



UNC Teacher Quality Research: Teacher Portals Effectiveness Analysis

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Engaging Colleges and Universities to Help Improve K-12 Education



The situation in North Carolina in 2010-2011:

- About 67.0% of 3rd-8th graders were proficient in both reading and mathematics, far fewer economically disadvantaged students (53.3%) were proficient, when the state's standards for proficiency are used
- Using national (NAEP) standards, 45% of 4th graders & 37% of 8th graders were proficient in mathematics & 34% of 4th graders & 31% of 8th graders were proficient in reading
- About 79.7% of the high school students passed their End of Course examinations in Algebra 1, Biology, & English 1 (69.4% of economically disadvantaged students)
- 77.9% of high school students graduated in 4 years (71.2% of economically disadvantaged students)
- Increasing student achievement requires improving the quality of the teaching workforce
- UNC teacher preparation programs must be a part of solution by preparing more and better teachers for NC public school classrooms



A Strategic Priority of the University



- UNC overall priority: *Preparing More and Better Teachers and School Leaders for North Carolina Public Schools*
- Key strategies to address the goal:
 - Recruitment
 - Preparation
 - New Teacher and School Leader Support
- Research approach to address quality preparation:
 - Entry Model, Persistence Model, and Impact Model(s)

Results from the latest teacher preparation portal effectiveness analysis from the Impact Research Model will be discussed today.



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Study Purpose, Data, and Methods



Purpose:

- How effective are teachers from UNC, NC private and independent colleges, out-of-state, Teach For America, Visiting International Faculty, and alternative entry?

Data:

- For the most recent report, we analyzed 3,102,364 test scores, 1,758,393 students, and 30,053 teachers with less than 5 years of experience in all school districts in North Carolina from 2005-06 through 2009-10.

Methods:

- We estimated each individual teacher's effectiveness within a subject and year and aggregated these effects up to the portal level.
- Individual teacher value-added effects were estimated using multi-level models with 16 student, 5 classroom, and 7 school covariates.

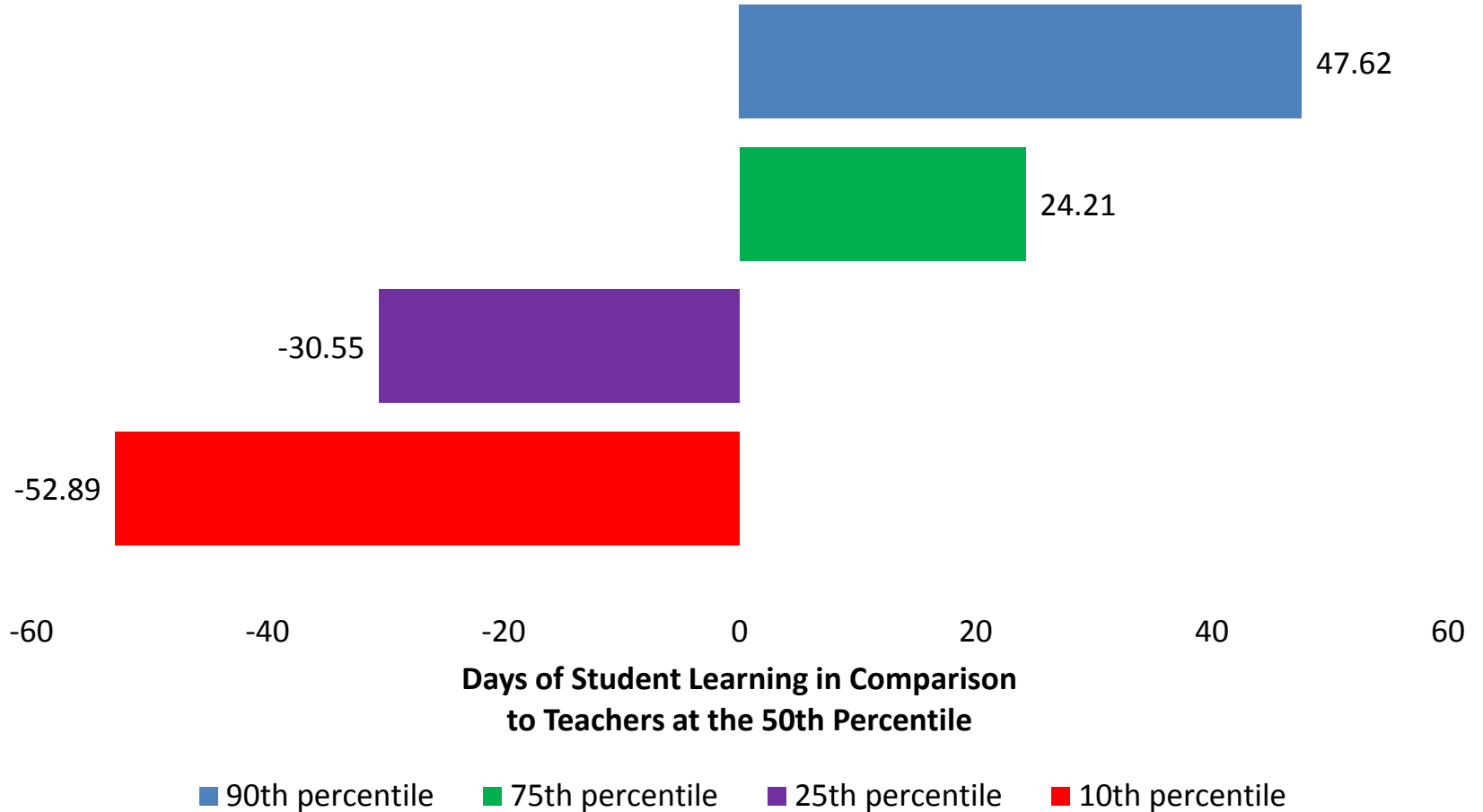
We are grateful to the NC Department of Public Instruction, the NC Public School Forum, Teach For America, and the UNC General Administration, for providing data and expert advise essential for this research.



