Charlotte-Mecklenburg Schools

Center for Research & Evaluation
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Teach For America

EVALUATION REPORT

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EVALUATION OF TEACH FOR AMERICA IN CHARLOTTE-MECKLENBURG SCHOOLS

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EXECUTIVE SUMMARY

The current evaluation report, prepared by the Center for Research and Evaluation (CRE), is the first of two annual reports for Charlotte-Mecklenburg Schools (CMS) on the local Teach For America (TFA) program. Some typical critiques of the TFA program and recruits include the lack of traditional teaching pedagogy training and the limited two-year service commitment. Some of the research literature challenges these critiques by asserting that the TFA program is a worthy endeavor that shows better performance for math and science classes in TFA-led classrooms (Xu, Hannaway, & Taylor, 2009; Decker, Mayer, & Glazerman, 2004). Other research has shown some negative or mixed results (Darling-Hammond, Holtzman, Gatlin & Heilig, 2005).

This study coincides with recent public and internal CMS scrutiny over the relevance of the TFA program during periods of budgetary constraints (Helms, 2009). These circumstances presented an opportunity to compare student achievement outcomes and instructional differences between TFA and non-TFA teachers within CMS. This study assumed a mixed-methods approach, including both quantitative and qualitative components, and adds to the contemporary literature in three important respects. This study, unlike many previous TFA studies, has aimed to incorporate qualitative research in its study design. In addition, this study included a focus on secondary school levels, a population of students not heavily researched in many TFA studies (Xu, Hannaway, & Taylor, 2009). Finally, this study aimed to compare student achievement outcomes between TFA and non-TFA teachers within CMS in an effort to examine the success of the local TFA program against recent state and national research findings.

Quantitative information analyzed in this study includes standardized assessment scores and growth outcomes, as well as quantitative indicators representing student and teacher demographic characteristics and controls for school-level influences. These quantitative data points were obtained for TFA and non-TFA teachers teaching similar classes within the same schools for the 2007-08 and 2008-09 school years.

Qualitative data is based on three sources—*principal interviews, TFA teacher interviews, and TFA/non-TFA classroom observations*. Findings integrated interviews with a total of 8 principals and 16 TFA teachers and observations conducted in 16 TFA classrooms and 16 non-TFA classrooms. Since a non-equivalent or non-randomized group comparison design was employed for both interviews and classroom observations, results are limited to the TFA and non-TFA teachers observed in the sample (Rossi, Lipsey, & Freeman, 2004).

Major Study Findings

- There were no significant differences between TFA and non-TFA teachers when examining reading EOGs and reading EOG growth scores for the 2007-08 and 2008-09 school years.
- Significant, positive effects were found for TFA teachers in comparison to non-TFA teachers when analyzing 2008-09 math EOGs and math EOG growth scores. No significant differences between TFA and non-TFA teachers were noted when examining 2007-08 math EOGs or math EOG growth scores in 2007-08.

- Significant positive effects were found in both 2007-08 and 2008-09 when examining EOCs and EOC growth scores, where individual EOC subjects were collapsed into a single outcome to account for small sample sizes.
- A significant, positive effect was found for 2008-09 first-year TFA teachers on math EOG growth when compared to first-year non-TFA teachers. Remaining comparisons of math EOGs and math EOG growth scores for 2007-08 and 2008-09 among similarly experienced teachers were all non-significant.
- A significant, positive effect was found for non-TFA teachers when examining reading achievement in 2007-08 among first-year teachers and when examining 2008-09 reading growth outcomes for teachers with two years of experience. Remaining comparisons of reading EOGs and reading EOG growth scores for 2007-08 and 2008-09 among similarly experienced teachers were all non-significant.
- Significant positive effects were found for TFA teachers compared to non-TFA teachers when examining EOC and EOC growth outcomes in both 2007-08 and 2008-09 for teachers with equivalent years of experience.
- Although some CMS principals participating in this study expressed dissatisfaction with certain aspects of the TFA program, in general, they expressed high levels of satisfaction with TFA teachers' ability in the classroom.
- TFA teachers reported personal satisfaction with their experiences in the TFA program and their school placement. Suggestions for TFA program improvement and concerns with TFA teacher reception at CMS schools were noted.
- There were both similarities and differences observed between non-TFA and TFA-led classrooms. Similarities between classrooms included comparable levels of teacher confidence, evidence of pre-planned activities, and equivalent amounts of culturally-appropriate quotations and pictures. A notable difference between TFA and non-TFA-led classrooms included the level of respect observed in student-teacher dynamics and between students. TFA teachers typically fostered and demanded high levels of respect to be shown in the classroom. Additionally, TFA teachers were observed to utilize more types of classroom management strategies and employ them more consistently. Other observed differences of TFA teachers were that they were particularly efficient in classroom procedures, tended to ask more open-ended questions to probe for comprehension, and emphasized more real world connections.

INTRODUCTION

Many influential factors exist that have the potential to impact student achievement throughout public education. Some research has shown that teachers can be one of the most influential factors (Mendro et. al., 1998; Rivkin, Hanushek, & Kain, 2000; Rowan, Correnti, & Miller, 2002; Sanders & Rivers, 1996; Shkolnik et al., 2002; Wright, Horn, & Sanders, 1997), in addition to other factors such as parental involvement (Houtenville, 2008; Jeynes, 2005; Walberg, 1984) and school climate (Freiberg, 1999; Lee & Smith, 1999; Sherblom, Marshall, & Sherblom, 2006). However, research has also shown that a great deal of variation exists between teachers, with some teachers performing more effectively than others (McAffrey, Lockwood, Koretz, & Hamilton, 2003). The recent phenomenon, generally referred to as strategic staffing, involves identifying the teacher most successful in helping students achieve and placing them where they can serve the students most in need. Teach For America (TFA), an organization whose sole purpose is to recruit top-flight graduates from the nation's premier schools to teach in the most challenging K-12 settings, assists districts in meeting the goals of their strategic staffing initiatives.

The TFA program has seen dramatic growth in both applicants and placements since its inception in 1990 (Xu, Hannaway, & Taylor, 2009). TFA initially received 2,500 applications and placed 500 teachers in 1990. Most recently, in 2005, TFA received 17,000 applications and expects to place over 4,000 teachers by 2010 (Xu et al., 2009). These figures alone suggest that TFA has been successful in meeting its mission to help staff America's most needy schools. However, skeptics still question whether TFA recruits, without traditional education training, can achieve the same impact for their students as traditional teachers.

Despite the increased interest of applications and customer districts, the amount of educational research investigating the impact of TFA is limited. Mathematica researchers conducted a random assignment study published in 2004 to compare student achievement outcomes between students taught by TFA teachers and non-TFA teachers in the same schools and grade levels (Decker, Mayer, & Glazerman, 2004). Decker and colleagues (2004) found that students taught by TFA teachers outperformed students taught by comparison teachers based on mathematics assessment scores. No differences were noted between the two groups of teachers with respect to reading achievement. Of particular interest, when TFA teachers were analyzed with novice comparison teachers, the effect associated with TFA was even larger than when analysis was conducted with the full sample.

Quasi-experimental studies conducted by Raymond, Fletcher, and Luque (2001) and Darling-Hammond, Holtzman, Gatlin, and Heilig (2005) have also shown positive effects for students taught by TFA teachers with respect to mathematics achievement. Darling-Hammond and colleagues (2005) did find negative effects associated with TFA teachers in subjects other than math.

Other larger-scale, quasi-experimental studies have been conducted with data from New York City schools. Making use of longitudinal data, Kane, Rockoff, and Staiger (2006) found positive effects for TFA with respect to student mathematics achievement while controlling for years of teaching experience, with effects somewhat larger at the middle school level compared to the elementary level. Boyd, Grossman, Lankford, Loeb, Michelli, and Wyckoff (2006) also found middle school math TFA teachers

had a significant advantage when compared to other middle school math teachers. Kane et al. and Boyd et al. both found no significant differences or effects in favor of comparison teachers with respect to reading achievement.

Qualitative research on the TFA program is even more limited, though some recent findings indicate support for the program. Veltri (2008) conducted a longitudinal study aimed at including the voices of TFA corps members, mentors, and administrators to the TFA literature. Data integrated interviews and "teacher-researcher" field notes were gathered over eight years from more than 300 participants who discussed their TFA teaching experiences. Despite noted concerns regarding TFA's current model, mission, and goals, Veltri's (2008) findings suggested that TFA corps members actively work to learn the culture of their assigned school and the surrounding community, as well as learning the complexities of teaching during their TFA commitment (Veltri, 2008).

Another important study found alternative-route teachers (including TFA corps members) were more likely than traditionally-trained teachers to believe that good teachers can help children learn, even those from disadvantaged backgrounds. Moreover, alternative-route teachers were more likely to say that wanting to help underprivileged students was their main reason for becoming teachers (National Comprehensive Center for Teach Quality & Public Agenda (NCCTQ), 2007). This study also noted how alternate-route teachers were more likely than traditionally-trained teachers to cite a lack of support by administrators as the major drawback of teaching (NCCTQ, 2007). Furthermore, NCCTQ (2007) found that new alternative-route teachers were more likely than traditionally-trained teachers to give their administrators low ratings for their instructional leadership and support on discipline issues. They were also more likely to give their fellow teachers lower marks for supporting and advising them (NCCTQ, 2007).

STUDY RATIONALE

This study aimed to explore these important research findings in greater detail on a local level. A mixed-methods approach was utilized to capture both quantitative and qualitative nuances of the TFA program within CMS. Furthermore, the purpose of this study was to add to the contemporary literature in three important respects. This study, unlike many previous TFA studies, aimed to incorporate qualitative research in its study design. In addition, this study includes a focus on secondary school levels, a population of students typically neglected from TFA studies thus far (Xu et al., 2009). Finally, we aimed to compare student achievement outcomes between TFA and non-TFA teachers within CMS in an effort to examine the success of the local TFA program against recent state and national research findings. It is expected that the scope of the project will likely broaden for next year's evaluation, as research findings have pointed in some unanticipated directions.

METHOD

Quantitative Data Sources

CMS Office of Human Resources provided CRE with a list of TFA teachers placed in CMS schools for the 2007-08 and 2008-09 school years. These files contained the names, school placement, grade level placement, subjects taught, and identification numbers for TFA teachers. The TFA teacher list was cleaned and accurately coded so that all TFA teachers were identified in CMS district data sources. A total of 75 TFA teachers were placed during the 2007-08 school year and 139 new TFA teachers were placed during the 2008-09 school year.[1] Six teachers across both years were placed as Exceptional Child (EC) teachers working in support or co-teaching roles. We were unable to accurately link these EC teachers directly to students, as EC teachers are not coded in student schedule tables in the district data warehouse. An additional 10 teachers in 2007-08 and 35 teachers in 2008-09 were placed in grades Kindergarten through second grade, where standardized test scores are not available. Finally, 10 teachers in 2007-08 were placed as Science teachers in middle grades or in higher level courses at the high school level, such as English II or Honors English III. Similarly, 47 teachers in 2008-09 were placed as Science or Foreign Language teachers in middle grades or in courses such as World History, Introduction to Math, or Debate.

Teacher identification codes were retrieved from the district data warehouse and matched to student schedule and demographic data files. To create a manageable data file, only courses (at the high school level) with required End-Of-Course (EOC) tests were retained for analysis. These courses were identified using North Carolina Department of Public Instruction (NCDPI) course codes. For elementary and middle grade students, student records with valid reading or math End-of-Grade assessment scores were retained for analysis. To add strength to the internal validity of our research design, and.in an attempt to approximate the randomized controlled trial (RCT) conducted by Decker, Mayer, & Glazerman (2004), only non-TFA teachers teaching the same courses at the same schools were utilized as comparison teachers. Table 1 below shows the number of TFA and non-TFA teachers retained for analysis by EOG/EOC tested subjects in both 2007-08 and 2008-09.

[1] The 139 TFA teachers placed in 2008-09 were new TFA teachers. Additional TFA teachers remaining from the 2007-08 cohort were also included in the 2008-09 dataset for a total of 196 TFA teachers

Table 1.
TFA and non-TFA teachers teaching EOG/EOC tested subjects taught by TFA teachers.

	2007-08						2008-09				
	Non-TFA		TFA		Total		Non-TFA		TFA		Total
	n	%	n	%	n		n	%	n	%	N
EOGREAD	246	87.9%	34	10.8%	280		420	84.7%	76	13.3%	496
EOGMATH	231	87.2%	34	11.4%	265		520	87.8%	72	10.8%	592
ALG1	2	40.0%	3	37.5%	5		6	54.5%	5	31.3%	11
ALG2	0	0.0%	0	0.0%	0		2	66.7%	1	25.0%	3
BIOL	10	76.9%	3	18.8%	13		12	66.7%	6	25.0%	18
CECO	1	50.0%	1	33.3%	2		7	77.8%	2	18.2%	9
CHEM	0	0.0%	0	0.0%	0		1	33.3%	2	40.0%	3
ENG1	8	80.0%	2	16.7%	10		17	81.0%	4	16.0%	21
GEOM	8	72.7%	3	21.4%	11		7	63.6%	4	26.7%	11
PSCI	3	75.0%	1	20.0%	4		5	83.3%	1	14.3%	6
Total	**509**	**86.3%**	**81**	**12.1%**	**590**		**997**	**85.2%**	**173**	**12.9%**	**1170**

North Carolina EOG and EOC standardized assessment scores served as the primary outcome of interest for the quantitative aspect of this study. EOG and EOC scores were standardized within their respective years using the state means and standard deviations for the corresponding standard setting year. For example, to analyze the 2007-08 dataset, 2007-08 Math scores were standardized using the mean and standard deviation from the 2006-07 standard setting year. Similarly, we standardized the 2006-07 Math scores for these students using the same standards to use as controls for prior achievement. Similar methods were used to standardize all Reading and EOC scores for both the 2007-08 and 2008-09 datasets. Due to the small number of teachers available for analysis at the EOC level within each subject, we chose to collapse standardized scores across EOC subjects to create an overall, general EOC score. Thus, results will not be presented within each particular EOC subject, but rather as achievement on EOC assessments in the aggregate.

