and experiences given the Teaching Fellows play a crucial role in making these teachers more effective?
 - Are there ways to capitalize on the positive things we have learned from this Program? Can we bring those things to scale across NC for all our potential teachers?
 - Given our new college graduates are part of the Millennial Generation, are our expectations of them in the teaching profession still valid or do they need to change? Can teaching be fulfilling for them? Will the same incentives work to recruit and retain them in the profession?

To begin seeking answers, it is recommended that a longitudinal study be launched that will assist in answering these questions about teaching effectiveness, teaching recruitment and longevity, and ways teaching preparation programs can evolve to assist in preparing our future teachers for the realities of teaching in K-12 schools.

Introduction

“Nearly 50% of all teachers who enter the field leave it within a mere five years, and the best and brightest teachers are often the first to leave.” Some research has shown that teachers who scored in the top quartile on standardized college entrance exams such as the SATs were twice as likely to leave teaching without returning as those in the bottom quartile. (Henke, Chen, and Geis, 2000)

This startling realization raises two key questions:

- Are our brightest and best college graduates even going into the education profession? If not, is there a way we can get them to go into teaching?
- Once the brightest and best are in teaching, how can we get them to stay in the classroom?

North Carolina (NC) and Queens University of Charlotte specifically are betting they may have one solution – the Teaching Fellows Program.

A Great Homework Assignment A Poor Outcome

Recently an elementary teacher gave an assignment asking students for each letter of the alphabet to give an event or person who had impacted the United States throughout its history.

For the letter “P,” one young man indicated *Pearl Harbor*.

Unfortunately the teacher marked it wrong. She did not know where Pearl Harbor was located or how what happened that Sunday morning impacted United States history.

With key general knowledge such as this, how can a teacher be effective in the classroom?

Can our students, can we, afford to have less than our best in the classroom?

This paper takes a look at who is going into education in NC and whether a model such as the Teaching Fellows Program can attract and retain NC’s brightest into public school teaching.

Based upon the state’s experience so far with the Teaching Fellows Program, the paper will begin to answer whether this program is in fact a solution to ensuring a supply of teachers – teachers who are among the state’s brightest and best college graduates. Specifically, the paper will exam the following:

- What is the Teaching Fellows Program and who enters it?
- How do education majors in general perform on college entrance exams compared to others? How do Teaching Fellows students perform on these same exams?
- How do models such as the Teaching Fellows Program impact NC’s supply and demand for public school teachers? Do more Teaching Fellows enter teaching after college than other college graduates with teaching license? Is the retention rate higher for Teaching Fellows than for new teachers as a whole?
- Are there other factors, such as these beginning teachers being part of the Millennial Generation, that impact teacher recruitment and retention?

Based upon the results to these questions, the paper will also look at specific questions needing to be answered through a longitudinal study to ensure North Carolina has the needed supply of effective teachers in its public K-12 schools.

The Teaching Fellows Program

Begun in 1986 through the efforts of the North Carolina Public School Forum¹ and the North Carolina General Assembly, the Teaching Fellows Program is one of the nation's most ambitious teacher recruitment programs. The program is housed within the North Carolina Public School Forum.

What's the Purpose of the Teaching Fellows Program?

The sole purpose of the Teaching Fellows Program is to recruit talented high school graduates into the teaching profession and to provide opportunities for them to develop the skills and qualities necessary to be an effective teacher -- a teacher who is prepared to enter and remain in the classroom.

What Do Teaching Fellows Receive and What Is Expected From Them?

Annually, the Program provides a \$6,500 per year scholarship for four years to 500 outstanding NC high school seniors -- a total of \$26,000 for the four years. Private universities and colleges in the program match the \$6,500 a year -- a total of \$13,000 a year or \$52,000 for the four years of tuition. Recipients of these highly competitive scholarships typically are in the top 10% of their high school graduating class and in the upper quartile of seniors taking the SAT Reasoning Test.

The scholarship, available only to legal residents of NC for the past 12 month, is actually a loan that can be repaid totally through service. Thus, in return for the scholarship, the student agrees to teach for four years following graduation from college in one of NC's public schools or United States Government schools in NC. The Teaching Fellow is given seven years from the date of college graduation to meet this four years of teaching requirement. If the recipient does not repay the scholarship through service, the "loan" must be repaid to the State with a 10 percent interest. That is, the "loan" is canceled incrementally for each year the teacher teaches. For example, if the recipient does not teach at all in a NC public school, he or she will owe the State \$28,600 [(\$6,500 * 4 years) plus 10% interest]. If the recipient teaches only 3 years, he or she will owe the State \$7,150 for one year plus 10% interest.

Where's the Teaching Fellows Program Located?

As indicated on its website², the NC Teaching Fellows Program is located on 18 public and private college and university campuses throughout the state:

| | | | |
|------------------------------|-----------------------|--------------------------------|-----------------------------|
| Appalachian State University | Lenoir-Rhyne College | Queens University of Charlotte | UNC Pembroke |
| Campbell University | Meredith College | UNC Asheville | UNC Wilmington |
| Catawba College | NC A&T University | UNC Chapel Hill | Western Carolina University |
| East Carolina University | NC Central University | UNC Charlotte | |
| Elon University | NC State University | UNC Greensboro | |

¹ The North Carolina Public School Forum is a nonprofit partnership of business, educational and political leaders from throughout the state. The Forum staff administers the program while a Commission, appointed by the Governor, Lieutenant Governor, President Pro Tem of the Senate, and Speaker of the House of Representatives, develops the policies and regulations governing the program.