Teacher Effectiveness: Elementary Grades Mathematics



Elementary Mathematics Teacher Effectiveness

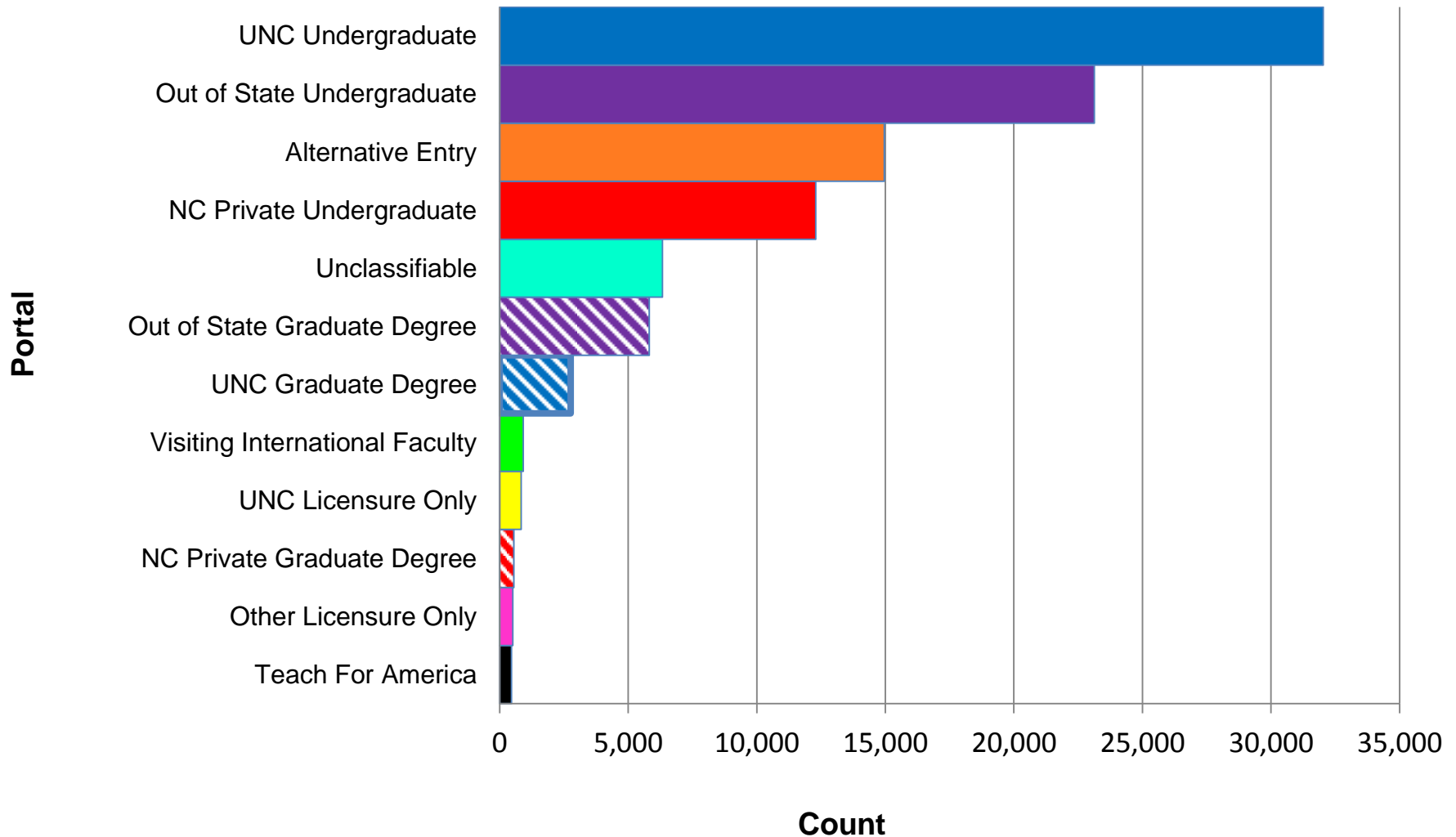




Number of North Carolina Public School Teachers By Portal: 2009-10