In addition to examining the individual standardized assessment scores as described above, we also included North Carolina Department of Public Instruction (NCDPI) ABC Growth Model scores. North Carolina's ABC Growth Model makes use of up to two years' worth of students' prior assessments in calculating an expected score, which is subsequently compared to the current year's score to determine growth. Positive scores indicate growth above what is expected, negative scores suggest a decline or loss. These growth scores were analyzed as outcome variables to capitalize on a greater level of stability in controlling for student's prior achievement. Readers interested in learning more about growth scores should consult the NCDPI ABCs website (2009).

Descriptive Statistics

Basic descriptive statistics were generated for each of the datasets analyzed, disaggregated by the TFA indicator variable. Across subjects and school years, the descriptive statistics for student and class-level variables were generally similar. These similarities were due to our strategy of utilizing only teachers within schools where TFA teachers were placed, and retaining only teachers teaching the same subjects and courses as TFA teachers. Our confidence that we were able to approximate the controls of Mathematica's RCT was greatly increased by these results.

Differences were noted however, when examining the outcome and covariate variables between the non-TFA and TFA groups. In addition, the teacher gender variable was relatively similar across teacher groups for EOG subjects, but differed somewhat at the EOC level, where there appeared to be more female teachers in the TFA group than in the comparison group. Also, the years of CMS teaching experience variable revealed differences, with non-TFA teachers possessing more years of experience than TFA teachers. This is not surprising given the nature of the TFA program to recruit recent college graduates, who initially make only a two year commitment.

Table 2.

Descriptive statistics for 2007-08 Math and Reading student-level datasets.

	Math							Reading					
	Non-TFA			TFA				Non-TFA			TFA		
Outcomes	n	Mean	SD	n	Mean	SD		n	Mean	SD	N	Mean	SD
Math08/Read08	3854	-0.290	0.962	990	-0.292	0.863		4294	-0.433	0.962	1071	-0.539	0.912
Math07/Read07	3470	-0.368	0.978	892	-0.458	0.845		3462	-0.339	0.982	912	-0.424	0.908
Math/Read Growth	3102	0.062	0.537	798	0.148	0.514		3088	-0.009	0.532	803	-0.011	0.534
Student													
Gender	3854	0.511	0.500	990	0.505	0.500		4294	0.512	0.500	1071	0.515	0.500
Asian	3854	0.044	0.204	990	0.057	0.231		4294	0.042	0.201	1071	0.053	0.225
Black	3854	0.676	0.468	990	0.640	0.480		4294	0.678	0.467	1071	0.681	0.466
Hispanic	3854	0.170	0.376	990	0.196	0.397		4294	0.166	0.372	1071	0.161	0.367
Native Am.	3854	0.008	0.086	990	0.007	0.084		4294	0.008	0.089	1071	0.008	0.091
Multi	3854	0.031	0.174	990	0.027	0.163		4294	0.031	0.172	1071	0.025	0.157
White	3854	0.071	0.257	990	0.073	0.260		4294	0.076	0.265	1071	0.072	0.258
Economically Disadvantaged	3854	0.732	0.443	990	0.763	0.426		4294	0.739	0.439	1071	0.782	0.413
LEP	3854	0.180	0.384	990	0.200	0.400		4294	0.174	0.379	1071	0.163	0.370
EC	3854	0.122	0.327	990	0.090	0.286		4294	0.118	0.323	1071	0.120	0.326
GIFTED	3854	0.070	0.255	990	0.041	0.199		4294	0.068	0.253	1071	0.045	0.207
Age	3854	12.610	1.842	990	13.158	1.554		4294	12.640	1.762	1071	13.039	1.554
Proportion of Absences	3707	-3.581	1.143	964	-3.664	1.138		4136	-3.599	1.156	1038	-3.532	1.175
Teacher													
Gender (% Male)	3854	0.214	0.410	990	0.208	0.406		4294	0.208	0.406	1071	0.168	0.374
Years of Experience	3823	5.229	5.539	977	0.803	0.089		4257	5.605	5.957	987	0.825	0.059
Class Composition													
% Male	3854	0.511	0.144	990	0.505	0.102		4294	0.512	0.154	1071	0.515	0.108
% Asian	3854	0.044	0.060	990	0.057	0.063		4294	0.042	0.067	1071	0.053	0.054
% Black	3854	0.676	0.176	990	0.640	0.142		4294	0.678	0.181	1071	0.681	0.138
% Hispanic	3854	0.170	0.141	990	0.196	0.116		4294	0.166	0.139	1071	0.161	0.108
% Native Am.	3854	0.008	0.025	990	0.007	0.021		4294	0.008	0.020	1071	0.008	0.020
% Multi	3854	0.031	0.038	990	0.027	0.029		4294	0.031	0.042	1071	0.025	0.022
% White	3854	0.071	0.090	990	0.073	0.064		4294	0.076	0.091	1071	0.072	0.070

Table 3.
Descriptive statistics for 2007-08 EOC student-level dataset.

	Non-TFA			TFA		
Outcomes	**N**	**Mean**	**SD**	**n**	**Mean**	**SD**
EOC	1572	-0.426	0.803	646	-0.269	0.855
EOC Growth	1043	0.033	0.708	413	0.039	0.767
Grade 8 Math	1373	-0.439	0.808	551	-0.187	0.800
Grade 8 Reading	1374	-0.518	0.788	548	-0.293	0.798
Student						
Gender (%Male)	1602	0.491	0.500	657	0.504	0.500
Asian	1602	0.040	0.196	657	0.047	0.212
Black	1602	0.845	0.362	657	0.831	0.375
Hispanic	1602	0.052	0.223	657	0.065	0.248
Native Am.	1602	0.009	0.096	657	0.002	0.039
Multi	1602	0.011	0.105	657	0.006	0.078
White	1602	0.042	0.202	657	0.049	0.215
Economically Disadvantaged	1602	0.697	0.460	657	0.647	0.478
LEP	1602	0.068	0.252	657	0.099	0.299
EC	1602	0.087	0.282	657	0.052	0.222
GIFTED	1602	0.026	0.160	657	0.052	0.222
Age	1602	16.511	1.075	657	16.231	1.182
Proportion of Absences	1597	-3.444	1.164	650	-3.695	1.173
Teacher						
Gender (%Male)	1586	0.456	0.498	657	0.323	0.468
Years of Experience	1586	7.177	8.308	657	0.832	0.012
Class Composition						
% Male	1603	0.491	0.074	657	0.504	0.088
% Asian	1603	0.040	0.034	657	0.047	0.070
% Black	1603	0.844	0.092	657	0.831	0.144
% Hispanic	1603	0.052	0.040	657	0.065	0.072
% Native Am.	1603	0.009	0.012	657	0.002	0.008
% Multi	1603	0.011	0.016	657	0.006	0.010
% White	1603	0.042	0.045	657	0.049	0.038

Table 4.

Descriptive statistics for 2008-09 Math and Reading student-level datasets.

	Math						Reading					
	Non-TFA			TFA			Non-TFA			TFA		
Outcomes	n	Mean	SD	n	Mean	SD	n	Mean	SD	N	Mean	SD
Math08/Read08	10149	-0.148	0.948	1954	-0.137	0.895	10529	-0.334	0.936	2082	-0.332	0.918
Math07/Read07	9356	-0.358	0.946	1784	-0.295	0.892	9726	-0.382	0.936	1917	-0.440	0.934
Math/Read Growth	8973	0.200	0.557	1691	0.172	0.546	9394	0.180	0.554	1834	0.175	0.551
Student												
Gender (%Male)	10147	0.503	0.500	1954	0.493	0.500	10527	0.503	0.500	2081	0.504	0.500
Asian	10147	0.041	0.199	1954	0.052	0.222	10527	0.040	0.196	2081	0.046	0.210
Black	10147	0.613	0.487	1954	0.596	0.491	10527	0.622	0.485	2081	0.618	0.486
Hispanic	10147	0.235	0.424	1954	0.243	0.429	10527	0.225	0.418	2081	0.223	0.416
Native Am.	10147	0.006	0.079	1954	0.003	0.055	10527	0.006	0.078	2081	0.005	0.073
Multi	10147	0.032	0.176	1954	0.033	0.178	10527	0.033	0.178	2081	0.028	0.166
White	10147	0.072	0.258	1954	0.073	0.261	10527	0.074	0.262	2081	0.079	0.270
Economically Disadvantaged	10147	0.802	0.398	1954	0.792	0.406	10527	0.800	0.400	2081	0.813	0.390
LEP	10147	0.247	0.431	1954	0.249	0.432	10527	0.235	0.424	2081	0.223	0.417
EC	10147	0.090	0.287	1954	0.078	0.269	10527	0.089	0.285	2081	0.090	0.287
GIFTED	10147	0.075	0.263	1954	0.040	0.196	10526	0.075	0.263	2081	0.042	0.201
Age	10147	11.447	1.883	1954	12.460	1.786	10527	11.472	1.826	2081	12.499	1.774
Proportion of Absences	9299	-3.487	0.918	1771	-3.455	0.935	9659	-3.481	0.927	1914	-3.408	0.975
Teacher												
Gender (% Male)	10149	0.155	0.362	1954	0.163	0.369	10529	0.117	0.321	2082	0.182	0.386
Years of Experience	10086	6.064	6.666	1914	1.082	0.488	10496	6.911	7.418	2043	1.073	0.492
Class Composition												
% Male	10149	0.503	0.132	1954	0.493	0.101	10529	0.503	0.133	2082	0.504	0.105
% Asian	10149	0.041	0.057	1954	0.052	0.045	10529	0.040	0.054	2082	0.046	0.043
% Black	10149	0.613	0.192	1954	0.596	0.156	10529	0.622	0.193	2082	0.618	0.177
% Hispanic	10149	0.235	0.163	1954	0.243	0.139	10529	0.225	0.164	2082	0.223	0.145
% Native Am.	10149	0.006	0.019	1954	0.003	0.011	10529	0.006	0.019	2082	0.005	0.013
% Multi	10149	0.032	0.043	1954	0.033	0.034	10529	0.033	0.040	2082	0.028	0.030
% White	10149	0.072	0.093	1954	0.073	0.070	10529	0.074	0.094	2082	0.079	0.081

Table 5.
Descriptive statistics for 2008-09 EOC student-level dataset.

	Non-TFA			TFA		
Outcomes	**n**	**Mean**	**SD**	**N**	**Mean**	**SD**
EOC	3062	-0.248	0.830	1679	-0.110	0.851
EOC Growth	2716	0.056	0.658	1454	0.206	0.640
Grade 8 Math	2737	-0.201	0.800	1459	-0.129	0.837
Grade 8 Reading	2739	-0.348	0.807	1459	-0.288	0.841
Student						
Gender (%Male)	3135	0.484	0.500	1719	0.482	0.500
Asian	3135	0.031	0.173	1719	0.026	0.158
Black	3135	0.752	0.432	1719	0.743	0.437
Hispanic	3135	0.115	0.318	1719	0.120	0.326
Native Am.	3135	0.003	0.054	1719	0.004	0.064
Multi	3135	0.018	0.131	1719	0.025	0.156
White	3135	0.082	0.274	1719	0.082	0.274
Economically Disadvantaged	3135	0.672	0.469	1719	0.677	0.468
LEP	3135	0.112	0.315	1719	0.113	0.317
EC	3135	0.063	0.243	1719	0.069	0.254
GIFTED	3135	0.033	0.179	1719	0.035	0.184
Age	3135	16.377	1.047	1719	16.371	1.063
Proportion of Absences	2924	-3.343	1.011	1572	-3.381	0.989
Teacher						
Gender %Male)	3135	0.478	0.500	1719	0.190	0.392
Years of Experience	3135	6.691	7.317	1719	1.174	0.538
Class Composition						
% Male	3135	0.484	0.090	1719	0.482	0.105
% Asian	3135	0.031	0.033	1719	0.026	0.026
% Black	3135	0.752	0.145	1719	0.743	0.137
% Hispanic	3135	0.115	0.082	1719	0.120	0.092
% Native Am.	3135	0.003	0.006	1719	0.004	0.011
% Multi	3135	0.018	0.018	1719	0.025	0.020
% White	3135	0.082	0.085	1719	0.082	0.088

Quantitative Data Analysis Procedure

Keeping with our efforts to approximate the Mathematica RCT, we chose to implement a regression-based, fixed effect analysis using the General Linear Model (GLM) procedure within the SAS statistical package. The analytical model took the following general form:

$$Score = \beta_0 + x_1 + x_2 + x_{3-6} + x_{7-8} + x_{9-10}, x_{11} + \varepsilon$$

Where:

X_1 = last year's test score (for growth models, these are incorporated into outcome variable)

X_2 = TFA teacher or traditionally trained teacher

X_{3-6} = Student level variables (student ethnicity, SES, % days absent for total possible days, age)

X_{7-8} = Teacher level variables (experience level measured in years teaching, gender)

X_{9-1} = Classroom level variables (% by race and gender)

$X_{11-unknown}$ = school dummy variable (this is unknown at this point because we don't know how many schools to include)

ε - Error

We proceeded by conducting the analyses in iterations, beginning by entering only the TFA indicator variable as a predictor. Subsequently, we added student-level, teacher-level, class-level variables and then school dummy variables. We included the school dummy variables as a way to account for the nested structure of our data (students nested within schools) at the school level. We did not include similar dummy variables for each teacher, as we were interested in estimating the effect of being a TFA teacher, after controlling for teacher gender and experience, despite the potential existence of intra-teacher correlations that may potentially bias estimates due to a violation of independence assumptions.

This analytical strategy enabled us to examine the overall performance of the model, determine whether subsets of variables (student-level, class-level, etc.) helped to explain existing variance in our outcome variables, and to generate least-square outcome variable means for non-TFA and TFA teachers. We made use of the same general model, selecting only comparison teachers with equivalent years of experience, to determine whether students of non-TFA and TFA teachers with equal years of experience performed similarly.