² <http://www.teachingfellows.org/>

Performance on a College Entrance Exam

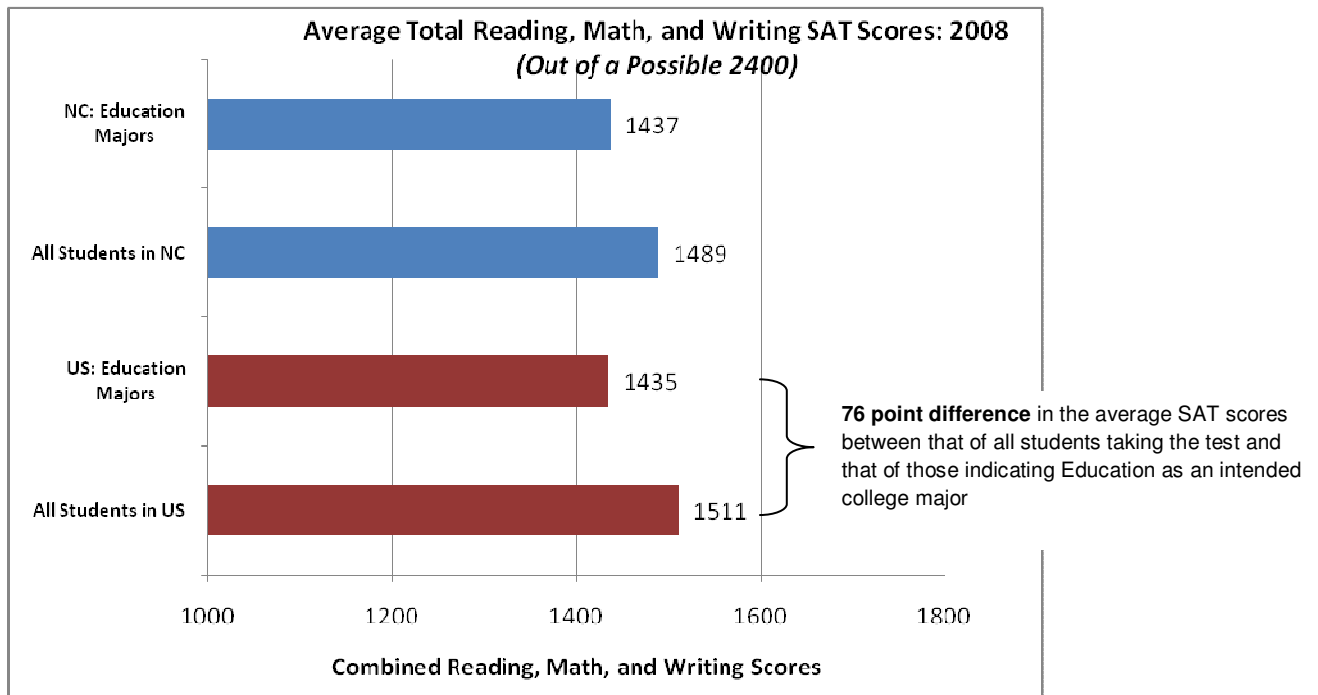
Perhaps one indicator of whether our brightest are even training to become teachers is to look at how prepared education majors are when they come into our colleges and universities from high school. There is now some debate about a college entrance exam's value in predicting success. In fact, some major universities such as Smith College and Wake Forest University no longer require it. Yet traditionally universities have used it, and many across the nation continue to use such an exam as one measure to determine if a student has gained the knowledge and skills he or she will need in order to be successful in college. One such college entrance exam is the SAT Reasoning Test. This test has three components: Critical Reading, Mathematics, and Writing. The scores for each component range from 200 to 800 points³. (The College Board, 2008)

Students taking the SAT are asked what they intend to be their major while in college and thus what they would like for their life's work. The College Board, administrator of the SAT, calculates average scores for all high school seniors across the country who took the test, average scores by each state, and average scores by intended major.

How Do Education Majors Perform?

Based upon the results, the following observations are made concerning the performance of those throughout the nation as well as those in North Carolina who indicated they would like to be teachers.

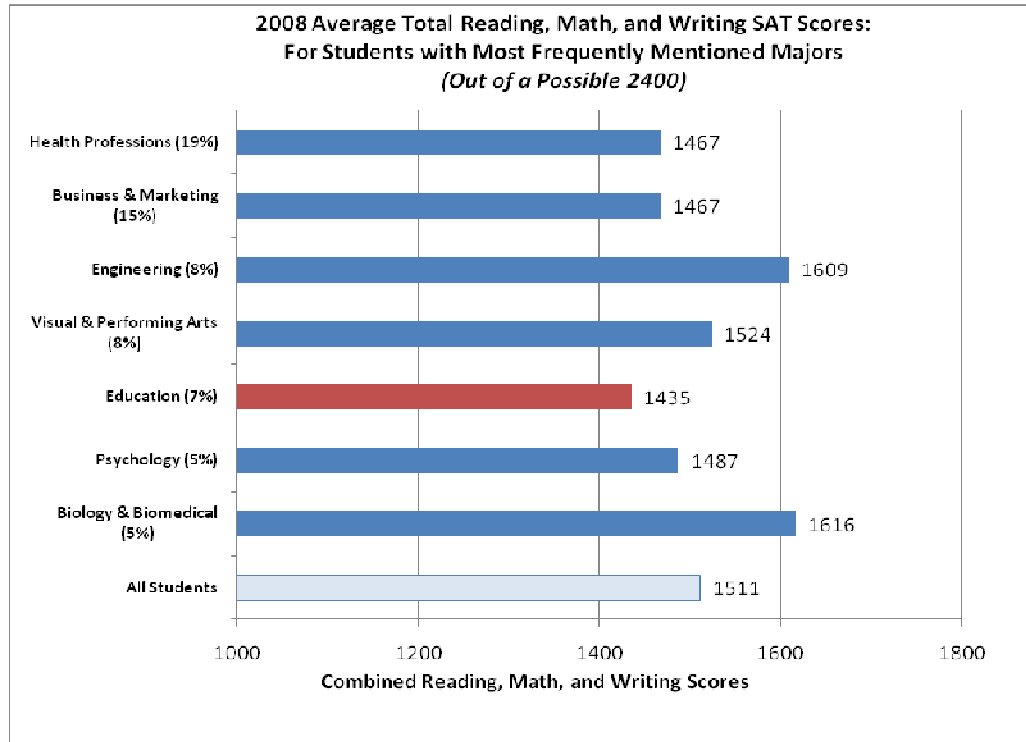
- The average SAT scores in reading, math, and writing for high school seniors indicating an education major in college lag behind the average for all students taking these tests.