**In 2009-10 there were 100,616 individuals paid as teachers
in North Carolina public schools**

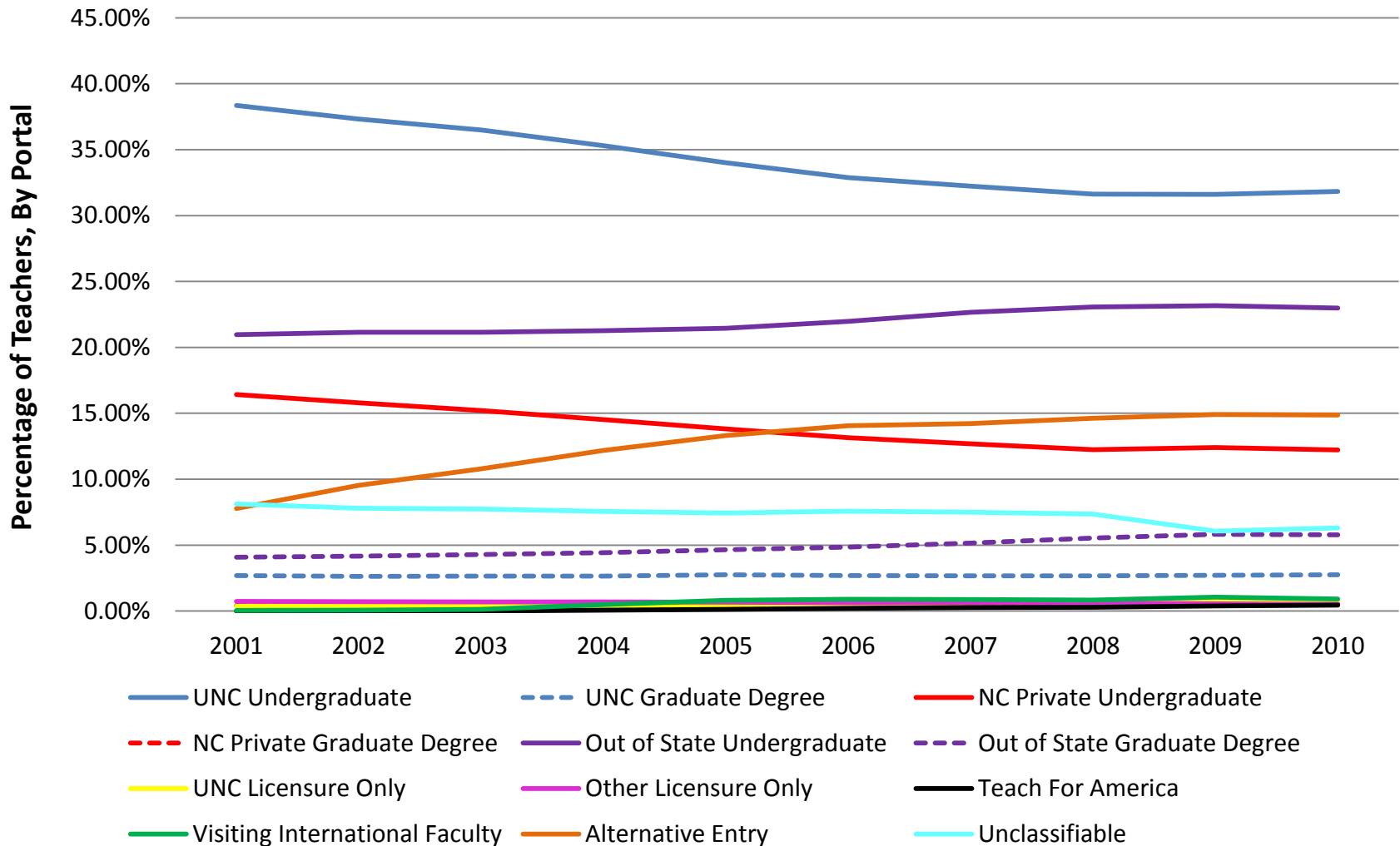




Trends in the Way Teachers are Prepared to Enter North Carolina Classrooms