Finally, we utilized Levene's homogeneity of variance test (1960) to determine whether the variance in outcomes for non-TFA and TFA teachers was equivalent. Determining whether these variances are equivalent will not only provide evidence to reassure at least one assumption for fixed-effect analysis, but will also tell us whether either of the teacher groups' mean performance is more or less representative of their students overall.

Qualitative Study Design

To date, studies regarding the TFA program have been primarily quantitative, leaving the benefits of a qualitative approach untapped. From a qualitative perspective, evaluation questions concerning the TFA program should be answered by taking into consideration how school stakeholders assign meaning

to the TFA program in their everyday social interactions (Schwandt, 1994). Strauss and Corbin (1998) suggest that qualitative research should be used to find out what people are doing and thinking. This study aims to fill the methodological gap in the TFA program literature by analyzing TFA teacher interviews, principal interviews and classroom observations of both TFA and non-TFA teachers.

Methodologically, qualitative researchers seek to understand human perception and behavior by focusing on how dialogue defines persons' value systems (Denzin & Lincoln, 2003). According to Gubrium and Holstein (1997), the meaningful dimensions of everyday life are built on individuals' orientation to and actions within a social world. Evaluative statements about TFA, in this case, should reflect how teachers and principals substantially talk about and publicly display their own ideas, experiences, and feelings concerning teaching in general, and the TFA program, specifically. Consistent with Altheide and Johnson's (1994) notion of "interpretive validity," valuable insights about the TFA program come from illuminating how school stakeholders (i.e., principals, TFA and non-TFA teachers) sustain viewpoints of and manage practical relationships in the context of the TFA program.

Qualitative Sampling and Data

This study's qualitative data is based on three sources—*principal interviews, TFA teacher interviews, and TFA/non-TFA classroom observations*. For this year's evaluation, data was collected using a "purposeful sample" of schools, selected prior to conducting principal and TFA teacher interviews (Denzin & Lincoln, 2003; Rossi, Lipsey, & Freeman, 2004). It is important to note that research approval was granted near the close of the 2008-2009 school year, thus limiting the timeframe and scope of the study design. In the future, efforts should be made to broaden this qualitative project. Furthermore, study results could be strengthened by increasing sample sizes and introducing probability sampling strategies to reduce selection bias in school and TFA teacher selection.

Consistent with a purposeful sampling strategy, the desired population for the study included selecting schools with a mix of first and second-year TFA teachers that varied by Adequate Yearly Progress (AYP) status. In all, nine CMS schools were originally chosen for the sample based on their 2007-2008 AYP results, ensuring that one high achieving school, one average achieving school, and one low achieving school for each grade level (elementary, middle, and high school) was represented. Principals were then contacted directly to begin drawing a purposeful sample of TFA teachers within the nine CMS schools. This was done by asking principals to select one first-year and one second-year TFA teacher to study year to year change. Principals were also asked to select TFA teachers who were teaching different subjects (e.g., math and English) in order to ensure diversity within the sample in terms of content material. In addition to these requests, principals were asked to match selected TFA teachers to non-TFA teachers with similar teaching experience (i.e., years of teaching and subjects being taught) for the purposes of classroom observations and comparisons. These selection criteria, as well as teacher schedules, occasionally led principals to change their selection choice of TFA and non-TFA teachers. In addition, two non-TFA teachers were absent on the day of classroom observations and were subsequently replaced in the sample. Multiple attempts were made to contact the low achieving high school originally selected for the sample. Just prior to the end of school they were replaced with another low achieving high school, but attempts to schedule observation periods and interviews were unsuccessful. Therefore, the final sample included interviews and observations pertaining to eight TFA-affiliated CMS schools.

Since a non-equivalent or non-randomized group comparison design was employed for classroom observations, results are limited by the TFA and non-TFA teachers observed in the sample (Rossi et al., 2004). Results, therefore, should not be considered representative of the entire TFA program or of all non-TFA teachers within CMS. An important strength of this study, however, is that it overcomes a limitation of previous TFA studies. In particular, this study gives special attention to the "crucial comparison between the effectiveness of TFA teachers to that of other teachers in their schools" (National Center for Alternative Certification, 2008). In this case, selected schools were held constant throughout this study, allowing genuine comparison between TFA and non-TFA teachers *within* the same school.

In sum, this study integrated data from three sources: *principal interviews, TFA teacher interviews, and TFA/non-TFA classroom observations.* The total sample for the qualitative component of this study included interviews with a total of eight CMS principals and 16 TFA teachers. Additionally, observations were conducted in 16 TFA classrooms as well as 16 non-TFA classrooms. The following sections describe how interviews and observations were conducted and the intentions behind employing these particular methods.

Interviews

Interviews were designed to fulfill the goals of studying how participants think, experience, and feel about teaching and the TFA program. Semi-structured interviews were conducted with the aid of an interview guide (See Appendixes B and C). Interviews lasted approximately 30 minutes but continued until all questions from the guide were addressed, and any serendipitous questions had been acknowledged. The researcher offered the opportunity for any final comments regarding the discussion. Qualitative interviews are meant to be flexible enough to encourage dialogue but still maintain structure and guidance. Holstein and Gubrium (1995, p. 76) note that interviewers must be "prepared to furnish precedence, incitement, restraint, and perspective as the interview proceeds, not to avoid them." In general, the direction of the interviews offered participants flexibility to describe themselves and their everyday experiences as principals and TFA teachers.

Participant Observation

Each classroom observation period lasted approximately 30 minutes while the researcher sat in the back of the classroom so as not to reasonably disturb the teacher-student relationship. A running description of the interactions and conversations within the classrooms was kept while referencing a classroom observation guide (see Appendix D). Real-time conversations were recorded verbatim whenever possible. Observational notes included how TFA and non-TFA teachers managed and negotiated distinct classroom dynamics, such as teacher preparedness, facilitation of student engagement, personalization of curriculum, and cultural sensitivity, to name a few. Individual identifying information from participant observations and interviews is disguised in order to maintain participants' anonymity.

Qualitative Data Analysis Procedure

Interview and observation data were analyzed according to a grounded theory approach (Glaser & Strauss, 1967; Strauss & Corbin, 1998). The analysis strategy allows the principal investigator to generate themes found in the data in order to address the three central research questions listed as four through six in the section below. While this study is not a formal exercise in grounded theory, it follows

this method in some important respects (Glaser & Strauss, 1967). The goal of grounded theory methodology is neither to test logically deduced hypotheses nor to provide statistical verification. Instead, this study represents an exploratory investigation into the TFA program. The primary analytic aim is to generate conceptual themes about the TFA program, as defined by a sample of TFA teachers and principals of TFA-assigned schools. Specific coding strategies of Strauss and Corbin's (1998) version of grounded theory were utilized in the data analysis.

Consistent with a grounded theory method, data analyses were conducted simultaneously alongside data collection, with the coding process beginning by the collection of individual interviews and classroom observations. The coding process involved three stages: open, axial and selective coding. The goal of open coding is to capture emergent categories and organize substantive themes found in the data. At this juncture, themes are also noted and distinguished in light of relevant theoretical frameworks.

Axial coding occurred simultaneously with open coding and helped to refine categories by revealing how they are associated with subcategories. Axial coding takes place around different axes of a category, such as *action/interaction strategies* (e.g., teacher-student dynamics), conditions (e.g., teacher experience), and *consequences* (e.g., student performance). The various dimensions and properties of a category were explored and detailed in this stage. Analytic tools such as the "flip-flop technique" and the "comparative technique" of systematic comparison were used to further refine categories. In the flip-flop technique, we focused on opposites and extremes to understand connections between different ways of looking at the same topic. The constant comparative method was used for data analysis which allows for comparing incidents and their categories (Strauss & Corbin, 1998). This allows for any changes in coding to be made throughout the data collection periods, as new information presents itself.

Selective coding was used to identify core themes that were consistent with the study's primary focus. Selective coding allows for the integration of categories, their properties, and dimensions as they are identified by open and axial coding. Core categories were determined based on two criteria: (1) the core category must have been related to all apparent categories and (2) it must have been a category that was frequently observed in the data (Emerson, Fretz, & Shaw, 1995, p. 157). Final coding analyses were presented to collaborating researchers as a form of "inter-coder reliability," and to allow for modifications in the interpretations of the data (Miles & Huberman, 1994). Upon completion of all data collection and all three stages of coding, qualitative themes emerged regarding TFA teachers' experience within the TFA program, principal perceptions of TFA teachers, and observational differences between TFA and non-TFA teachers. The results section describes in detail these findings. Additionally, throughout analysis, comparisons were made between secondary and elementary school level TFA teachers, as well as first and second-year TFA teachers. Any major differences found in the interview data between these sub-groups were highlighted.

Stakeholder Engagement

This study takes a step toward emphasizing the active engagement of stakeholders (i.e., TFA teachers, CMS principals, and TFA program staff) in the evaluation process for the purposes of enhancing ownership and the usefulness of evaluation results (Denzin & Lincoln, 2003). Additionally, TFA program staff was offered the opportunity to review the report prior to release in order to provide feedback and was also provided the exact quantitative dataset used in this study to explore research findings on

their own. Per Denzin and Lincoln's (2003) suggestions, we chose to focus on stakeholder participation to ensure the less-powerful voices of teachers would be documented, as opposed to the particular methods used or conclusions drawn from our qualitative efforts. Our goal was to offer TFA teachers a chance to offer feedback to CMS from their personal experience, while also minimizing influence from the TFA program.

Research Questions

1. The research questions of interest in this study were formed by CRE staff in conjunction with CMS leadership The specific questions were:
2. How well does teacher type (TFA teacher versus a non-TFA teacher) predict student achievement? What are the differences when compared to all teachers? What are the differences when compared to new teachers?
3. How well does teacher type (TFA teacher versus a non-TFA teacher) predict student growth? What are the differences when compared to all teachers? What are the differences when compared to new teachers?
4. Are there differences in levels of student achievement variation between TFA teachers compared to traditionally-trained teachers?
5. What are the perceptions of TFA teachers on student achievement by CMS principals?
6. How do current first-year and second-year TFA teachers view their experiences in the TFA program?
7. What are the differences in instructional practices between TFA teachers and non-TFA teachers?

RESULTS

How well does teacher type predict student achievement?

Table 6 below provides the least square means associated with the full fixed-effect general linear models making use of student, teacher, class and school-level variables described in the Method section, with all available data records.[2] We chose to use least-square means to represent the average performance of students instructed by non-TFA and TFA teachers as our two groups necessitated an unbalanced research design. Least-square means represent the predicted values, in this case EOG/ABC growth performance, after adjusting for the average effect of the independent covariates included in our model.

Examining the results for 2007-08 first, we see that the only significant difference in student outcomes between non-TFA and TFA teachers was found in the EOC analyses. In both instances, students of TFA teachers outperformed students instructed by non-TFA teachers. Remember, the standardized outcome scores (those outcomes labeled 'EOC') were generated using State of North Carolina means and standard deviations, so a negative overall result suggests that, on average, students performed less well than students across the entire state. However, of primary interest here is whether students of TFA teachers performed similarly when compared to students of traditionally-trained, non-TFA teachers. The coefficients associated with the TFA indicator variable in the EOC and EOC Growth models were .208 and .219, respectively. Because both outcome variables are on a standardized scale, these coefficients represent the standardized change in student outcome score associated with instruction by a TFA teacher. Thus, students of TFA teachers could expect a fifth of a standard deviation advantage over their comparison peers.

Table 6.
Fixed-effect Least-Square Means and significance tests.

	2007-08				2008-09		
	Non-TFA	TFA	p		Non-TFA	TFA	p
EOG Math	-0.265	-0.275	0.758		-0.183	-0.133	0.016
EOG Math Growth	0.122	0.111	0.706		0.175	0.235	0.002
EOG Read	-0.558	-0.577	0.683		-0.350	-0.317	0.100
EOG Read Growth	-0.022	-0.042	0.645		-0.014	0.009	0.217
EOC	-0.595	-0.387	<.0001		-0.343	-0.087	<.0001
EOC Growth	-0.088	0.131	0.000		-0.019	0.278	<.0001

[2] To view individual variable coefficients and significance values, see Appendix A.

The results using data from the 2008-09 school year depict a slightly different picture. When examining mathematics outcome scores, on average students of TFA teachers scored significantly higher on the EOG Math test than students instructed by traditionally-trained teachers, controlling for all student, teacher, classroom and school-level variables. This effect held true regardless of whether we examined standardized EOG scores or ABC Growth scores. The coefficients associated with the TFA variable were .05 (EOG) and .06 (Growth). Despite their statistical significance, these effects are very small suggesting only a minor advantage for TFA-taught students. Effects similar to those found in 2007-08 were also found for the 2008-09 EOC analyses, as students of TFA teachers again outperformed their peers instructed by traditionally-trained teachers. The coefficient for the EOC model was .256 while the Growth coefficient was .297. Again, students instructed by TFA teachers could expect between a quarter and nearly one-third of a standard deviation advantage over their peers instructed by traditionally-trained teachers (controlling for all predictor variables in the model).

How well does teacher type predict student achievement among equivalently experienced teachers?

The results presented in Table 6 above included data available for all teachers teaching similar classes within each school where a TFA teacher was placed. We might expect that traditionally-trained teachers with more years of experience would have an unfair advantage over TFA teachers who are in only their first or second year of teaching. To explore this possibility, we reduced our effective dataset to include only teachers with equivalent years of experience. In the 2007-08 data file, this meant only traditionally-trained teachers in their first year of teaching were included as comparison teachers. For the 2008-09 dataset, we conducted two separate analyses comparing first-year TFA teachers to first-year non-TFA teachers and second-year TFA teachers to second-year non-TFA teachers. We used the same model for these analyses as we used to generate the overall results, except that teacher experience was inherently controlled for by our imposed selection limitations. Table 7 below shows the least-square means from our results using the limited 2007-08 dataset.

Table 7.
2007-08 Fixed-Effect Least-Square Means and significance tests for equivalently experienced teachers.