Sources: The College Board. 2008 College-Bound Seniors. Total Group Profile Report
 The College Board. 2008 College-Bound Seniors. State Profile Report: North Carolina

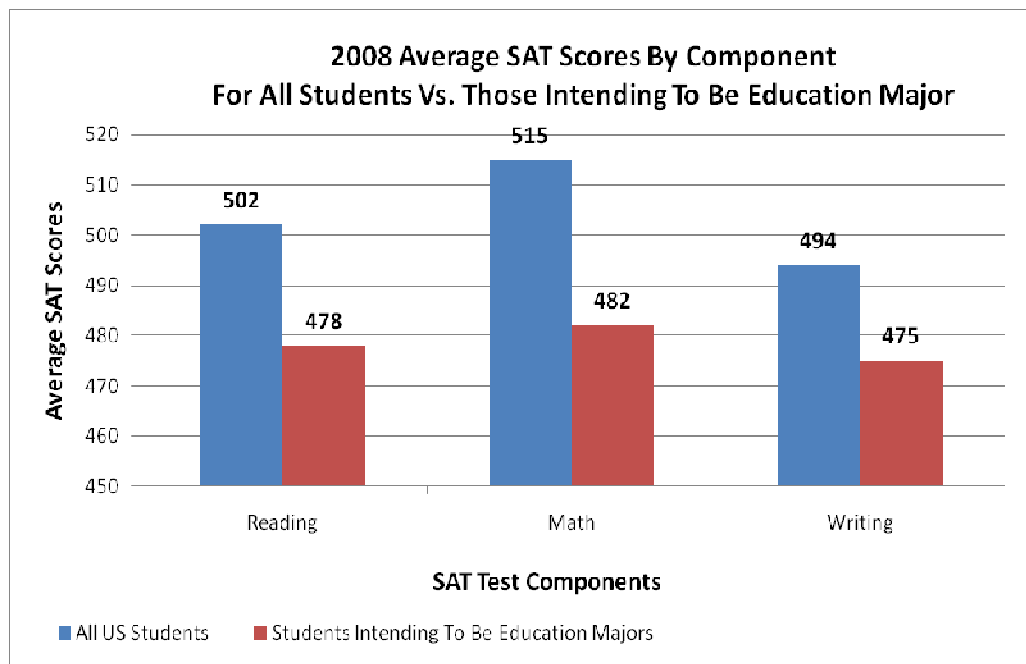
³ The Writing portion was added in 2006 and some reports of scores still use only the Reading and Math.

- When compared to students indicating other most frequently mentioned majors, education majors had the lowest average combined SAT scores. (Frequently mentioned majors are those indicated by at least 5% of students.)



(%) = Percentage of all US students taking the SAT who indicated this as a potential college major

- The average scores for potential teachers were significantly lower in the three areas within the SAT.

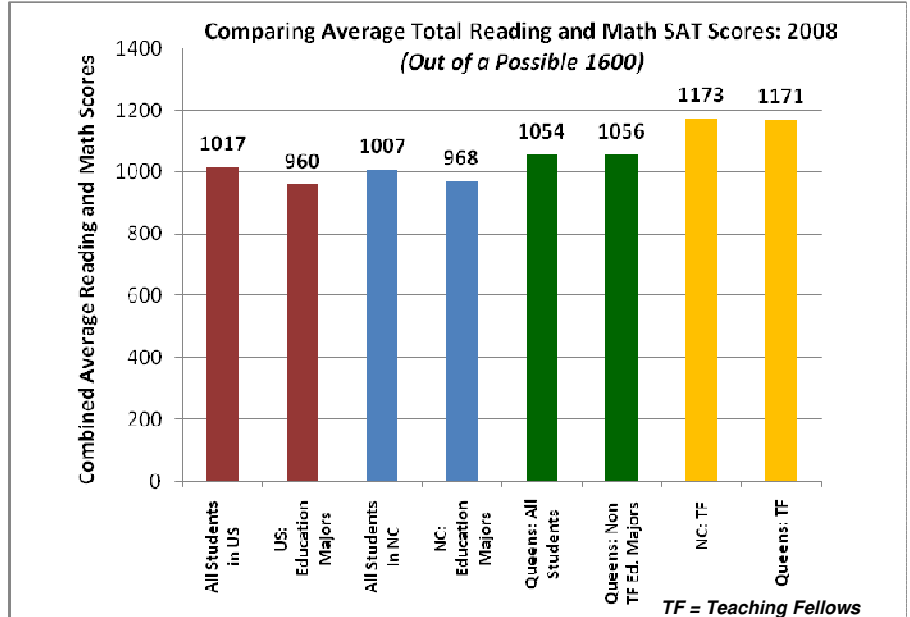


Source: The College Board. 2008 College-Bound Seniors. Total Group Profile Report