Distribution of Teachers by Portals Over Time

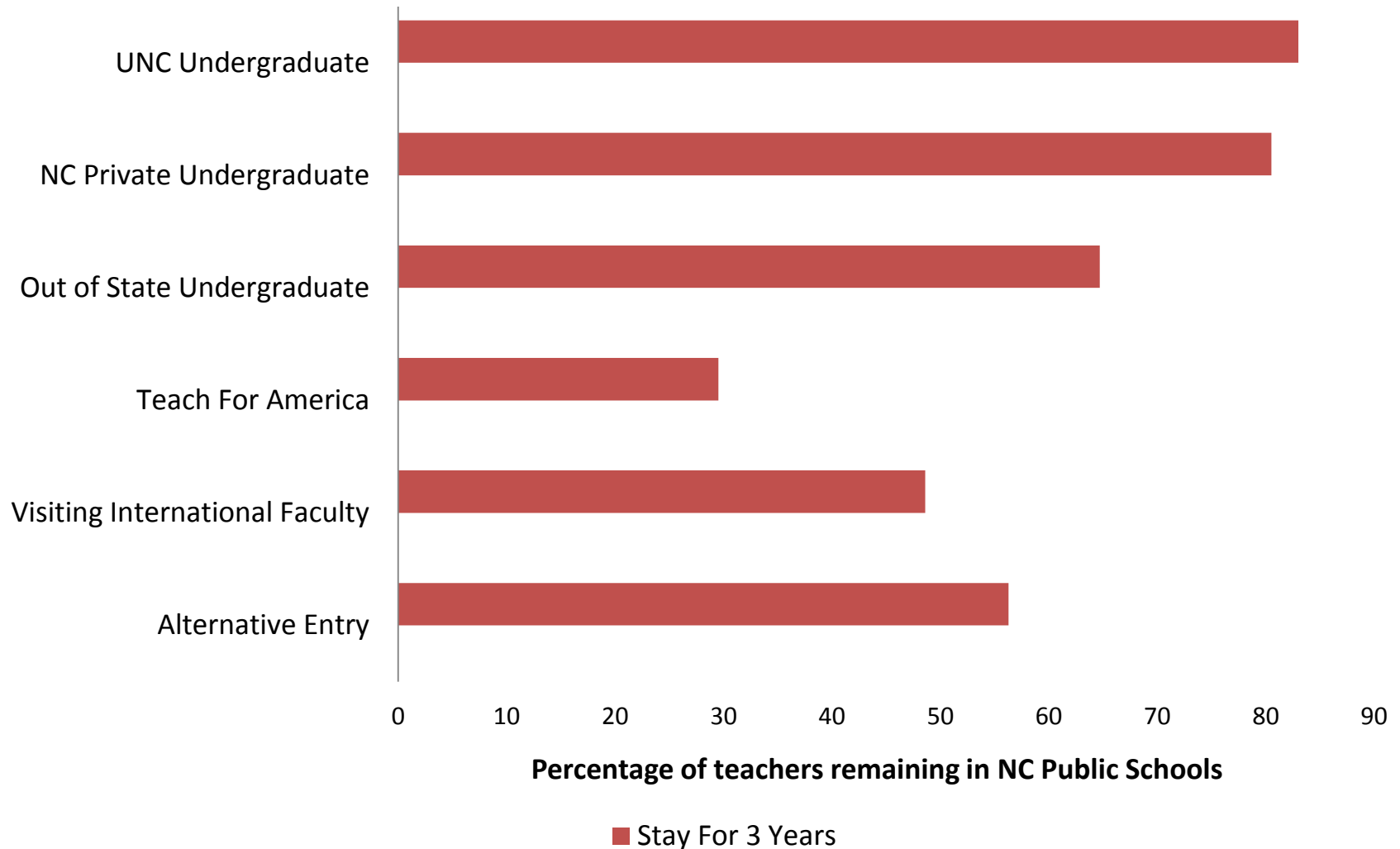




Teacher Persistence in North Carolina Public Schools by Portal



New Teachers Employed for 3 Years and 5 Years