	Non-TFA	TFA	P
EOG Math	-0.352	-0.356	0.912
EOG Math Growth	0.124	0.122	0.972
EOG Read	-0.487	-0.623	0.016
EOG Read Growth	-0.023	-0.057	0.547
EOC	-0.612	-0.413	0.001
EOC Growth	-0.195	0.061	<.0001

The results for our limited dataset analyses reveal a trend similar to the overall results, where the only significant result was found when examining the EOC data. Students of TFA teachers, on average, scored higher than students taught by traditionally-trained teachers with equivalent years of experience when examining either standardized EOC scores or Growth Model data. A significant negative effect was found for 2007-08 TFA Reading teachers suggesting that students instructed by teachers with similar years of experience had a greater positive outcome than students instructed by equivalently experienced TFA teachers.

Table 8 below shows similar results when analyzing the 2008-09 data. Two separate analyses were conducted to compare first-year TFA and second-year TFA teachers to traditionally-trained teachers with similar years of experience. Again, a significant advantage was found for students instructed by TFA teachers either in their first or second year of teaching when examining EOC outcome data. We also found a significant effect in favor of first-year TFA teachers when examining Math Growth Model outcomes. Finally, there was a significant effect in favor of traditionally-trained teachers in their second year of teaching when examining Reading Growth Model outcomes.

Table 8.
2008-09 Fixed-Effect Least-Square Means and significance tests for equivalently experienced teachers.

	1 year experience			2 years experience		
	Non-TFA	TFA	p	Non-TFA	TFA	p
EOG Math	-0.301	-0.261	0.188	-0.244	-0.186	0.280
EOG Math Growth	0.118	0.191	0.007	0.163	0.142	0.654
EOG Read	-0.443	-0.442	0.987	-0.327	-0.408	0.093
EOG Read Growth	0.009	0.021	0.655	-0.008	-0.125	0.009
EOC	-0.380	-0.034	<.0001	-0.372	-0.218	0.002
EOC Growth	-0.093	0.215	<.0001	-0.085	0.191	<.0001

Do differences in levels of student achievement variation between TFA teachers and traditionally-trained teachers exist?

We explored whether outcome scores of students taught by TFA teachers had similar levels of variability compared to the scores of students taught by non-TFA teachers to discern whether outlier cases may have been influencing our overall results. Taking this inspection one step further, we chose to plot prior achievement scores, used in our models as covariates, to visually inspect any changes across academic years for those instances where the two teacher groups differed significantly on the primary outcome. Table 8 below displays the standard deviations, F statistics and significance levels based on Levene's (1960) test for homogeneity of variance. Levene's test determines whether to accept a null hypothesis stating the variance (standard deviation squared) in outcome scores in both groups (in this case TFA and non-TFA teachers) is equivalent. Thus, a non-significant effect fails to reject the null, suggesting

that the variances are equal. The results below show that the variance between the two groups differed for the standardized math scores in both 2007-08 and 2008-09, with a smaller variance exhibited in the scores of TFA students. Further, the variance was not equivalent between the two teacher groups for the standardized EOC scores and the EOC growth scores in 2007-08, though in this case there was a greater amount of variance in scores attained by TFA students.

Table 9.

Standard Deviation and homogeneity of variance test results for each outcome in both the 2007-08 and 2008-09 academic years.

	2007-08					2008-09			
	SD					SD			
	Non-TFA	TFA	HOVF	HOVp		Non-TFA	TFA	HOVF	HOVp
EOG Math	0.962	0.863	17.06	.000		0.948	0.874	22.45	.000
EOG Math Growth	0.537	0.512	2.17	0.141		0.557	0.549	0.48	0.490
EOG Read	0.919	0.914	0.04	0.837		0.936	0.918	1.53	0.216
EOG Read Growth	0.540	0.535	0.06	0.802		0.553	0.537	2.28	0.131
EOC	0.803	0.857	4.88	.027		0.830	0.824	0.12	0.733
EOC Growth	0.708	0.780	4.32	0.038		0.658	0.631	2.42	0.120

For the significant differences listed in table 9, we generated box and whisker plots displaying the distribution of outcome scores and their associated prior achievement score covariates. Figure 1 displays the distribution of scores for the 2007-08 standardized math scores, along with math scores from the 2006-07 school year. Clearly, the first plot under the TFA grouping has less spread than the first plot under the non-TFA, graphically reinforcing our finding in table 9. Interestingly, the prior achievement plots suggest that scores for TFA students were even less variable in the prior year, while scores for non-TFA students were more variable in the prior year. In fact, Levene's test revealed that TFA students' prior achievement scores were significantly less variable than non-TFA students' scores ($p = .000$).

Figure 2 displays a similar plot, depicting the EOC standardized scores along with eighth grade reading and math covariates. The distribution of EOC scores was more variable for TFA students compared to non-TFA students, despite equivalently distributed eighth grade reading and math scores ($p = .746$ and $p = .762$, respectively).

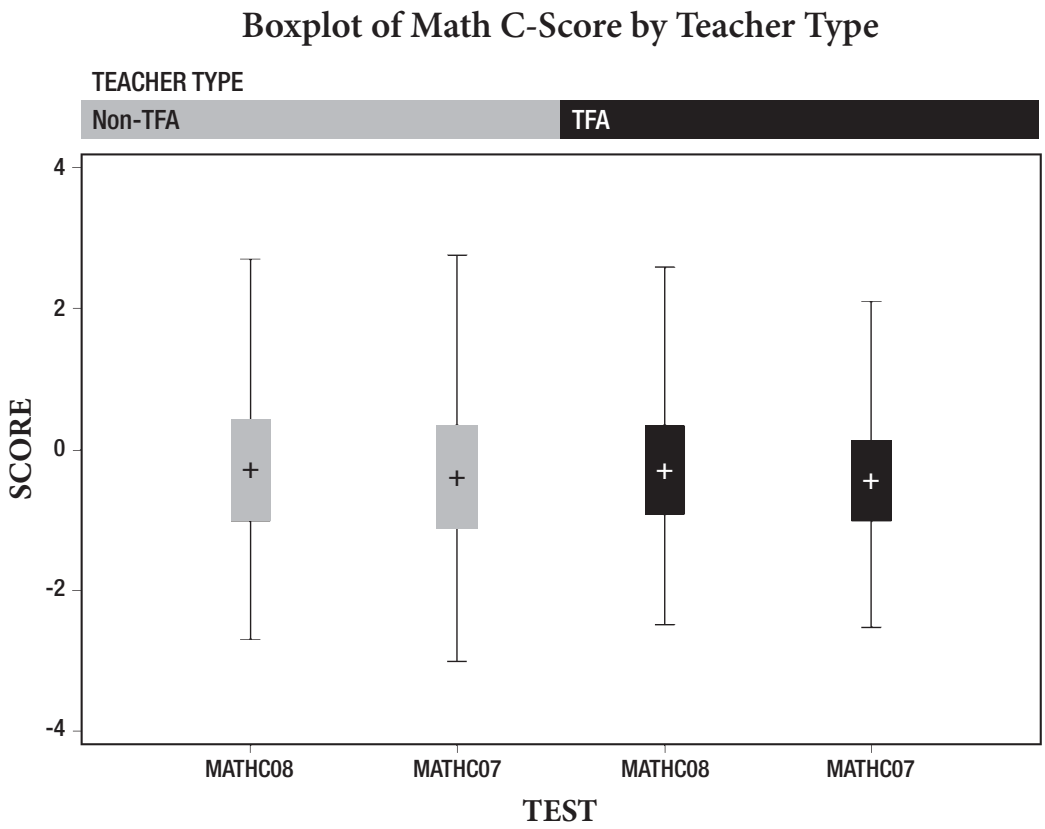

Figure 1. Box and whisker plots displaying the variance in 2007-08 standardized math outcome scores and 2006-07 standardized math covariate scores.

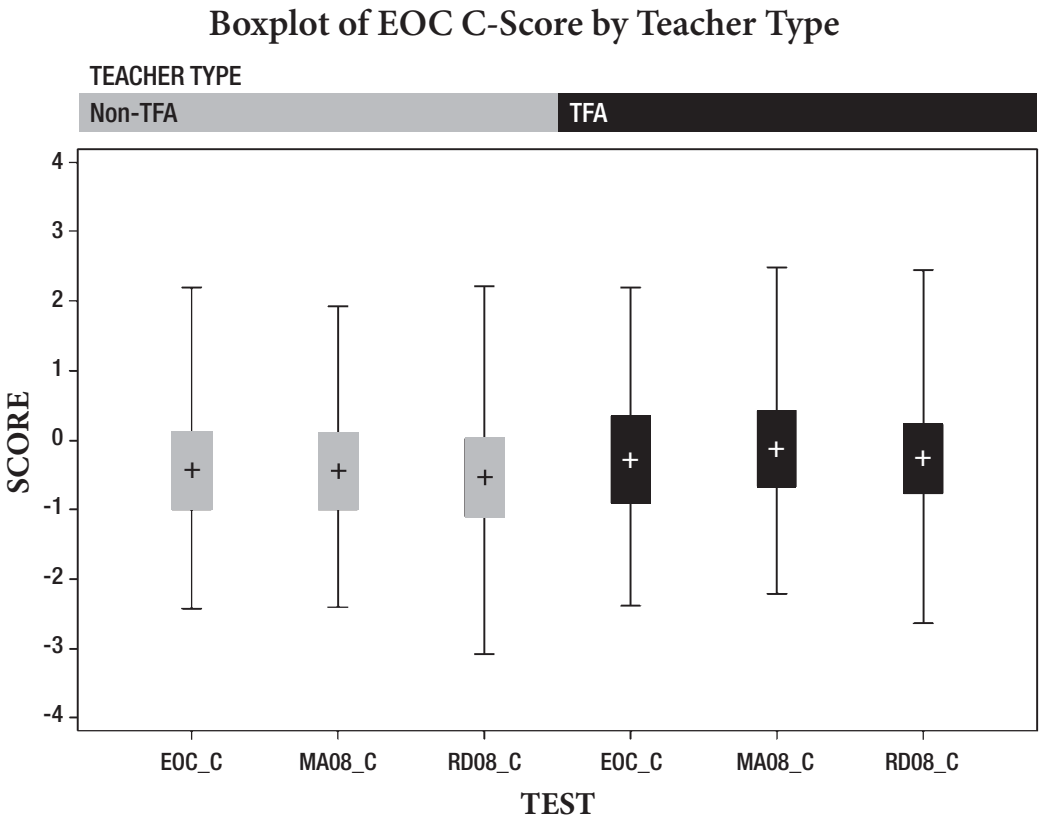

Figure 2. Box and whisker plots displaying the variance in 2007-08 standardized EOC outcome scores and eighth grade standardized math and reading covariate scores.

Figure 3 displays the distribution of 2007-08 EOC Growth scores for TFA and non-TFA students. Again, similar to the analysis of standardized EOC scores, TFA students' growth scores were more variable than non-TFA students' growth scores.

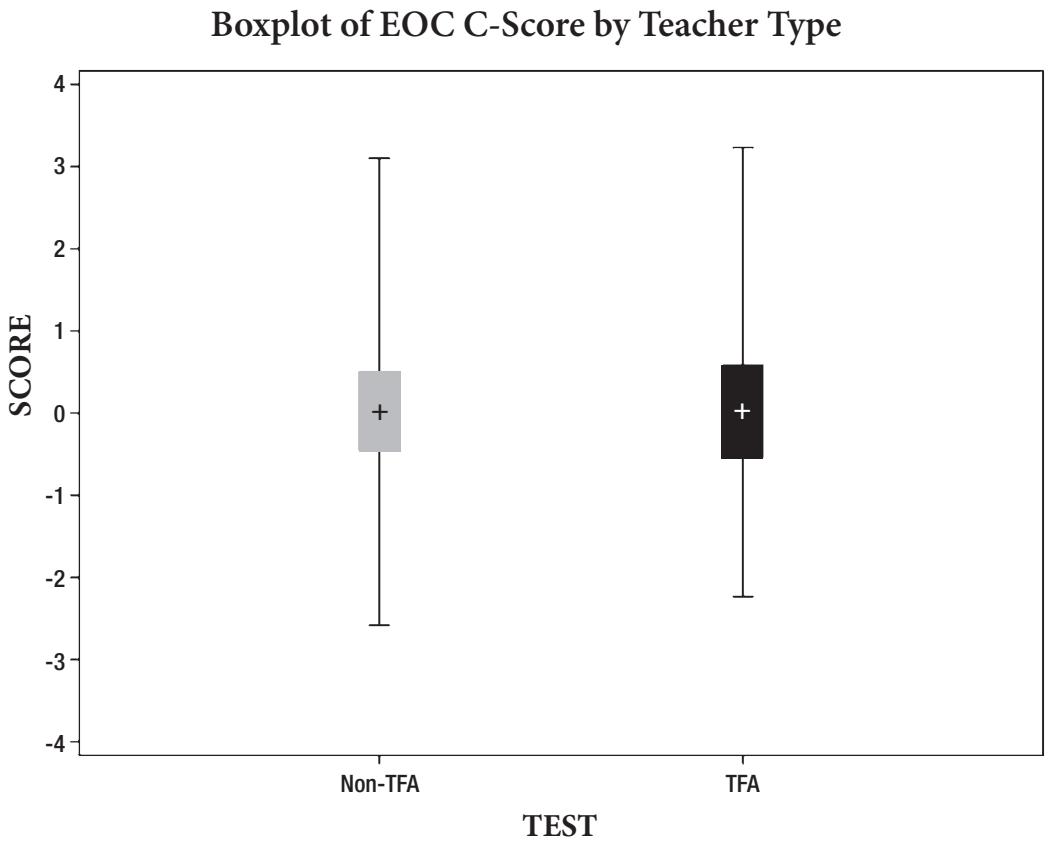

Figure 3. Box and whisker plots displaying the variance in 2007-08 EOC Growth outcome scores.

Finally, figure 4 displays the box plots for the 2008-09 Math EOG standardized score distributions, along with the 2007-08 prior math achievement distributions. TFA students' 2008-09 scores were found to be less variable than non-TFA students' scores ($p = .000$). Similarly, TFA students' 2007-08 prior math scores were also found to be less variable than their non-TFA counterparts.