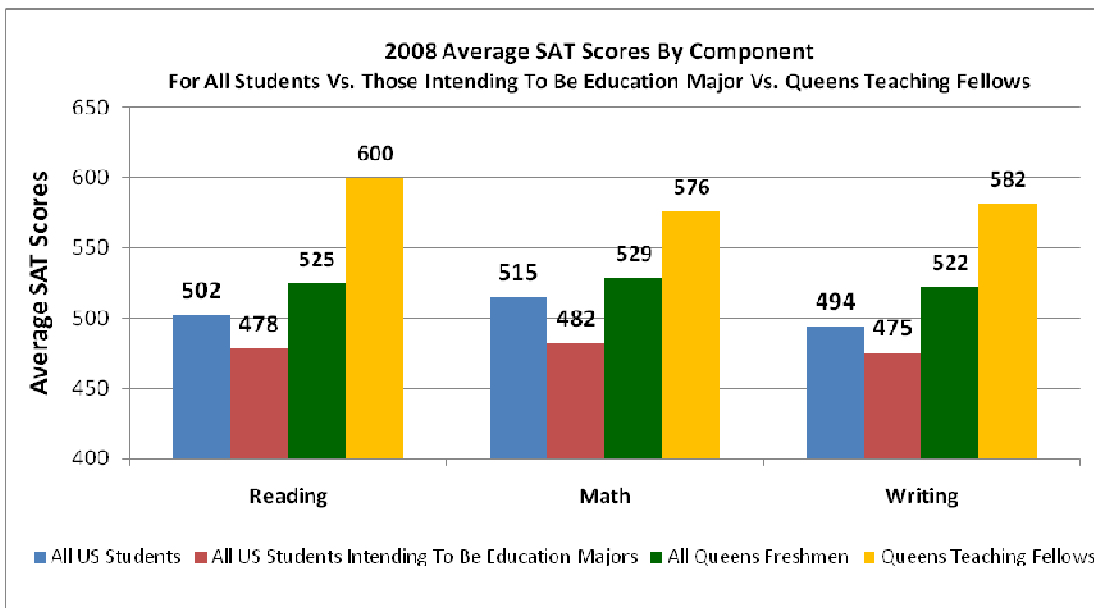
Teaching Fellows Buck the Trend

Some education majors within North Carolina do appear to be among the state's and even the nation's brightest high school students.

- Reading and Math SAT scores for the 2012 class of NC Teaching Fellows, including those at Queens University of Charlotte, surpassed the national and NC average for those going into education as well as the average for all high school seniors taking the test.



- For each SAT component, Queens Teaching Fellows outscored all students and all potential education majors nationally, as well as they outscored Queens freshmen as a whole.



Sources: The College Board. 2008 College-Bound Seniors. Total Group Profile Report
 The College Board. 2008 College-Bound Seniors. State Profile Report: North Carolina
 Queens University of Charlotte, Admissions Office, 2008
 Conversation with Kendall Jordan, Public School Forum of North Carolina, September 4, 2008

Impacting Teacher Supply and Demand

Performance on the SAT tests by the Teaching Fellows does seem to indicate that some among our state's brightest and best students can be recruited into becoming education majors in college.

But the question arises as to whether these Fellows remain in the Teaching Fellows Program throughout their college careers and thus receive their NC teaching license. After college, do they actually begin a teaching career? If they do begin teaching, how long do they remain in the classroom?

The Supply and Demand for Public School Teachers in North Carolina

Every year NC needs to hire approximately 10,000 – 12,000 new teachers for its public school classrooms. (North Carolina Center for Public Policy Research Inc. 2004) The number continues to rise due to population growth within the state, teachers moving out of NC's public schools or out of the profession entirely, and teachers retiring. From the mid 1960s through the 1970s, many baby-boomers were hired to teach in our schools due to the fast increase in school enrollment. Now almost four decades later, large numbers of these teachers are retiring leaving many empty classrooms.

To fill this demand annually, NC private and public college and universities produce approximately 3,100 traditional graduates with teaching licenses. Yet, not even all of these decide to teach in our public schools. In fact, typically only about 2,200 of them will enter the classroom. (North Carolina Center for Public Policy Research Inc., 2004). The shortage of teachers mounts.

The Cost of Turnover

Keep in mind that while some teacher turnover is inevitable and perhaps even needed, turnovers are expensive. In NC, the combined fiscal cost to the district and the school is approximately \$13,000 for each teacher who leaves the classroom.⁴

Higher turnover rates mean higher financial costs for taxpayers. Yet these costs do not include what may in fact be the largest cost of teacher turnover: lost teaching quality and effectiveness which leads to lower student achievement. Often "intangible costs" are difficult to measure but the results are extremely noticeable. Continual turnover negatively affects the school by creating chaos in scheduling, curriculum, professional development, and creation of effective teams of educators. Trust among teachers, students and parents is crucial for an effective learning environment; yet with high turnover, these individuals are continually dealing with strangers with whom they have no experience. In addition, for the first years of their career, teachers become more effective with each year of experience. With constant turnover, teachers have no opportunity to gain that experience and students suffer. (Guin, K., 2004)

Economic Impact of Turnovers

According to the North Carolina Department of Public Instruction, 12,776 teachers across the state left their public school during the 2006-07 school year. (North Carolina Department of Public Instruction, 2007)

The cost to replace these teachers was approximately \$166,100,000; this is nearly equal to the entire annual budget for the Charlotte-Mecklenburg Police Department which is \$174,000,000. (Charlotte FY2009 Strategic Operating Plan Summary)

⁴ See Appendix B to see how this total cost of \$13,000 was determined and what it includes.