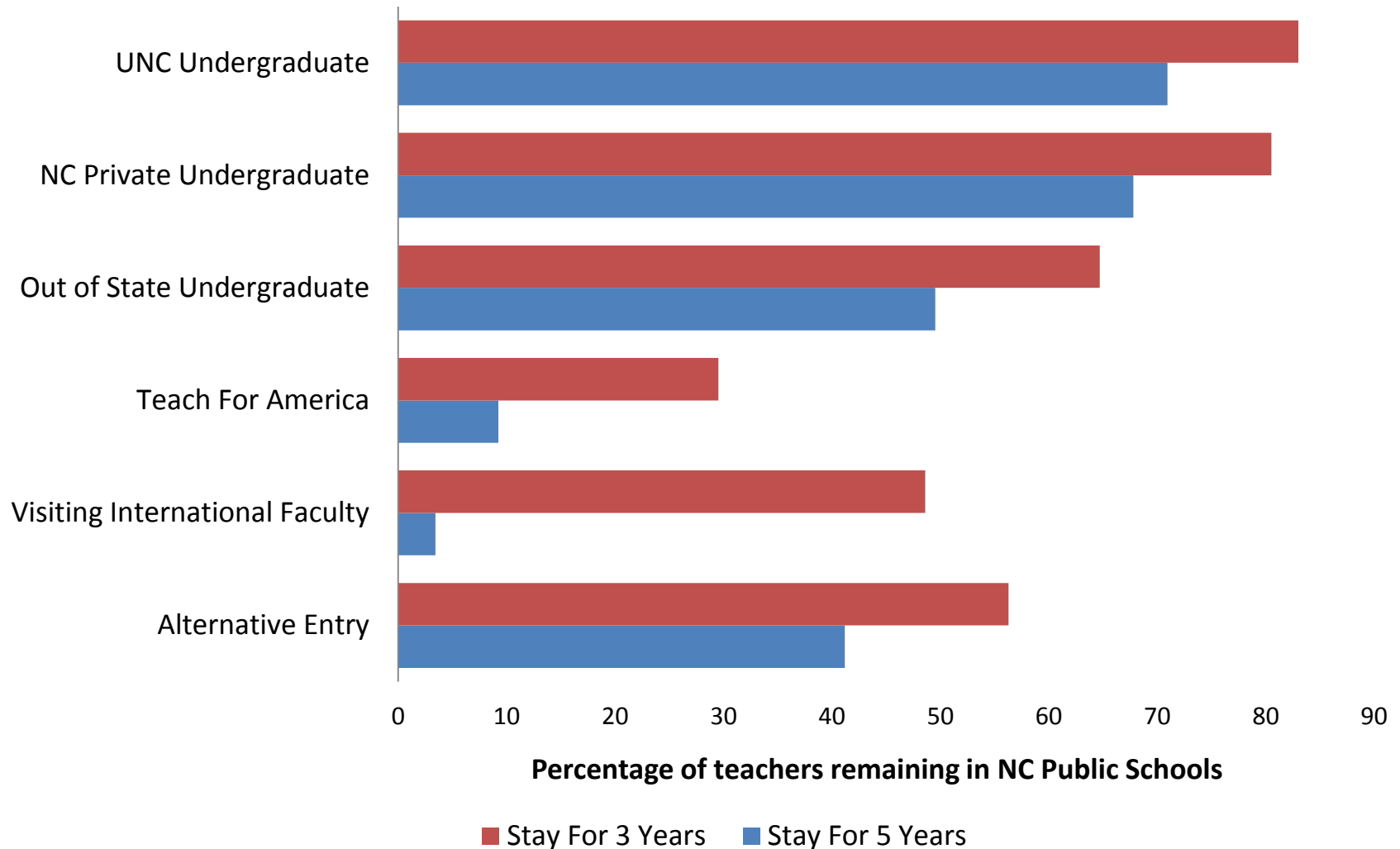




Teacher Persistence in North Carolina Public Schools by Portal

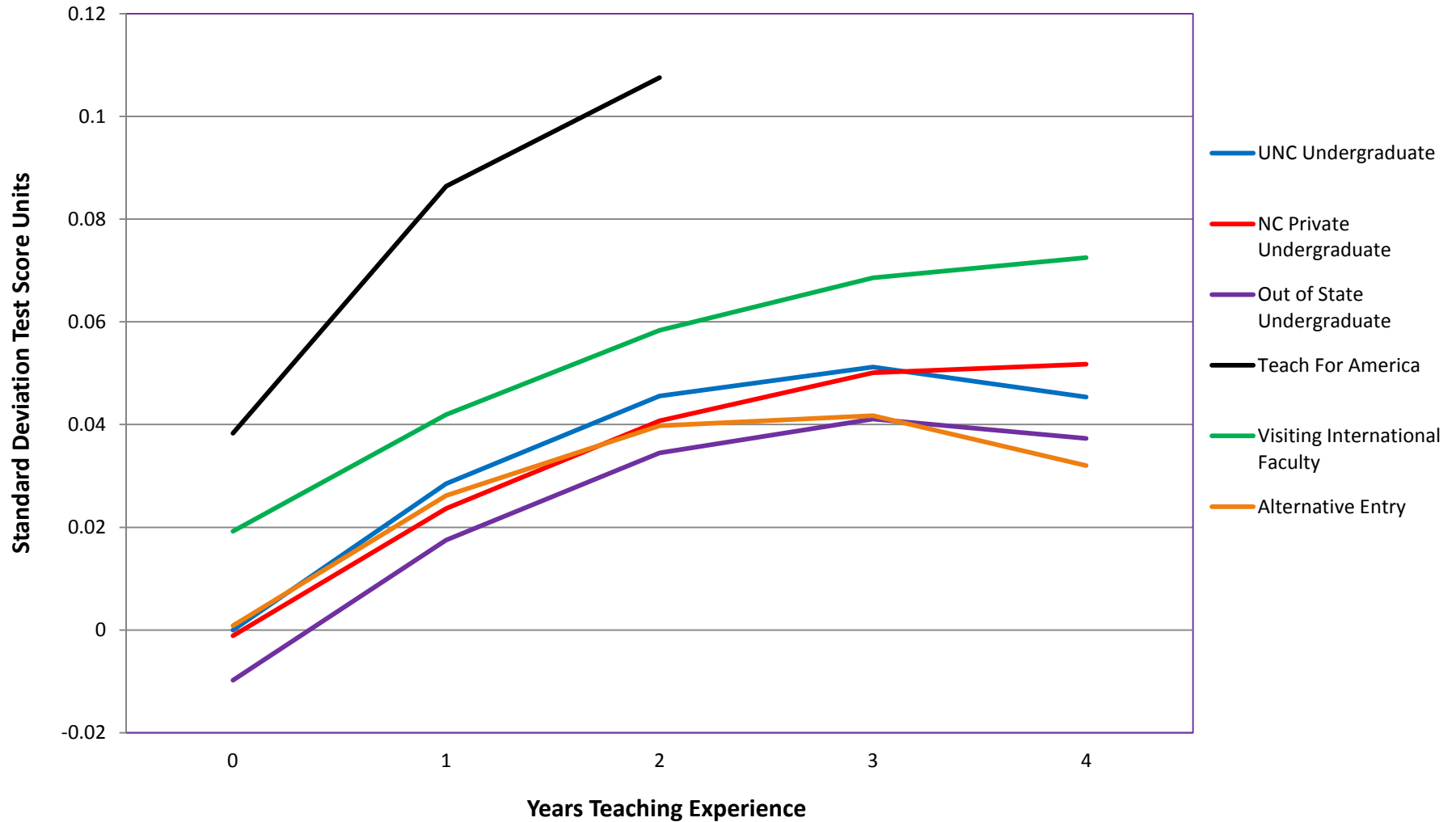


New Teachers Employed for 3 Years and 5 Years