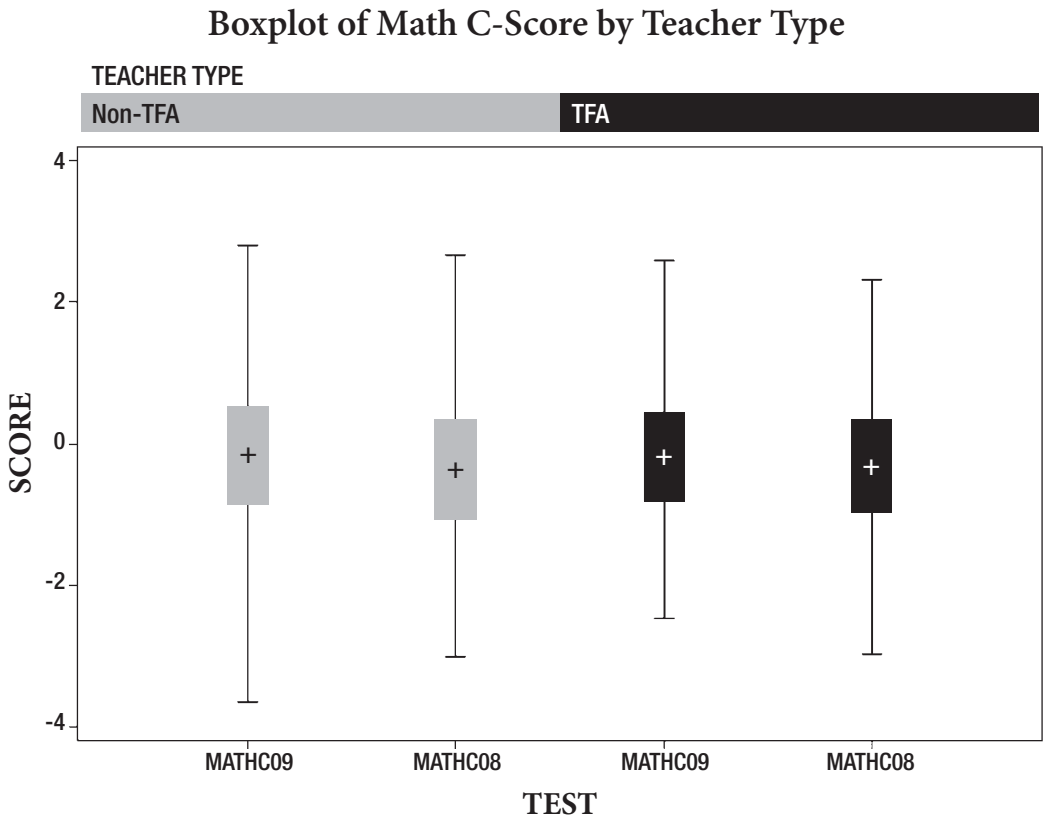

Figure 4. Box and whisker plots displaying the variance in 2008-09 standardized math outcome scores and 2007-08 standardized math covariate scores.

Principal Interview Analysis: Thematic Patterns in Data

Principal Satisfaction of TFA Impact

Positive feedback of TFA Program Impact.

Overall, principal perceptions of TFA teacher effectiveness were found to be very positive. Principals were quick to note how appreciative they were of the impact their school has had from the program. One principal suggested how his/her experience has been "wonderful" and stated, perhaps sarcastically, how s/he "wished all my teachers were TFA" teachers. Among other praises, principals emphasized TFA teachers' "passion for their job," their "high level of dedication," in addition to their "high caliber" and "energetic spirit" within the classroom. Including their fulfillment of expected duties within the classroom, TFA teachers even sought out leadership opportunities generally reserved for more experienced teachers (i.e., extracurricular leadership positions, staff development seminars). One principal noted her attempts to slow down a TFA teacher, suggesting the teacher works too much and was worried a burnout was possible. Another principal, in commenting on TFA teachers' high level of dedication noted that "if they were a regular teacher they may have left" [considering the difficult time this teacher went through]. Yet another pointed to the level of commitment TFA teachers have in the classroom: "they don't expect the chaos in the classroom…they have persistence, they don't blame the kids…they

hold on." An attitude that is particularly relevant in high poverty schools, where resources tend to be limited.

During the interviews, principals spent some time highlighting distinct attitudinal qualities that TFA teachers have consistently shown to have versus their traditionally-trained counterparts. TFA teachers were presented to be "more open" to new styles and techniques of teaching (more so than regular teachers who feel already trained in *how* to teach); particularly "willing;" they "offer a refreshing feel;" they are "bright, dedicated, and enthusiastic" and perhaps most important, "they don't blame the kids" (for their social circumstances). In the classroom, TFA teachers are said to be "more likely to look for different ways to teach material" (i.e., regular use of Smartboard in the classroom, if available). In the words of one principal, "they come in knowing traditional methods of teaching don't work." They take time to revamp activities that make learning fun (i.e., Earth Science teacher had kids analyze school grounds in quadrants; involved them in going green activities; made props and filmed the activity), whereas, non-TFA teachers may view lecturing as the sole effective teaching strategy. Even outside of their typical teaching hours, TFA teachers were said to offer personal time to foster relationships with their students. Principals stated they tutor kids on weekends and after hours and they tend to show up to evening events, as well (i.e., church fairs). Principals noted how TFA teachers have even influenced non-TFA teachers in their teaching style. TFA teachers are reported to "take a very assertive role," "gain quick knowledge," and be surprisingly "creative." Some principals highlighted the wealth of support from the TFA office, which has been extremely helpful for TFA teachers adjusting and developing as new teachers. TFA involvement was said to not only take the form of guidance in data gathering procedures and lesson planning support, but consistent emotional support as well.

Negative feedback of TFA Program Impact.
A handful of principals noted some drawbacks to having the TFA program within their school. One principal suggested they may come to the school with "start-up issues," while another suggested "there has to be a little extra training" provided to TFA teachers. Many principals commented in one way or another that there may be gaps in TFA summer training; one principal went so far as to say that when compared to a four-year teaching program the TFA program was not sufficient in preparing TFA teachers to be better in the classroom. Some principals suggested they may not be the most skilled by stating that "TFA teachers are eager but they're not ready for teaching." Furthermore, a principal noted, "they have good intentions, so we at least owe them 2 yrs [within CMS] but they may need a fresh start at a new school," if they are found to be unsuccessful in their first year at a particular school. Also, principals mentioned a problem with training being done solely by the TFA program (and not CMS), suggesting TFA teachers could benefit from additional CMS training preceding their transition into the school setting.

One principal was adamant that when compared to TFA teachers in their first years, non-TFA teachers come in with classroom experience through their college experience. In TFA teachers' defense, a principal noted that although TFA teachers may "need a tremendous amount of support (…) all new teachers do." Finally, a few principals commented on the randomness of TFA success at their school by suggesting "some work out, some don't" and that "if they don't have the right attitude they can be difficult." In this vein, it was stated that "some are very good and heads above others or they are very bad and generally [just] doing their time."

Principal Satisfaction of TFA Teacher Ability

Positive Feedback of TFA Teacher Classroom Management Practices.
Many principals agreed that there are no major classroom management issues with TFA teachers, since their "engagement and pre-planning heads off these issues." TFA teachers are typically talked about as having "type-A personalities." Principals mentioned that "they work hard," "they take feedback well," "they bring in outside researchers to observe themselves," and they "seek out help and make improvements on their own." Also, it was suggested that TFA teachers may even be "more relatable than other teachers" to their students and, therefore, may have to deal less with classroom management issues while presenting a lesson. TFA teachers are said to be more likely to "try new and different things than first years [non-TFA teachers]" and "they are more open to doing different things" in the classroom. Some principals indicated TFA teachers' mindset may be slightly different than non-TFA teachers, noting how they are very reflective and positive. TFA teachers "tend to bounce back even quicker than non-TFA teachers," if there is something going wrong in the classroom, or if given advice.

Although many principals praised TFA teachers' classroom management practices, a few remained neutral, suggesting they are "no better or worse than non-TFA [teachers in their] first years." Another mentioned that TFA teachers are still learning how to set up a classroom environment at the beginning of the year (i.e., how to write on the board, decorate, etc…) while at the same time dealing with classroom management issues. It was reported that "by the end of September they are really hurting [in terms of classroom management issues]… we give no different support [to TFA teachers than non-TFA teachers], but what they bring to the table is different…they pull it together." In sum, TFA teachers may bring unique strategies to resolving classroom management issues that non-TFA teachers do not readily employ and, with time, they overcome challenges that may have posed management problems to them at the start of the year.

Negative Feedback of TFA Teacher Classroom Management Practices.
A couple of principals disagreed with the previous comments regarding TFA teachers' strengths in classroom management. One principal noted that TFA teachers "don't know how to manage students or student behavior." This principal suggested that the problem is that "their instruction is not engaging, which rolls over to function 2… student behavior." Another principal gave somewhat of a contradictory statement regarding TFA teachers' ability to manage a classroom:

> ***This piece [classroom management] has always been difficult with [TFA teachers]. They understand they need to have procedures and rules, but when they are not followed, they are not sure what to do. They can be creative though. They don't know how to be creative with discipline. They figure it out though.***

In another instance, a principal noted that some students were taken out of a TFA teacher's classroom because this teacher had asked for help. In sum, principal feedback regarding TFA teachers' ability to manage a classroom on the whole was positive although there were a couple of voiced concerns regarding their creativity with discipline practices and their engagement of instruction.

Positive Feedback of TFA Teacher Curriculum Proficiency.
In regards to curriculum proficiency, principals had glowing praises of TFA teachers. They were

suggested to be "really smart," "have great content knowledge," "know their stuff," and "have the ability to think outside the box." One principal commented that s/he would "even feel comfortable giving them a new class to teach because they'll put in the time to learn it…they would put in the energy to learn the new class." Furthermore, one principal suggested:

> ***This is their real strength. They are better than non-TFA [teachers] in this regard. They are very creative and go above and beyond. Not only are they cognizant to push kids, but they recognize it is important to get kids motivated, and you can see this in the classroom. They use Marzano's critical and creative thinking model…which is posted in the classroom. They understand that relevance is important at high-risk schools. They deal with issues like conviction, persecution….***

Overall, principals voiced few concerns with TFA teachers' classroom assignment. It was noted that while most teach within their content area, some TFA teachers are assigned to teach outside their content area (i.e., history major teaching earth science) and have adjusted well. One principal mentioned how they go above and beyond by "pull[ing] in their background knowledge to their assigned classroom."

Negative Feedback of TFA Teacher Curriculum Proficiency.
Principals noted some unique challenges TFA teachers may have with curriculum proficiency in the classroom. One principal reported that "TFA teachers need to learn gaps in student achievement…if there is a gap. TFA teachers need to learn how to identify students in need of a referral for extra help." One principal in particular highlighted problems with curriculum proficiency varying by subject. It was suggested that there are "not as many problems with Math as with Literacy." Also, "it may vary by teachers in the TFA program…one knows everything already [so s/he doesn't take suggestions] and one will do anything you say."

Positive Feedback of TFA Teacher Facilitation of Student Learning.
Almost all principals had a positive comment regarding TFA teachers when asked about their ability to facilitate student learning. One even went so far as to suggest that "this is their highlight" and that "all of them do this." This principal further noted that "I talk to other principals and they agree…TFA [teachers] don't use just text, they use additional material to get students engaged." Principals highlighted their "willingness to try new things" (not just lecturing to class or standing in front of the classroom), their use of "layered curriculum" (different activities within units for different levels of ability in the classroom), and their "organization and structure" of the classroom. It was suggested that "TFA [teachers] over-plan…which results in student engagement" in the classroom. TFA teachers were said to use "thematic units" and tend to be "data driven," meaning they analyze assessment data using TFA assessment tools for tracking student progress. Many principals commented on TFA teachers' "resiliency" and their added ability of "constantly coming up with new ways to teach something." Perhaps more importantly, principals suggested they are "very positive role models" for their students and this could work to garner them even higher levels of student engagement.

Negative Feedback of TFA Teacher Facilitation of Student Learning.
Two principals suggested that there may be "too much of a focus on behavior management" for facilitation of student learning to occur. One principal stated that s/he was "not satisfied" and that "behavior

modification is a big problem, leading to trouble with student learning." Of these two principals, one suggested it was a problem at the entire school. S/he further commented that s/he "wouldn't say there is any difference between TFA [teachers] and non-TFA [teachers] for this."

Principal Perceptions of TFA Teacher & non-TFA Teacher Instructional Practices

Principals were asked if they had observed any major differences between non-TFA teachers and TFA teachers they were willing to comment on. Only one principal made note of non-TFA teachers being more successful than TFA teachers. S/he suggested that "non-TFA [teachers] have a handle on how to prepare curriculum, arranging the class environment, and record keeping…which reports to do when and how to do them."

Principals also commented that "TFA [teachers] tend to be a little more realistic in the amount of time to plan." They suggested that "[TFA teachers] don't mind doing extra work… they are willing to hang in for the long haul." Furthermore, they suggested that "college [education] majors tend to believe teaching is a 9 [a.m.] to 3 [p.m.] job…they don't realize the amount of hours needed." In addition, it was noted that "TFA [teachers] don't come in with hang-ups about traditional teaching practices" and that principals and administrators at one school "even try to keep them away from older teachers, so they don't get jaded."