Programs To Increase the Supply and Lower the Demand for Teachers

Throughout the nation, there is a continual search for ways to ensure our classrooms are filled with qualified teachers and to reduce the cost of replacing teachers due to a high turnover rates. As Linda Darling-Hammond has said, "...it is critically important that the state prepare teachers in high quality programs that maximize both their competence and their likelihood of staying in the profession." (Darling-Hammond, L., 1999, p. 11)

Various programs have been put in place to try to do just that -- bring qualified individuals into the teaching profession. These include such programs as the Teaching Residency Programs in Boston⁵, Chicago⁶, and Colorado⁷ as well as the New York's Teaching Fellows Program⁸.

North Carolina believes its Teaching Fellows Program may also be one such model that will bring our brightest into the teaching profession and prepare them well so they will remain in the classroom. Does this program work? Do students who begin this program stay in the program and thus enter teaching, and do they actually remain in the classroom longer than other beginning teachers?

Teaching Fellows Increasing the Supply by Entering the Classroom

A larger percentage of Teaching Fellows do enter the classroom after graduating than newly graduated teachers in NC do as a whole.

Based upon the experience of those who began in the Teaching Fellows program from 1987 until 2003, **92.5% of these graduating Teaching Fellows** -- 5,306 of the 5,736 -- actually **did begin a teaching career**. (Public School Forum, *Graduate Class Statistics*, 2008)

This compares to **71%** (2,200 of 3,100) **of all public and private college and university graduates** with a teaching license who **actually did teach**. (NC Center for Public Policy Research Inc., 2004)

Teaching Fellows Lowering the Demand by Remaining in the Classroom

Experience, gained only by remaining in the classroom, does make a difference. Marc Holley, with the Mackinaw Center for Public Policy, indicates that by "a teacher's fourth or fifth year of teaching, his or her effectiveness tends to be set. Effective teachers remain relatively effective, and ineffective teachers remain relatively ineffective." (Holley, M. 2008. p. 28).

Holley also cites Steven Rivkin, Eric Hanushek, and John Kain's 2005 study, *Teachers, Schools, and Academic Achievement*, which "showed that students of experienced teachers attained significantly higher levels of achievement than did students of new teachers -- [that is] those with one to three years of experience." (Holley, 2008. p. 28)

⁵ For more information, see <http://www.bpe.org/btr>.

⁶ For more information, see <http://www.ausl-chicago.org>.

⁷ For more information, see <http://www.boettcherteachers.org>.

⁸ For more information, see <http://www.tntp.org>.

It appears at least for the first several years of teaching, Teaching Fellows remain in the classroom at a higher rate than other new teachers. With less turnover, teachers gain experience and the demand for new teachers decreases.

- **A lower percentage of Teaching Fellows leave the classroom in the first three years** of teaching than that of new teachers nationwide.

The following shows the percentage of Teaching Fellows, beginning the program in 1987 through 1999, who left after 1, 2, and 3 years of teaching. (Public School Forum, *Graduate Class Statistics*, 2008, and Public School Forum, *Teaching Fellows Program . . . at a Glance*, 2008)

| Left Teaching After . . . | Turnover Rate |
|---------------------------|---------------|
| 1 Year | 4.0% |
| 2 Years | 4.2% |
| 3 Years | 4.2% |
| Total By Year 3 | 12.4% |

This **12.4% of the Teaching Fellows who left teaching by Year 3** compares to a **national average of 33%**. (Ingersoll, 2002)

- By the end of the 4th year, **26% of the Teaching Fellows have left teaching.**⁹ (Public School Forum, *Graduate Class Statistics*, 2008, and Public School Forum, *Teaching Fellows Program . . . at a Glance*, 2008) This compares to the average **nationally of 40% of beginning teachers** who leave by the end of the 4th year of teaching. (Ingersoll, 2002)

- Often Teaching Fellows continue teaching in public schools after four years of teaching required for full loan payback.

About **62.5% of Teaching Fellows continue teaching past 5 years** (Teaching Fellows Program . . . at a Glance), compared to **about 50% of all teachers nationwide** who remain after the 5th year. (Ingersoll, 2002)

Many Teaching Fellows remain in the classroom much longer. **In fact, of the 257 Teaching Fellows in the class of 1987 who completed at least four years of teaching, 154 (60%) are still in our public schools in 2008.**¹⁰ (Teaching Fellows Program . . . at a Glance)

Cost Implications

Scott Douglass of the NC Public Instruction (personal communication on September 9, 2008), indicates that in 2007-08, there were 6,856 new educators in North Carolina – that is educators with no previous experience. (This statistic will be in Table 17 of the NC Public Schools: Statistical Profile 2008 when published. That document will be able to be retrieved from <http://www.ncpublicschools.org/fbs/resources/data/>)

Using national averages for turnover rates (Ingersoll, 2002) and an average cost of \$13,000 per teacher leaving, the following indicates what the financial cost is projected to be due to turnovers within this group of new teachers as well as potential savings were the turnover rate lowered to that of Teaching Fellows:

- If 40% of them leave by 4 years (national turnover rate by 4 years), the cost would be **\$35,651,200** to replace them. (Calculations: 6,856*40%*\$13,000)
- *The potential savings:* Lowering the turnover rate for teachers leaving within 4 years from 40% to the 26% turnover rate of the Teaching Fellows would **save the state \$12,477,920.**

⁹ This is based on Teaching Fellows who entered the program from 1987 to 1999. Since Teaching Fellows have 7 years to complete their 4 years of teaching to forgive the loan, those entering the program after 1999 may still have time to complete the 4 years. See *Appendix A* for NC Teaching Fellows Completion Rates.

¹⁰ Some of these 154 Teaching Fellows did have breaks in service.