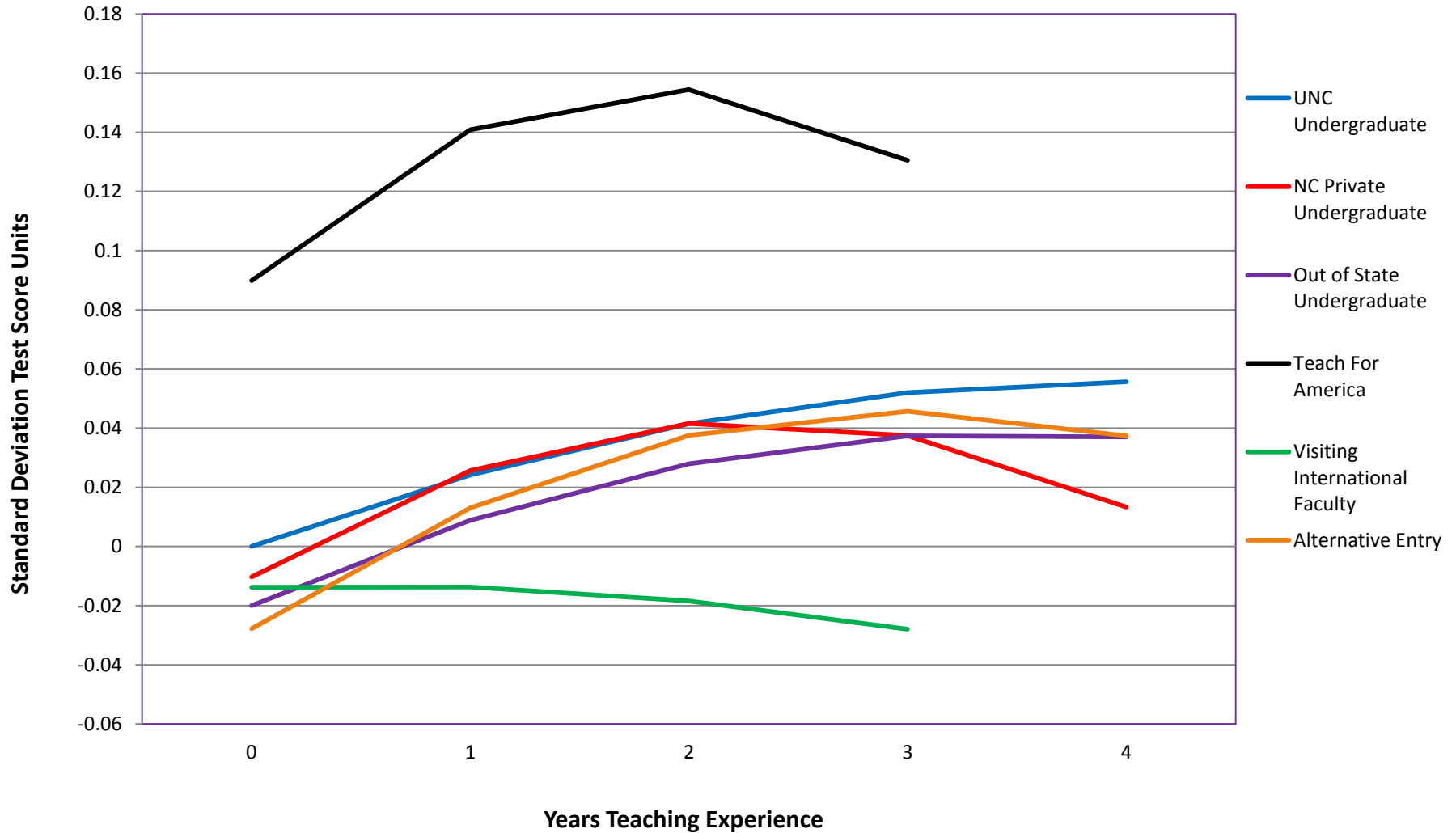


Teacher Effectiveness in First Five Years of Employment: Elementary Grades Mathematics





Teacher Effectiveness in First Five Years of Employment: High School All Tested Subjects