Principal Suggestions for TFA Program Improvement

The majority of principals interviewed had a suggestion for improvement in terms of the summer training that TFA teachers receive prior to school placement. Some principals emphasized the need for TFA teachers to see a regular school day at the school they will be placed prior to beginning full-time employment. One principal suggested "maybe assigning them in April to view classes for a day to get a feel of the school environment" might help ease their transition into their assigned school. S/he further noted, "this way in their summer training they can reflect on their experiences and better prepare for Fall." Another principal raised a concern about communication with CMS regarding TFA training content and the matching of local standard course of study content, questioning whether this is done in any thorough fashion. Also, some principals voiced concerns with the "authenticity" of the summer institute training. One principal commented that s/he didn't have time to walk through scenarios with TFA teachers as they came up, but would like to have TFA teachers trained to come to principals if they have specific issues or questions. S/he further noted,

> ***The TFA personality is to figure it out on their own. It would have been faster if they came to me, instead of trying to think of it on their own…this takes longer, when we could have moved past it if we had talked. TFA [in summer institute] could articulate to TFA [teachers] to extend an invite to get the principal in on the process when they are in need of advice. I would suggest to TFA [teachers] the opportunity to form a professional learning community.***

Lastly, principals and non-TFA teachers at TFA-affiliated schools could go through an orientation regarding the TFA program prior to having TFA teachers placed at their school. One principal argued the desire to have "a session provided to principals with TFA expectations in lesson design, classroom management, etc…." S/he further noted that "if these are in place it would be less frustrating to principals who are trying to figure out TFA [teacher] expectations and how they match up with school and principal expectations."

A few principals noted some considerations that need to be taken into account while TFA teachers are being assigned to particular schools within CMS. One principal spoke about wanting to create a system that involves the principal in the TFA school selection process. This same principal suggested meeting TFA teachers prior to them coming to the school and prior to their assignment to teach particular subjects. S/he had even spoken to other principals and they had voiced agreement with this suggestion. To protect the resource of TFA teachers, one principal mentioned that TFA teachers need to be placed in schools with good in-school support. S/he noted:

> ***Last year, prior to re-assignment, some [TFA teachers] said they cried everyday. Only one returned for the second year at the same school. TFA needs to consider that they are an important resource and where they are placed is important, as well. Even the most well-prepared teacher might not have been able to deal with the challenges teachers faced last year at this school. If the TFA teachers left the program because of their experiences, this was a real loss to the teaching community.***

By these statements, it is evident principals recognize TFA teachers as a valuable resource in high poverty schools. However, one principal commented on the need for a limit of how many TFA teachers are assigned yearly to each school with each incoming cohort. Please note, this principal also commented on the number of non-TFA first-year teachers they had assigned to their school as well. S/he said that "very few non-TFA teachers have been here for long" and in this case, as few as "two TFA [teachers] would be ideal" per year.

In addition to changes that could be made during TFA-school assignment, there are still other changes that could be implemented to foster the TFA-school relationship once TFA teachers are at a particular school. One principal suggested assigning a master teacher at each school, in which "TFA [teachers] could have a mentor/coach/buddy on campus everyday to give advice on things like classroom management practices, who to stay away from, etc…." Another noted, "one year we got four TFA [teachers] in the same year…it would be good keeping those with the same philosophy together…I love the TFA philosophy." Also, there was concern voiced about the inflexibility of TFA placement. One principal mentioned a need to be able to move TFA teachers to another school environment, if necessary. S/he noted, "TFA [teachers] have good intentions, so we at least owe them two years within CMS, but they may need a fresh start at a new school if they aren't successful in their first year somewhere." In sum, principals should have more of a say who is placed or redistributed to another school, particularly those who had been previously placed on action plans. Finally, one principal suggested a more open acceptance of TFA teachers' presence in our schools. S/he noted that we should accept what TFA teachers choose to do with their career decisions and not assume they will be temporary employees. S/he said the "nay-sayers say that they don't stay, but, in actuality, they could go on to be principals or work in positions like this [education center]."

TFA Teacher Interview Analysis: Thematic Patterns in Data

Teachers typically echoed similar phrases and lingo across the TFA interviews, evidence of consistent TFA training practices (i.e., "investment," "backward design," "sense of urgency," "consequence system," "build relationships," "differentiation," "hooking," "tracking," "big goals," "end goals," "short-term goals," "long-term goals," "accountable," "drive," "mindset," "brainwashed by TFA"). Also, it became quite

apparent throughout the interviews the close working relationship TFA teachers maintain with the TFA program, particularly with their assigned program director with whom they speak with regularly. Interesting to note is the competitive spirit (through tracking pre-set individual and classroom goals) that TFA teachers aim to instill in their classrooms while working diligently to maintain a cooperative and supportive environment amongst students. Equally intriguing is the attempt to put a standardized number to achievement while also encouraging students to think on their own and creatively problem-solve - two distinct end goals within educational assessment.

TFA Teacher Satisfaction with the TFA Program

TFA teachers tended to report extremely high levels of satisfaction with the TFA program. On the one hand, TFA teachers in their first year were optimistic they were being provided the resources from the TFA program they would need to manage their classroom and improve throughout their two-year commitment. On the other hand, TFA teachers in their second year seemed to suggest things (i.e., classroom management, consistency, professional growth, performance, and lesson preparation) improved over their two-year assignment and they typically reflected on how tough their first year was in comparison to their second. One second-year TFA teacher suggested that support may even be different once TFA teachers make it past the first year. S/he further commented that s/he has seen significant gains since s/he is going through his/her second year of the program. It is important to note, TFA teachers hinted to significant climate changes within TFA over the past few years. TFA teachers' difference in attitude could possibly be due to the changes made by a new director. One TFA teacher reported that the "new director is a problem-solver…a breath of fresh air." S/he further noted how "there seems to be a new vibe." There were no noticeable differences between TFA teachers' satisfaction levels between those placed in elementary versus secondary grade levels.

The majority of comments from TFA teachers highlighting satisfaction of the TFA program centered around the tight-knit community that the TFA program has fostered. Many TFA teachers noted the consistent support and the excellent resources of TFA. The ease of access to a TFA program director coupled with the wealth of resources TFA offers in the form of summer training, literature, and practical teaching strategies helps TFA teachers narrow in on their weaknesses. Specific to summer training, they reported it was helpful to learn "backward design" (thinking of long-term goals, planning a unit, and completing an assessment process), "investment," and, in general, how to prepare and organize a lesson. In addition, TFA structure was commented to have a long-lasting effect on TFA teachers. One TFA teacher noted:

> ***TFA put an accountability system in education… have to keep data for classroom to put a number to achievement… I love that… gives me drive, focus, narrows my focus…they [students] love it…I post it…they compete with each other to try to beat the other class.***

On-going professional development was another positive aspect of the TFA program in the opinion of TFA teachers. It was reported that the opportunity to interact with other teachers during learning team meetings is helpful for TFA teachers in broadening their teaching skills. In these meetings, TFA teachers share concrete teaching strategies that have been effective. Throughout the interviews, TFA teachers reported that the information that is provided by TFA is provided in very targeted ways. Furthermore, one teacher stated that "TFA is very honest (…) giv[ing] positive and negative feedback." A handful of TFA teachers suggested they wouldn't be teaching if it had not been for the TFA program. One reported

that s/he "wouldn't have been able to do it [teach at a high needs school] unless [I had] gone through TFA." Yet another said "TFA brought me into the field of teaching."

Aside from the more positive comments regarding the TFA program, a few teachers voiced issues they have had with the program. One TFA teacher reported how high TFA expectations were for TFA teachers. S/he noted they are "so high I spoke with the executive director with how people have done…TFA only shows that people are doing positive." Thus, some recruits are skeptical about the level of honesty TFA exhibits regarding the program's impact, while other recruits report an air of honesty and openness within the program. Another major issue highlighted by TFA teachers involved struggles with classroom management during the first year of the program. But one TFA teacher emphasized how the support from TFA and the skills gained over time allowed for better classroom management throughout the two-year commitment.

TFA Teacher Satisfaction with TFA School Placement

Despite TFA teachers citing some behavioral and emotional disturbances with their students, the TFA teachers who were interviewed were overwhelmingly satisfied with their school placement. Many explained their satisfaction with being placed in a high needs school. Some stated they "knew [they] wanted to work with inequity." Moreover, close to half of the TFA teachers interviewed used the term "love" in one way or another when referring to their assigned school and/or students. Many of these teachers referenced a good relationship with teachers and administrators at their school. For these TFA teachers expressing satisfaction, their fellow staff were said to be "engaging and supportive." In this vein, one TFA teacher commented that his/her "principal is willing to let [him/her] be capable." Furthermore, one TFA teacher explained how his/her school administrators worked to create a supportive environment. S/he stated "the best thing they've [administrators] done is place TFA [teachers] on the same team…put [TFA teachers] together to engage with each other."

Of the handful of TFA teachers who expressed dissatisfaction with their school assignment, the underlying reason for their dissatisfaction was their school's leadership. In the words of one TFA teacher:

> ***I am extremely dissatisfied and even disgusted with the leadership at my school. In an environment deeply ridden with challenges, I have felt debilitated by administrative communication and feedback. As someone who has both felt and seen the widespread repercussions of this communication on every aspect of our school's community and functioning, I cannot express a high degree of overall satisfaction with my school due to its leadership.***

Some other complaints regarding school leadership articulated by TFA teachers was a lack of support from those "at the top," and not "feeling [an] altogether team effort." Also, a few TFA teachers commented on tensions between TFA and non-TFA teachers within their school. One TFA teacher mentioned how some TFA teachers may be placed on better teams within the school, such as those with more helpful and welcoming non-TFA teachers, and how s/he has been fortunate in her placement. It was explained that what the school lacks in support, is generally made up by the TFA program through good communication, strategic planning, and inspirational counseling.

TFA Teacher Satisfaction with Teaching Ability

TFA teachers were asked to comment on their satisfaction with their ability in the classroom regarding a few important areas TFA teachers are commonly spotlighted (in both praise and criticism): *classroom*

management skills, curriculum proficiency, and their facilitation of student engagement.

Classroom management skills.
TFA teachers expressed high levels of satisfaction with their personal classroom management skills. Though, they also come across as being very hard on themselves. One TFA teacher commented that s/he was his/her "own worst critic…never good enough." Another TFA teacher commented on how much work goes into his/her classroom management, by saying s/he "knows how to implement structure (…) re-plan every three weeks because students get immune to old." Furthermore, s/he noted that s/he is satisfied with his/her ability because s/he is "satisfied with [his/her] ability to tweak."

TFA teachers highlighted improvement they had experienced with their classroom management over their TFA commitment. Many expressed more confidence in their skills progressively throughout their first year and in comparison from their first year to their second year. Some noted "first year compared to second was night and day," and how "[they are] head and shoulders above where [they were] at." Yet another explained "last year I was not confident…working tirelessly, just not working on the right things [but] this year, I'm very confident." Throughout their interviews, TFA teachers contemplated the reasons behind the dramatic difference between first and second year classroom management experiences. One TFA teacher noted how s/he was "less firm and more rigid" during the first year and how s/he is "more relaxed this year." While another teacher explained how his/her "tolerance for misbehavior has changed" as indicated by the removal of several students from his/her classroom, still others commented on connecting with students as a strategy to combat classroom management issues. One TFA teacher explained having "less referrals this year because [s/he is] dealing with issues in class [and] not relying on outsiders." Furthermore, s/he has "learned how to relate to students…investment is key." In a similar vein, another TFA teacher noted "knowing how to respond to student behaviors is difficult, but I am amazed by the learning curve I experience every day in terms of management and the power of student-teacher relationships and engaging instruction to transform management problems."

TFA teachers seemed to have a similar stance on how best to manage the classroom. They used words like "investment," "engagement," "teamwork," and phrases like "positive reinforcement," "building relationships," "develop respect," "invest parents," "importance of teacher interaction," in opposition to an emphasis on discipline or negative reinforcement. One TFA teacher commented on how s/he tries to "create a culture promoting teamwork [amongst students and between teacher and students]." Another noted how s/he spent the first two weeks getting classroom management down, with positive reinforcement and a clear consequence system (i.e., individual raffle tickets for good behavior and a class-wide weekly reward). Now s/he spends more time with "building relationships" and all year has had only eight referrals. TFA teachers explained, "they [students] don't deal with yelling… they need to develop respect [for the teacher]." Many TFA teachers believe that teacher interaction influences student behavior. One TFA teacher commented on a cultural connection that s/he felt with students, which helped foster communication and classroom management. Also, TFA teachers deem parent involvement an important aspect of classroom management. They seem fully aware of how the inclusion of students' social networks could result in more teacher respect and therefore better student behavior. One TFA teacher commented on how s/he sends home a weekly newsletter to parents to keep them updated on class activities. S/he noted how this has resulted in more parent investment and thus more student engagement. In this case, non-TFA teachers have even copied classroom management strategies from

TFA teachers and implemented them in their own classrooms.

Overall, TFA teachers were grateful of the support the TFA program affords them over their two-year commitment. They suggested the program offers many strategies and suggestions for improvement in dealing with classroom management. Also, it was often noted that meeting with advisors has been helpful, something that non-TFA teachers do not have as a resource. One suggestion offered by some TFA teachers was to make the scenarios in summer institute more realistic in preparing teachers to deal with classroom management issues.

Curriculum Proficiency.

At first glance, there were a handful of TFA teachers who appeared misaligned by content. In other words, they were assigned to teach content very different than their declared college specialization. During the interviews it became apparent that those who had been misaligned oftentimes had prior specializations or college minors in content areas the TFA program assigned them to teach. Only one TFA teacher who was interviewed felt they were placed in an area that was very different than requested. If anything, TFA teachers were misaligned more often by grade level. There were some TFA teachers who expressed that they had requested to teach at a higher grade and were placed at a lower level. Overall, at the time of the interviews, TFA teachers expressed contentment with their assignment and, of those misaligned, they seemed to welcome the challenge of an unanticipated placement.

Many TFA teachers noted their comfort with being proficient in the curriculum they were assigned to teach. If they did not have a background in the subject they "worked hard to master and relate it to students." Many TFA teachers noted how they "had to learn some content" or they "spent a lot of time thinking how to teach something [and to] try to fill gaps." They emphasized the amount of prep work they were willing to put in, and how they really studied what they were to teach before they taught it. Some TFA teachers even noted the unique challenges they faced by teaching remedial or more advanced classes, highlighting how TFA teachers are trusted enough to be placed in challenging classroom settings.