New Teachers: Part of the Millennial Generation

While many of the Teaching Fellows have remained in education for their entire career, 38% have left by year five. Will this trend continue? Will that percentage go up? Down? Our current college students are part of the Millennial Generation. This generation includes those born approximately between the years of 1980 to 2000 and is sometimes known as Generation Y. The oldest members of this generation are entering the workforce and are now often our beginning teachers.

Will being part of that generation impact their choice of professions and even their longevity in a job? Will this generation have a positive or negative effect on the supply and demand for teachers? Will incentives we use today to recruit our brightest and best into education be effective with the Millennials?

Number of Jobs for Millennials

One study has indicated that as many as 64% of the Millennial Generation expect to have four or more careers during their working years (Manning, Everett, and Roberts, 2004)¹¹. Assuming a working life of 30 years, that equates to an average of about seven or so years in any one career.

A recent study completed by Robert Half International of Millennials already in the workforce shows that these workers do not look at their present job as a life-time commitment.¹² When asked, "How long do you expect to stay at your current position," almost 60% indicated they expected to be in the position less than five years. In fact, 40% indicated they expected to be in the present job less than two years. (Robert Half International, 2007) While some of these expect to change positions due to promotions, many look to changing jobs in search of something different or more aligned with what they expect from a job.

However, when compared to current U.S. Department of Labor statistics about our present workforce, Millennials do plan to stay longer in jobs than their parents, *if* they can find meaningful work. The U.S. Department of Labor reports on average a worker today born from 1957 – 1964 held on average 10.8 jobs before the age of 42, with 23% of them holding 15 or more jobs. (U.S. Department of Labor, June 27, 2008). The Department also reports that the median years of tenure with a current employer for all workers between the ages 25-34 is 2.7 years and for workers between the ages 35-44 is 4.9 years – lower than the expected seven to eight years by Millennials. (U.S. Department of Labor, September 26, 2008)

Millennials Are Coming

Jason Dorsey talked to Morley Safer of 60 Minutes on May 23, 2008, in a segment called "The Millennials Are Coming."

Jason, a Millennial who was being interviewed, stated, ". . . we saw our parents settle and we have options. We can keep hopping jobs. No longer is it bad to have four jobs on your resume in a year. Whereas for our parents or even Gen X, that was terrible. But that's the new reality for us. And we're going to keep adapting and switching and trying new things until we figure out what it is."

Mr. Safer pointed out that often the workplace has become a psychological battlefield. Millennials are tech savvy, with every gadget imaginable almost becoming an extension of their bodies. They multitask, talk, walk, listen and type, and text. And their priorities are different.

Family and friends are the new priorities, while blind careerism is beginning to fade. (CBS News, 2008)

¹¹ The study was conducted by surveying 1,000 students on the campuses of Central Piedmont Community College, Johnson C. Smith University, and UNC Charlotte – all located in Charlotte, NC.

¹² Robert Half International and Yahoo! HotJobs commissioned a national survey of more than 1,000 adults ages 21 to 28, sampling an equal percentage of men and women during 2nd quarter of 2007.

Job Expectations for Millennials

While overall Millennials may choose to remain in jobs longer than current generations, their expectation is not to stay in a single job throughout their lifetime, particular if they are unhappy. For many Millennials, when a job is not just what they thought it would be or there are difficult times in the job or workplace, the only way these individuals can handle it is to change jobs (Howe and Strauss, 2007).

Millennials have different expectations from earlier generations about what they want out of a job. They have been characterized as being confident, optimistic, goal- and achievement-oriented, and inclusive in nature. They are used to being organized in teams in school and sports and therefore expect when they graduate from college to work in teams as well. Also, they are highly “civic-minded” and want *meaningful* work. They are already more involved in the community than their parents. (Raines, 2003)

Individuals within this generation have definite expectations concerning the workplace. They are used to multi-tasking with cell phones, laptops, iPods, and other technological devices, and thus they want to have fast-paced jobs. The following are additional expectations they have about their jobs: (Raines, 2003)

- To work with positive people
- To be challenged
- To be treated respectfully and to be included in decision-making
- To learn new knowledge and skills
- To work in friendly environments
- To have flexible schedules
- To be paid well and have good benefits including health insurance and retirement

Can the teaching profession as we now know it be a fulfilling occupation for these individuals? Can we successfully recruit them in the same way and with the same incentives? Can we capitalize on what is important to them? Will they stay in the profession?

Conclusions

Our future as a community, a state, and a nation is dependent upon our high school graduates being prepared to be productive citizens in the 21st century. These students are dependent upon effective teachers being in every classroom, and that is dependent upon being able to recruit and retain highly motivated, knowledgeable, and well-trained individuals.

The following are three key conclusions based upon examination of one model for recruiting, preparing, and retaining teachers for North Carolina's public schools.

➤ **Some of North Carolina's brightest high school students will choose education as a profession given the right incentives.**

The Teaching Fellows Program has attracted high school seniors who have indicated through their SAT scores that they are among North Carolina's brightest students. The incentive of loans that can be repaid through service to the public school children of this state has lured many of our brightest to this profession. North Carolina must continually be searching for other models that will bring and keep high quality individuals into teaching.

But questions may remain concerning their reasons for choosing the Teaching Fellows Program. Some of North Carolina's brightest high school seniors may enter the Teaching Fellows program for many reasons. Among other reasons, they may enter because they truly want to teach – or at least believe they want to teach. On the other hand, they may feel the need for service and believe teaching will fulfill that need, or they may enter the program merely to obtain \$26,000 towards their college expenses.

➤ **Programs such as the Teaching Fellows Program can increase the supply of teachers and reduce the turnover rates at least through the first years.**

Models such as the Teaching Fellows Program do appear to raise the percentage of graduates with teaching licenses who enter and remain in the classroom at least for the first four or five years – thus reducing the economic and “intangible” costs of high teacher turnover.