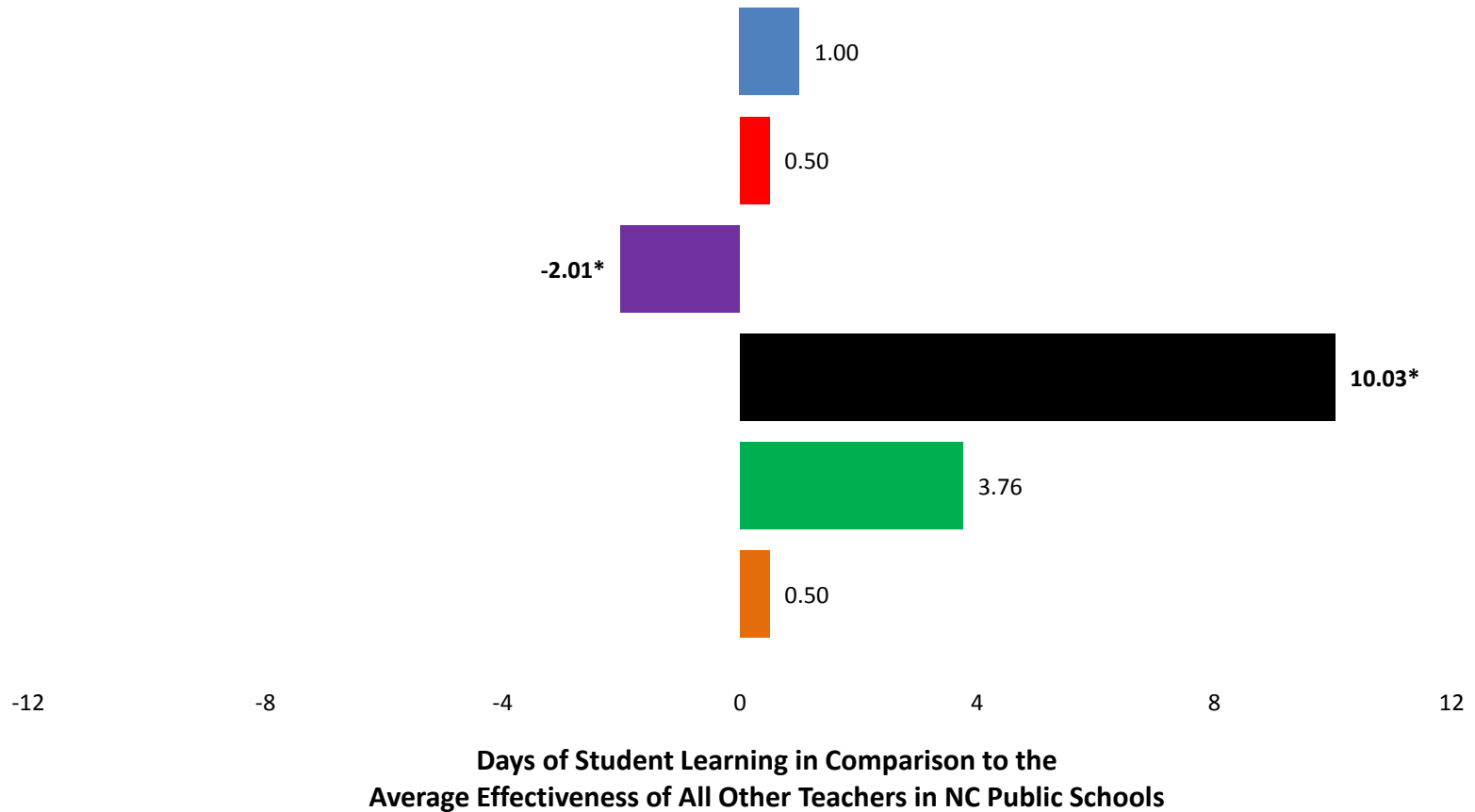




Beginning Teacher Effectiveness: Elementary Grades Mathematics



Elementary Mathematics



■ UNC Undergraduate

■ NC Private Undergraduate

■ Out of State Undergraduate

■ Teach For America

■ Visiting International Faculty

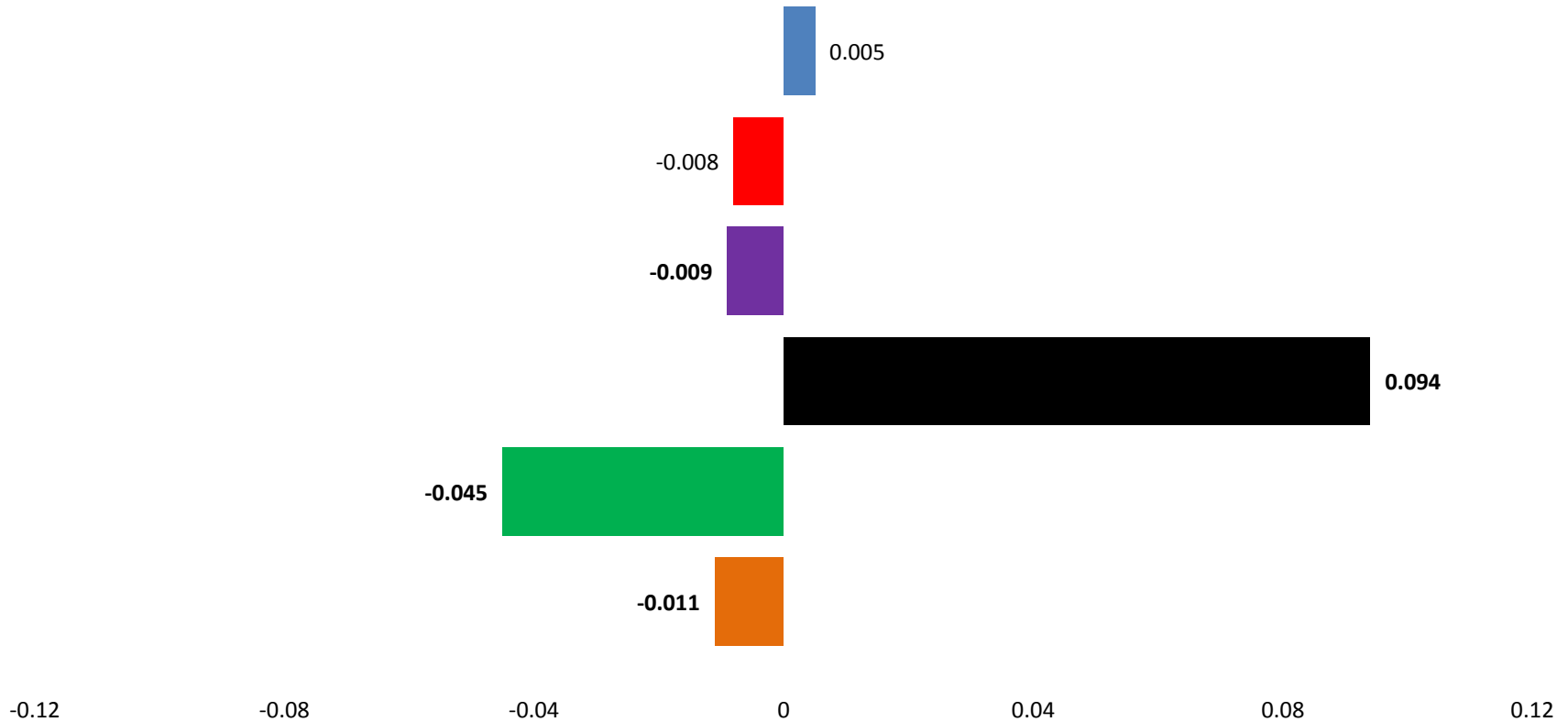
■ Alternative Entry



Beginning Teacher Effectiveness: High School All Tested Subjects



High School All Tested Subjects



Teacher Effectiveness in Comparison to the
Average Effectiveness of All Other Teachers in NC Public Schools

- UNC Undergraduate
- NC Private Undergraduate
- Out of State Undergraduate
- Teach For America
- Visiting International Faculty
- Alternative Entry



Effectiveness and Persistence Comparisons: NC Teachers with Less than 5 years Experience



Portal	More Effective In:	Less Effective In:	No Different In:
UNC Undergraduate	18 out of 129	16 out of 129	95 out of 129
UNC Graduate Degree	18 out of 113	10 out of 129	85 out of 113
NC Private Undergraduate	5 out of 129	26 out of 129	98 out of 129
NC Private Graduate Degree	32 out of 103	16 out of 103	55 out of 103
Out of State Undergraduate	5 out of 129	40 out of 129	84 out of 129
Out of State Graduate Degree	12 out of 129	14 out of 129	103 out of 129
UNC Licensure Only	8 out of 113	13 out of 113	92 out of 113
Other Licensure Only	0 out of 60	19 out of 60	41 out of 60
Teach For America	94 out of 129	0 out of 129	35 out of 129
Visiting International Faculty	19 out of 119	17 out of 119	83 out of 119
Alternative Entry	10 out of 129	22 out of 129	97 out of 129
Unclassifiable	2 out of 129	25 out of 129	102 out of 129



Summary of Findings from Teacher Portals Analysis



- UNC Undergraduates
 - Largest single source of NC teachers (32% of the teacher workforce)
 - Most likely to stay for 5 years
 - Performance is slightly better than average – well in some areas, needs improvement in other areas (better in 18 comparisons, worse in 16 & no different in 95)
- Out of state undergraduates