Not surprisingly, TFA teachers again cited the TFA program as being supportive throughout the curriculum learning/planning process. TFA recommends planning a unit backwards and to design tests towards goals, allowing for material to be broken into manageable parts. This structure works to ease the overwhelming feeling of planning a lesson for a topic that the TFA teacher may know very little about. Moreover, it was noted how TFA provides additional help if solicited. Also, TFA teachers explained how they receive help not only from the TFA program but from the school as well. TFA teachers particularly emphasized school support they received in working with curriculum. Many spoke of the team of teachers they were a part of, the literary facilitators or others at the school that offered helpful resources, and the more experienced teachers that presented them with useful feedback on lesson plans.

TFA teachers made reference to educational theory throughout the interviews. They spoke of concepts from Bloom's taxonomy, Marzano's Instructional strategies, and Lucy Calkin's to name a few. Since non-TFA teachers were not interviewed, it is not possible to compare the frequency of theory citations between groups. But TFA teacher respect of educational pedagogy is worth noting.

Facilitation of Student Engagement.
Many TFA teachers felt their ability to facilitate student engagement was their biggest strength. They listed a variety of techniques that they use to get students "invested," a priority echoed by most of the TFA teachers. TFA teachers felt that "if the students were invested you could teach them anything." One TFA teacher explained, "students are not hard to engage, give them a choice…once they are in a relationship with you they'll do anything." Some TFA teachers talked about strategies like having students do a free-write and then share out with the rest of the class, or assigning classroom jobs (i.e., fed ex, police officer) to keep the class managed. Other teachers referred to tracking themes they have in the classroom in which average scores on each test are posted and the highest scoring and most improved students are recognized. Still others emphasized the need to vary up the lesson. For example, if reading a book it may be necessary to talk around the book and relate it to present day or act it out to keep students engaged. It is important to TFA teachers to break up the material in manageable chunks and rotate periods of learning, practicing and creatively playing with material. Also, many TFA teachers used PowerPoint and Smartboards regularly to keep students engaged. One teacher commented on the need to get students to want to learn. S/he stated how she usually "tell[s] them I need them to help" if they are to learn.

TFA Teacher Future Plans
TFA teachers were asked whether they planned to continue teaching (or even remain in the education field as a school administrator, or with a non-profit that is involved in education reform) after their TFA two-year commitment - a critique often attributed to TFA teachers. The majority of teachers anticipated they would remain to some degree within the field of education for their career.

All of the TFA teachers within the qualitative portion of this study anticipated fulfilling their two-year teaching commitment. Moreover, many TFA teachers spoke positively regarding a third and perhaps even a fourth year extension, in hopes of completing a Master of Arts (M.A.) program offered through local colleges and in connection with the TFA program. Of note, second-year TFA teachers seemed to talk about the M.A. program qualitatively differently than their younger cohorts. One in particular spoke about bureaucratic issues with completing the M.A. within the two-year timeframe suggested by TFA (elaborated in more detail under the *Suggestions for TFA Program Improvement* section of this report). S/he further explained that these issues have since been lessened to some extent for incoming cohorts but could be even better facilitated in the future.

A handful of TFA teachers suggested they were content teaching at the same school and the same grade level upon completion of their TFA commitment. A few others suggested they would rather pursue more of a leadership role within the school setting, such as a position of principal or administrator. For those TFA teachers who suggested they would leave the teaching profession upon completion of the TFA commitment, the reason echoed by most was to pursue more schooling. Many anticipated entering into law programs, particularly programs related to education reform or education policy. Only two suggested they would return to school to pursue an advanced degree in their college specialization, arguably unrelated to the field of education. In sum, contrary to popular belief, all but two TFA teachers spoke of pursuing lifelong careers in education.

TFA Teacher Perceptions of non-TFA

To conclude the interviews, TFA teachers were given the opportunity to speak from their perspective regarding observed differences between TFA and non-TFA teachers they've noticed throughout their TFA commitment. Only two TFA teachers suggested it may not be appropriate to comment based on a lack of observations, and just one noted that there were no performance-based differences worthy of noting between TFA teachers and non-TFA teachers. The following are comments all other TFA teachers who were interviewed had made regarding possible TFA and non-TFA differences.

Most TFA teachers suggested differing from non-TFA teachers in their level of dedication to their job, with one TFA teacher declaring:

> ***Just this morning I was here at 6:30 [a.m.] and there were four TFA… last night I left at 4:30 [p.m.] and there were TFA cars in the parking lot (…) first ones here and last to leave, which is frustrating.***

Others echoed this sentiment saying things like, "TFA [teachers] work well beyond school hours, volunteering in their off hours" or "TFA [teachers] are always the first or last car in the parking lot." One TFA teacher was cautious while saying, "no value judgment, but some [TFA teachers] have 5:30 or 6:00 schedules, which is different than non-TFA teachers." A few TFA teachers suggested that the "drive" is an important distinction between the two populations by saying comments like the following: "TFA work ethic is very strong," "TFA [teachers] work harder," and the "overall effort is different." One TFA teacher went a step further by stating that the "amount of time put in by non-TFA [teachers] is not enough to be sufficient." When probed why this effort might be different, many TFA teachers pointed to TFA teachers' higher "sense of urgency." Moreover, TFA teachers noted their awareness of the students' social context and the need to help them counter any circumstances that may stand in opposition to their education. Lastly, one TFA teacher suggested having a sense of "professionalism…the way we speak to administration and children" makes TFA teachers stand apart from the rest.

Although there was little consensus among TFA teachers, some commented on *classroom management* practices being different between TFA and non-TFA teachers. Two TFA teachers suggested that, as a group, TFA teachers may have "problems" or a "harder time" with classroom management. But, it was suggested that the TFA program could be a good resource in offering TFA teachers help in this regard. Yet another TFA teacher suggested that "TFA [teachers] learned classroom management skills through TFA [program]" and therefore may "have a better grasp on the importance of classroom management and how to implement." As an example, this TFA teacher noted the remarkably low number of referrals s/he had over the past year and how s/he was asked by her principal to share experiences in the classroom at a recent faculty meeting. A few TFA teachers gave complimentary comments regarding non-TFA teachers in regard to their *curriculum proficiency*. One TFA teacher stated that "first year TFA teachers were on par with first year non-TFA [teachers]." Another noted how "extremely talented some non-TFA teachers were in the classroom" and that s/he "learned a lot and received a lot of support from them." TFA teachers suggested some other differences in the classroom center on the *facilitation of student learning*. It was highlighted how TFA teachers are "able to access speakers" and that "TFA helps with planning," whereas non-TFA teachers might not get this opportunity. Also, "[TFA teachers] understand to get them at the beginning you need to do extra planning." In addition, one TFA teacher felt his/her "creative drive is stronger, which trickles down to student engagement."

Another major difference that TFA teachers often referred to in direct and indirect ways was the training, support, and resource of the TFA program that sets them apart from non-TFA teachers. TFA teachers noted pressure to have tracking and goals in the classroom. One TFA teacher commented that "you don't see this in non-TFA classrooms," but it "helps to identify remedial students." It was suggested that there is "no accountability to check on non-TFA [teachers]." Many TFA teachers commented that "TFA trains teachers to think in backwards planning" and that "TFA [teachers] are forced to think about end goals." TFA teachers are said to "set big goals" (i.e., math- all students to master 85% of standards) and "tie these goals to short-term and long-term goals." TFA teachers noted that this "fast-paced structure is consistent across TFA teachers." It was even mentioned that the "learning curve is stronger for TFA [teachers] because they are held accountable for what they do and how they do it," suggesting TFA teachers would rather not waste time and energy in things that aren't producing positive tracking results. Program directors were described as "over-the-shoulder checking TFA [teachers]," a resource that non-TFA [teachers] do not readily have. One TFA teacher postulated this could account for the high turnover rate in non-TFA [teachers] by saying "non-TFA [teachers] leave …TFA [teachers] rarely leave because of the extra support" they receive. In addition to a mentor, TFA teachers get the opportunity to "see a wider variety of classes, (…) work with groups of teachers to plan lessons" and are provided "anecdotes from all over the country." A TFA teacher noted that "non-TFA [teachers] are not as resourceful and creative [in the classroom] because they lack the access to these materials." TFA teachers also suggested that CMS could do professional development more regularly for both non-TFA and TFA teachers, including topics that TFA trainings typically cover (i.e., culture and diversity).

In the previous paragraphs, TFA teachers were clear to point out some distinct differences between TFA and non-TFA teachers. In addition, they were quick to point out overlap and connection between TFA teachers. In one case, a teacher suggested the unique qualities of TFA do not go unnoticed by the students as well. S/he said, "most students can pick them [TFA teachers] out without knowing they are TFA [teachers]… students say we do that in so and so's class, or you teach like so and so." In sum, TFA teachers were recognized by students to be a distinct group, with some qualities unique only to them.

TFA Teacher Suggestions for TFA Program Improvement

Finally, TFA teachers were given the opportunity to make suggestions in how to improve the TFA program. All those interviewed had at least one comment, with most giving multiple remarks on possible areas the TFA program could improve. Although previously suggested to be a strength of the TFA program, many TFA teachers proposed how TFA support could be even better and perhaps more comprehensive. Teacher comments referred to both training at summer institute and on-going support provided by TFA throughout the two-year commitment. Furthermore, TFA teachers specified suggestions for how the TFA program could better foster relationships with agencies that their organization commonly interacts with (i.e., CMS, UNCC).

TFA teachers explained how summer institute could provide more diversity training. One suggestion for improvement was to have "more hands on, role-playing at institute…have students come in to actively play the part of the student." Also, it was explained that "TFA could do a much better job at establishing a hostile environment," one that is more realistic to the one they would encounter as teachers. Another suggestion was to include a "localized or regional training" to the social environment the TFA teacher is entering, since many are coming in from other states and regions throughout

the United States, unaware of the local history and culture of where they are being placed. In addition to these suggestions, one TFA teacher noted how more "poverty simulation scenarios" could be done during summer institute, perhaps to provide more practical examples to help TFA teachers garner a better understanding of a student's social class. One TFA teacher added that classroom management training could be adapted during summer institute to be more realistic. A final suggestion was for TFA teachers to initially work with the grade they are expected to teach in order to practice with the appropriate audience of students during summer institute. One TFA teacher remembered his/her difficult adjustment in teaching middle school boys in summer institute and then being assigned to a gender-mixed elementary classroom. TFA teachers seemed well aware of the time constraints the TFA program administrators are under during summer institute but thought these suggestions could be helpful in prioritizing what TFA teachers have found valuable from their personal experience.

TFA teachers also noted how TFA support throughout the two-year commitment could differ in a few important respects. Their comments included support that could be lessened throughout the year as well as support that should be added to the program to better aid TFA teachers. Some TFA teachers explained that there should be fewer core meetings since these are not considered to be as helpful as intended. TFA teachers also mentioned that the online learning modules could be eradicated since these are particularly time-consuming and not extremely useful. It was noted that learning team meetings, where team leaders share resources, were especially constructive to TFA teachers and these could even happen more routinely. Another addition to TFA's on-going support that might be welcomed by TFA teachers is an "increase of Diversity Cultural Awareness (DCA)." This was explained to be done only in the summer and TFA teachers mentioned they would like to see it happen more regularly throughout the school year.

Finally, TFA teachers recommended having more emotional support extended to them, particularly while going through their first year. Even though the TFA program is very responsive if TFA teachers need something it was explained that the program's expectations may be too high or unrealistic. Moreover, one TFA teacher stated that "TFA only shows that people are doing positive." His/her suggestion was to "make sure incoming first years [TFA teachers] see that not everyone is going to do well all the time…we are so used to doing great, but have students several grades behind, especially within special education programs." Yet another teacher commented that the "timeframe from graduation from college to begin teaching is very rushed" and s/he felt that it may be more appropriate to have additional time to transition into schools. S/he further noted how the "expectations of TFA [are] so detailed" and the "timeline doesn't match up" exactly right.

TFA teachers also offered suggestions that involved outside partners of the TFA program. They explained how the TFA program might better connect with agencies their organization commonly interacts with (i.e., CMS, UNCC, and the school they are assigned) to make a smoother transition for them as they enter the district, school, and possibly an M.A. program.

Some TFA teachers expressed concern that they were not exposed to the structure of CMS in any significant detail by the TFA program. More importantly, one TFA teacher emphasized how there was a disconnect between CMS and TFA during the hiring process. S/he described how his/her first month was the hardest, with no insurance benefits. This teacher further noted that the way TFA teachers come into the district needs to be handled better. S/he explained:

> ***The business relationship could be better between TFA and CMS. CMS could let us know better of [certification] requirements. For processing in CMS, [TFA teachers] need to go over in smaller groups… could separate groups by grade level of teaching assignment because certification requirements are different by varying levels.***

TFA teachers noted how their transition into the assigned school setting could also be improved. Some teachers voiced frustration with entering the school so late. It was explained that there is a "need to communicate with schools earlier… [TFA teachers] need to have access to class teaching and course materials earlier." Also, many TFA teachers found issue with how they were received when they were finally able to enter the school. They felt strongly that if the TFA program was better introduced at their school, prior to them coming, this could result in a more welcoming reception. TFA teachers highlighted the division between TFA and non-TFA teachers and called for a unification process. Many attributed the tension to a lack of awareness regarding the TFA program. An initial greeting with the principal over the summer was proposed to begin this relationship from an earlier point and to exchange expectations they have for each other. Also, there was a call for the principal to be more proactive in presenting the TFA program to non-TFA teachers and to encourage interaction between these two groups. One TFA teacher expressed how "TFA [program] needs to make more of an effort to pander to the principal…make principals acknowledge TFA [teachers] better." Another strategy offered was to assign groups of TFA teachers to a particular school each year to help them reinforce the TFA philosophy and offer them a cohort in which to seek support, if necessary. They felt it was very important that single teachers aren't blazing the trail. Finally, TFA teachers explained how the business relationship between UNCC and the TFA program could be improved. One TFA teacher called for more transparency regarding the master's program certification process. S/he noted how they could use a school liaison to make the certification process clearer and smoother. Although this TFA teacher stated the process has improved and how courses are now mapped out better for the program, s/he reflected on how s/he had to pay for credits by putting it on his/her credit card and was not reimbursed until a considerable amount of time later.