➤ **While evidence indicates programs such as Teaching Fellows are able to bring some of our brightest into teaching and these teachers generally remain in the classroom at a rate higher than others at least during those crucial first years of teaching, additional questions about the Program remain unanswered:**

- **Does recruiting our brightest and best actually improve the quality within the classroom? Are these teachers more effective? If so, why? Is it because the curriculum and experiences given the Teaching Fellows play a crucial role in making these teachers more effective?**

High student achievement is the measure of success for our schools and teachers. While much research points to high teacher turnover as having a direct inverse relationship to student achievement, research also indicates that teacher effectiveness is paramount to a child's academic growth. In fact, William Sanders and June Rivers concluded that “the single largest factor affecting academic growth of populations of students is differences in effectiveness of individual classroom teachers.” (Sanders and Rivers, 1996)

- **Are there ways to capitalize on the positive things we have learned from this Program? Can we bring them to scale across NC for all our potential teachers?**

If teachers who were part of programs such as Teaching Fellows do have more longevity and are more effective, then what parts of the curriculum and experiences given to those students made the difference? Can they be included in part of teacher preparation programs throughout the state?

- **Given our new college graduates are part of the Millennial Generation, are our expectations of them in the teaching profession still valid or do our expectations need changing? Can teaching be fulfilling for them? Will the same incentives work to recruit and retain them in the profession?**

Is it reasonable to expect Millennial Generation teachers to remain in the classroom throughout their entire professional career? Are there ways to capitalize on that generation's wanting "meaningful work" in recruiting our brightest and best? If significant turnover is inevitable, how can we make beginning teachers effective faster?

Recommendations and Next Steps

Programs such as the Teaching Fellows appear to be successful in attracting some of our state's brightest high school students into teaching and in retaining them at a higher rate than our other teachers. Yet that by itself is not enough to ensure North Carolina has an adequate supply of effective teachers. To make certain the Program continues to be what it should be and adds the value it should, the results of the program, other than just longevity, must be analyzed. Colleges and universities must continually examine ways to improve the Program and to incorporate into their entire teacher preparation programs what is learned through models such as this.

In addition, colleges and universities, as well as school districts, must seek to understand the generation entering the teaching field, and if possible, seek to align recruiting and the profession itself with that generation's job and workplace expectations.

Recommendations

In order to better understand value added by programs such as the Teaching Fellows and to better understand expectations of the Millennial Generation, it is recommended that specific questions be answered about teacher effectiveness, teacher recruiting and longevity, and teacher preparation programs.

Teacher Effectiveness

- Do programs such as the Teaching Fellows make these teachers more effective in the classroom than other new teachers? Determination must first be made as to how effectiveness will be measured and any necessary tools for gathering the data must be in place.
- If these Teaching Fellows are more effective in their teaching, is it because our brightest and best are innately better teachers, or is it because these programs better prepare the teachers for the reality of the classroom?
- If these teachers are more effective because of the Teaching Fellows Program, which parts of the Program made them more effective?

Teaching Recruiting and Longevity

- Why did the Teaching Fellows choose to go into the program? Since they are part of our Millennial Generation that typically is more "civic-minded" and typically wants to engage in meaningful work, do they consider teaching as a way to serve our community for several years even though they will not be highly paid? Do they believe others could be recruited that way?
- Given that as a whole, individuals within the Millennial Generation have strong expectations about their jobs and work environment and they will not hesitate to leave that job if expectations are not met, is it realistic to expect newly graduated teachers to be in the classroom for more than four or five years? Can teaching meet their expectations? If not, what changes would be needed within teaching that would make the profession meaningful and fulfilling?

- Did the Teaching Fellows who left after four or five years always intend to leave the profession as soon as possible after their loan was repaid through service?
- If the Teaching Fellows truly wanted to teach, but then left as soon as the loan was repaid, why did they leave? What could have been done either within Schools of Education or the education profession that would have positively impacted the length of their teaching careers?

Teacher Preparation Programs

- With a better understanding of the Millennial Generation and their expectations, is there a way to better prepare these new teachers for the realities of teaching and the classroom? What specifically did the Teaching Fellows do while in college that was beneficial in preparing them for the classroom? What classes and/or experiences were most beneficial? What classes or experiences were not useful at all? What could the School of Education have done that would have better prepared them?
- Is there a way to help these new teachers adapt enough to find satisfaction in an environment that may not align with their job expectations? Are there ways to work with School Districts in helping them understand this generation of teachers?
- Generally it takes three to five years for a new teacher to be truly effective. If many new teachers will not stay in teaching longer than three to five years, is there a way to have them become highly effective in much less time?

Next Steps

Queens University of Charlotte's first class of Teaching Fellows entered the program in August, 2008, and each year, additional Teaching Fellow students will enter the university. To begin answering these questions and understanding better the Millennial Generation as they enter the classroom, Queens will conduct a longitudinal study of its Teaching Fellows.

Queens will ensure necessary tools and databases are in place to collect and analyze necessary information as these students are studied closely over the four years of their college experience and then beyond. Not only will the University track the experiences of these students as they enter the classroom as teachers and then their longevity in teaching, it will begin to examine the effectiveness of its teachers in preparing their students for the next level. This will include tracking the academic achievement of their students.

In addition to tracking this data, Queens will use these teachers as focus groups to better understand this generation and to discover ways institutions of higher education can improve the learning experiences so that the students will be more effective faster and in having interactions about potential solutions to some of the teacher quality and longevity challenges.