 - Second largest source of NC teachers (23% of the teacher workforce)
 - Nearly the largest concentration in elementary grades
 - 50 percent leave by sixth year
 - Perform worse in elementary mathematics and reading
- Alternative entry teachers (other than Teach For America & Visiting International Faculty)
 - Third largest source of North Carolina teachers (15% of the teacher workforce)
 - Even higher concentrations in middle and high schools
 - Perform poorly in high school overall
- Teach For America teachers
 - Smallest source of NC teachers (0.5% of the teacher workforce)
 - TFA Corps members serve in Charlotte & 12 eastern NC school districts.
 - Less than 10 percent persist for five years in NC public schools
 - Most effective source of novice teacher in NC public schools after taking turnover into account



Transforming Research into Action



- UNC is taking ownership and responsibility for “evidence based” program improvements:
 - Improve existing UNC teacher preparation program
 - Develop, pilot and evaluate innovations in UNC teacher preparation programs
 - Increase UNC productivity to off-set dependency of other portals that perform worse
 - Determine improvements for recruitment and selection into UNC teacher preparation programs
- Identify gaps (e.g. preparation with the NC Standard Course of Study or providing frequent and rigorous feedback to beginning teachers) in lower performing portals that could be addressed through specific strategies with UNC preparation programs
- Coordinate with K-12 partners to develop, pilot, and evaluate innovations
- Identify aspects of TFA that are “portable and scalable” to UNC programs:
 - Selection based on “soft skills” e.g. perseverance, engaging audience and leadership
 - Greater focus on preparation to teach specific objectives in assigned course/grade based on NC Standard Course of Study
 - Intensive observation, collaboration and feedback during pre-service preparation as well as the first year in the classroom
 - Institute “evidence based approach” to teacher preparation