Appendix A: Teaching Fellows Completion Rates

| <i>Year Began Teaching Fellows Program</i> | <i>No. Students Enrolled</i> | <i>No. Students Finished Program</i> | <i>Attrition Rate</i> | <i>No. Students Who Taught At least 4 yrs.</i> | For All Those Completing Teaching Fellows Program | | | For All Those Beginning Teaching Fellows Program | | |
|--|------------------------------|--------------------------------------|-----------------------|--|--|------------------------------|-------------------------|---|--|--|
| | | | | | <i>% Taught 4 years</i> | <i>% left before 4 years</i> | <i>% Taught 4 years</i> | <i>% left before 4 years</i> | | |
| <i>1987</i> | 387 | 315 | 18.6% | 257 | 81.6% | 18.4% | 66.4% | 33.6% | | |
| <i>1988</i> | 400 | 353 | 11.8% | 273 | 77.3% | 22.7% | 68.3% | 31.8% | | |
| <i>1989</i> | 403 | 360 | 10.7% | 261 | 72.5% | 27.5% | 64.8% | 35.2% | | |
| <i>1990</i> | 398 | 340 | 14.6% | 272 | 80.0% | 20.0% | 68.3% | 31.7% | | |
| <i>1991</i> | 398 | 348 | 12.6% | 285 | 81.9% | 18.1% | 71.6% | 28.4% | | |
| <i>1992</i> | 400 | 328 | 18.0% | 246 | 75.0% | 25.0% | 61.5% | 38.5% | | |
| <i>1993</i> | 399 | 319 | 20.1% | 222 | 69.6% | 30.4% | 55.6% | 44.4% | | |
| <i>1994</i> | 401 | 344 | 14.2% | 258 | 75.0% | 25.0% | 64.3% | 35.7% | | |
| <i>1995</i> | 400 | 340 | 15.0% | 263 | 77.4% | 22.6% | 65.8% | 34.3% | | |
| <i>1996</i> | 401 | 320 | 20.2% | 250 | 78.1% | 21.9% | 62.3% | 37.7% | | |
| <i>1997</i> | 400 | 331 | 17.3% | 238 | 71.9% | 28.1% | 59.5% | 40.5% | | |
| <i>1998</i> | 400 | 330 | 17.5% | 226 | 68.5% | 31.5% | 56.5% | 43.5% | | |
| <i>1999</i> | 403 | 355 | 11.9% | 185 | 52.1% | 47.9% | 45.9% | 54.1% | | |
| Totals | 5190 | 4383 | | 3236 | <i>% Who Finished all requirements: 73.8%</i> | | | | | |

Teaching Fellows have 7 years after graduation to complete 4 years of teaching. Otherwise the individual must repay the state \$6,500 plus 10% interest for each year he or she did not teach.

Source: Graduate Class Statistics: 1987-2008. NC Teaching Fellows Program, The NC Public School Forum

Appendix B:

Calculating the Cost of Teacher Turnover

Financial costs for teacher turnover exist at several levels: the state, the district central office, and at the school level. The following are some of the various costs:

Recruiting and Advertising: Job fairs, interviews, advertising, website designs/updates, recruiting activities, working with higher education schools of education, special costs for hard-to-staff schools

Incentives: signing bonuses, moving expenses, supplements such as stipends for specific subject matter stipends, special packages such as housing/rental allowances

Administrative Processing: background checks, drug tests, reference checks, paperwork such as affirmative action, setting up benefits and payroll, processing retirement benefits

Training for New Hires: Procedural training, mentoring, stipends for mentoring, payments for substitutes while training or attending special workshops

The Cost Calculator

To estimate the cost of a teacher turnover, the cost calculator found in *National Commission on Teaching and America's Future: The Cost of Teacher Turnover Study and the Cost Calculator*¹³ was used.

National Commission on Teaching and America's Future (NCTAF) completed a study of teacher turnover and its costs in five school districts: Chicago Public Schools (Chicago), Milwaukee Public Schools (Milwaukee), Granville County Schools (North Carolina), Jemez Valley Public Schools (New Mexico), and Santa Rosa Public Schools (New Mexico). From this study, a tool was developed for estimating turnover costs in schools or districts.

The calculator can be used to determine cost of turnover for a school or a district. For a district, you would include the turnover rate, number of teachers, and number of schools.

¹³ http://www.nctaf.org/resources/demonstration_projects/turnover/TeacherTurnoverCostStudy.htm

Calculating the Cost for North Carolina

For this calculation, NC was considered as a district.

The calculator enables you to calculate costs based upon the district being an urban district or a non-urban district. Costs were calculated as if all NC were urban and then they were calculated as if all NC were non-urban.

- Cost per teacher were NC all urban: \$22,344
- Cost per teacher were NC all non-urban: \$12,658

Facts used in calculation for NC Teacher Turnover Cost:

- Turnover rate: 12.53% (as of 2006-07 this was the 5 year avg.)
- # Teachers: 12,776 out of 103,765 teachers left the public schools (2006-07)
- # Schools in state: 2,481 (2007-08 year)

Annual Report on the Reasons Teachers Leave the Profession from the NC Department of Public Instruction. <http://www.ncpublicschools.org/>

It is assumed that the true cost would be between these two. However, because NC is much more non-urban than urban, we used an estimate much closer to what was calculated assuming NC were all non-urban. Thus \$13,000 per teacher turnover is used in all our calculations.

Other estimates confirm the reasonableness of this estimate. For example, the Department of Labor conservatively estimates attrition costs an employer 30% of the leaving employee's salary. Using average 2000 teacher salaries, it was estimated that on average nationally a teacher's leaving cost the district \$12,546. In addition, other sources indicated the specific North Carolina's costs as \$11,638. (Alliance for Excellent Education. 2005)

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