Additional suggestions offered by TFA teachers included a strategy for increasing diversity within the TFA program. Some TFA teachers noted how there is a need for more diversity within the TFA program nationally. A strategy offered was to recruit from historically black or minority colleges. One final suggestion was to publicize the *North Carolina Association of Educators* (NCAE) more to encourage teachers to understand their rights. A TFA teacher explained what a great resource this is but it is very much unpublicized by the TFA program. S/he emphasized a definite need to create more awareness surrounding this entity for in-coming teachers to the TFA program. Finally, many TFA teachers spoke highly of their relationship with their program director (p.d.). It was mentioned that every effort should be made by TFA to foster these relationships, since they are reported to be invaluable to the TFA teacher experience by TFA teachers themselves.

TFA & Non-TFA Participant Observation Analysis

There were some notable similarities between non-TFA and TFA-led classrooms. TFA and non-TFA teachers equally displayed culturally relevant pictures and inspirational quotes throughout the classroom. The walls echoed quotes from recognized black leaders such as Nelson Mandela, Martin Luther King, Jr., Malcolm X, and Maya Angelou. Images of past and present celebrities ranging from Louis Armstrong to Oprah Winfrey were also available to students for easy digestion. Furthermore, one TFA teacher even had questions posted next to pictures of famous black historical figures such as "who do you know?" and "what did she do?"

The majority of TFA and non-TFA teachers came across as very confident in the classrooms observed for this study. Both types of teachers were willing to re-teach and answer student questions effectively when prompted. Also, TFA teachers and non-TFA teachers were observed to listen to student feedback exceptionally well. In most cases, both types of teachers were observed to incorporate this feedback into their lesson without hesitation.

In non-TFA and TFA-led classrooms, there was clear evidence of pre-planned activities (i.e., PowerPoint slides, materials prepared for class activities). Although, TFA teachers, on average, had more elaborate classroom activities planned. In addition, TFA teachers more often experimented with ways of teaching throughout a particular lesson, in an effort to accommodate students who may process information differently. They were observed to be willing to change a teaching technique at the first sign of a student struggling (i.e., read aloud, worksheets, flash cards, experiments). TFA teachers showed particular strength in personalizing curriculum to meet the needs of their students. While non-TFA teachers were sometimes observed to call on the same students, TFA teachers routinely called on those students who were not actively participating. In an effort to ensure everyone an equal opportunity to answer, TFA teachers sometimes employed the use of sticks with students' names on them to select students at random and without bias.

As there were similarities between non-TFA and TFA-led classrooms, there were some notable differences observed. TFA-led classrooms were observed to have a particularly calm feel to them. Some TFA teachers played music in-between class activities or had the window open for fresh air. Also, lights were off on some occasions to view Smartboards, which contributed to a peaceful experience within the classroom. Student work appeared to be more elaborately spotlighted in TFA teacher classrooms as well, which worked to personalize the environment.

Another major difference observed between TFA-led classrooms and the non-TFA-led classrooms was the degree of respect present in the classroom. TFA Teachers consistently treated students with respect and, in turn, students were observed to be very respectful of teachers. In addition, this respect even trickled outward with students extending respect towards other students in TFA-led classrooms. Students were observed to be particularly cooperative and supportive of each other in these classrooms. TFA teachers also encouraged students to respect outside guests coming into the classroom. In one case, a librarian came into the classroom to provide students with a summer reading list. Students were well-behaved asking relevant questions and when the librarian was leaving she was graciously thanked by the students for coming to present to them. In another example, one student was interrupting a student and the teacher interjected by saying "[student] is being very rude to you." The interrupting student stopped to listen without any indication s/he was upset with the teacher for interjecting.

Although some classroom management strategies overlapped between TFA and non-TFA teachers, TFA teachers were observed to employ more types of strategies and employ them more consistently. TFA teachers were noted to give constant verbal corrections to head off classroom disruptions. Some strategies Non-TFA teachers used included a countdown of 5,4,3,2,1 and a countdown of 3,2,1. In one case, a Non-TFA teacher placed a finger to his/her mouth as to hush students. In another instance, the non-TFA teacher proposed a quiz to quiet the class. In more severe cases students were threatened by a call home and in one instance security was called to get a student that had left the classroom without permission. TFA teachers employed more lively and interactive strategies to gain student attention and manage the classroom. It was clear that students were regularly following certain class rules and it was not relegated to just the observation period. One TFA teacher, in a clear attempt to personalize the corrective, would say "howdy" if s/he felt the class was getting off task. The class would respond with "howdy" in unison. Sometimes they even borrowed strategies used by non-TFA teachers and elaborated on them. For example, TFA teachers would say "5,4,3,2,1" and students were then expected to pull in their chairs and sit up straight quietly waiting for the teacher to resume class. Other TFA teachers incorporated discipline into the class activity by giving a point to the opposing team if a team member was speaking out of turn. While giving directions, one TFA teacher yelled out "in a minute" while the class responded "not now" to indicate they were supposed to be listening to directions and not beginning the activity. It was impressive how almost the entire class participated in the TFA-led classroom management strategies, while in non-TFA classrooms these strategies seemed less effective and used less often to manage the class. TFA teachers were observed to give more one-on-one's with students and they clearly worked to maintain individual relationships with students. TFA teachers sang songs with younger grade levels when they appeared off task, such as "open and shut them," an interactive song that involved students opening and shutting their hands while singing together. Many TFA teachers had phrases like "get yourself ready" or "get in your active learning position" that they said regularly before beginning an activity. Students in unison sat up and gave their full attention to the teacher. TFA teachers were also observed to employ class incentives more regularly that students could earn if they were behaved as a class. It was observed that TFA teachers had created such a bond with students that classroom management did not appear to be an issue. Or, if it ever became one, students were quickly redirected back on task.

TFA teachers were observed to be particularly efficient in classroom procedures (i.e., use of timers, clear directions before each activity, use of sticks with students name on them to call on students). Also, during the observed periods, TFA teachers were more likely to have students break into multiple groups to do different activities simultaneously. The use of Smartboards and projectors allowed for material and directions for activities to be very well presented visually. TFA teachers provided clear expectations and goals to students. They even employed tactics such as asking students to repeat back or describe in their own words the directions they had just provided to probe for understanding. Additionally, TFA teachers worked to link assignments for students' clarity of the assignment purpose. Students were often praised in these classes when doing the exercise correctly and spoken to individually if off-task. Non-TFA teachers seemed less likely to provide detailed directions prior to beginning an activity. Also, non-TFA teachers were less likely to verbalize to students how the class activity was tied to long-term or short-term goals for the class.

TFA teachers often asked open-ended questions (i.e., asking *why* and *how* questions) to check for student

engagement and level of comprehension. After a student answered, some TFA teachers would ask the class by raise of hands who thought they were right. Students were often asked to provide evidence for their answers. To probe for comprehension, TFA teachers sometimes asked students for synonyms if they were suspected to be repeating an answer from a book. In contrast, students in non-TFA classrooms often gave answers that were not in their own words. It was unclear whether they understood the meaning of the words they were using, or if they were just repeating phrases from the text they were reading. In a few cases, non-TFA teachers did make successful attempts to check for comprehension. One teacher used a fill-in questioning technique on the Smartboard, while another non-TFA teacher asked students to verbally describe "what is the next step" when doing math problems.

One final observed difference was how TFA teachers emphasized more real world examples, or as some referred to it as "text to world connections." They did so by either introducing their own personal stories as application of material or by having students do practical activities (i.e., career activity – challenging students to link their school interests to feasible future careers). These slight differences between teachers, oftentimes, were observed to result in more student engagement and closer teacher-student relationships for TFA teachers.

DISCUSSION

Overall Study Findings

Quantitative analyses focused on two primary outcomes obtained for the 2007-08 and 2008-09 school years: standardized EOG/EOC scores and NC ABC Growth scores. Analyses consistently revealed a positive effect associated with TFA teachers based on EOC and EOC Growth outcomes. These effects were found across both years of data, and held true when we limited our sample only to teachers with equivalent years of teaching experience. Positive effects were also seen based on standardized math scores and math growth scores in 2008-09 and the effect based on math growth scores remained significant when examining 1st year teachers in 2008-09. Generally, no effect was found based on reading outcomes when analyzing all available data, but significant negative effects were noted when examining standardized reading scores in 2007-08 for 1st year teachers and when examining both standardized and growth scores in 2008-09 when examining teachers in their 2nd year of teaching.

Analyses were also conducted to examine the level of variation in scores among students within the two teacher groups (TFA and their comparison group). Variation in standardized math scores was significantly less for students instructed by TFA teachers in both 2007-08 and 2008-09. Conversely, variation in standardized EOC and EOC Growth scores was significantly greater for students instructed by TFA teachers in 2007-08 only. No differences in variation were noted for reading outcomes in either school year.

Interview data from both CMS principals and TFA teachers yielded positive results for the TFA program. Although some CMS principals participating in this study expressed dissatisfaction with certain aspects of the TFA program, in general, they expressed high levels of satisfaction with TFA teachers' ability in the classroom. TFA teachers reported personal satisfaction with their experiences in the TFA program and their school placement. Suggestions for TFA program improvement and concerns with TFA teacher reception at CMS schools were noted. There were both similarities and differences observed between non-TFA and TFA-led classrooms. Similarities between classrooms included comparable levels of confidence, evidence of pre-planned activities, and equivalent amounts of culturally-appropriate quotations and pictures. A notable difference between TFA and non-TFA-led classrooms included the level of respect observed in student-teacher dynamics and between students. TFA teachers typically fostered and demanded high levels of respect to be shown in the classroom. Additionally, TFA teachers were observed to utilize more types of classroom management strategies and employ them more consistently. Other observed differences of TFA teachers were that they were particularly efficient in classroom procedures, tended to ask more open-ended questions to probe for comprehension, and emphasized more real world connections.

Overall, both the quantitative and qualitative results paint a positive picture for the TFA program. Determining what success should look like for TFA teachers is difficult. A finding of no difference between TFA and non-TFA teachers could actually be seen as success, if lack of experience or training is the criticism. That could indicate that TFA recruits are capable of performing at least as well as their traditionally-trained counterparts. Quantitative analyses revealed only two negative effects associated with TFA teachers based on reading outcomes when compared to traditional teachers with equivalent

years of experience. These negative outcomes were approximately a tenth of a standard deviation effect, generally labeled a small effect (Cohen, 1988). Otherwise, comparisons revealed either no differences between TFA recruits and traditionally-trained teachers, or positive effects associated with the TFA program. This was particularly the case for TFA teachers at the high school level, where student performance based on EOC outcomes yielded sizeable, positive effects.

This pattern of quantitative results aligns with the information gathered through our qualitative efforts. As was seen among various subject and teacher-group combinations, there was a fair amount of variance among principals and interviewees in their reactions toward the TFA program. Most principals provided positive feedback for the TFA program, and even those that cited some negative aspects of the program still provided positive feedback regarding TFA recruits' performance in the classroom.

The consistent positive effects noted at the high school level suggest a particular level of facility on the part of TFA recruits to reach older, high school age students. At least one principal commented on the ability of TFA recruits to be more 'able to relate' to students than non-TFA teachers, and observations suggested that TFA teachers make more frequent use of probing, open-ended questions and real-world connections in the classroom. These strategies, in concert with their proximity in age and high levels of energy, may enable TFA recruits to engage and command respect from their students more effectively than other teachers in our comparison group. Exploring this possibility through more extensive classroom observation or possible student surveys or interviews would potentially shed light on the successes seen at the high school level.

At least one principal noted that TFA recruits tend to have less problems with adapting to and presenting the Math curriculum as opposed to the Literacy curriculum. This comment provides support for our quantitative results showing no or two negative effects for TFA teachers with respect to reading, while several positive effects were noted for TFA recruits with respect to Math. This result is consistent with previous work conducted by Xu, Hannaway, and Taylor (2009) and Decker, Mayer, and Glazerman (2004), suggesting that TFA recruits may possess certain attributes that enable them to more effectively instruct Mathematical content.

Interview data obtained from TFA teachers revealed they felt more prepared and armed with better classroom management and instructional strategies at the beginning of their second year. Though a comparison of teacher performance across time was not formulated as an initial research question, we conducted follow-up analyses based on the information provided by teachers to determine whether average student achievement of TFA teachers improved at a rate greater than that obtained by students instructed by traditionally-trained teachers. To accomplish this, we identified both TFA and comparison teachers in their second year of teaching in the 2008-09 data file. In addition, we identified student records for these same teachers in 2007-08, in effect creating a longitudinal data file with student performance data from both the 2007-08 and 2008-09 school years for TFA and non-TFA teachers in their second year. We made use of the same analytical models as used for our other investigations, with an additional explanatory variable representing time (where 0 was equal to 2007-08 and 1 was equal to 2008-09). Of primary interest was the interaction of our time variable with the TFA indicator variable to determine whether TFA and traditionally-trained teachers exhibited similar levels of 'change' as measured by student outcomes on standardized tests.

Table 10 below shows the least-square mean estimates for all of our outcomes of interest making of the

longitudinal data file we constructed. Five out of the six analyses we conducted showed non-significant interactions between the TFA indicator and time, suggesting that TFA recruits and traditionally-trained teachers show similar levels of progress between their first and second year of instruction based on student standardized test scores. The lone significant interaction associated with standardized EOC scores reveals a positive effect in favor of traditionally-trained teachers. This effect is clearly visible in Figure 5 below, as the blue line representing traditionally-trained teachers has a steeper slope than the red TFA line.

Table 10.

Fixed-effect Lease-Square Means and significance values for longitudinal data.

	Non-TFA		TFA		
	2007-08	2008-09	2007-08	2008-09	p
EOG Math	-0.420	-0.236	-0.404	-0.244	0.682
EOG Math Growth	0.035	0.182	0.025	0.138	0.522
EOG Read	-0.575	-0.353	-0.726	-0.433	0.214
EOG Read Growth	-0.123	-0.009	-0.208	-0.107	0.806
EOC	-0.868	-0.473	-0.355	-0.199	0.005
EOC Growth	-0.398	-0.080	-0.059	0.196	0.469

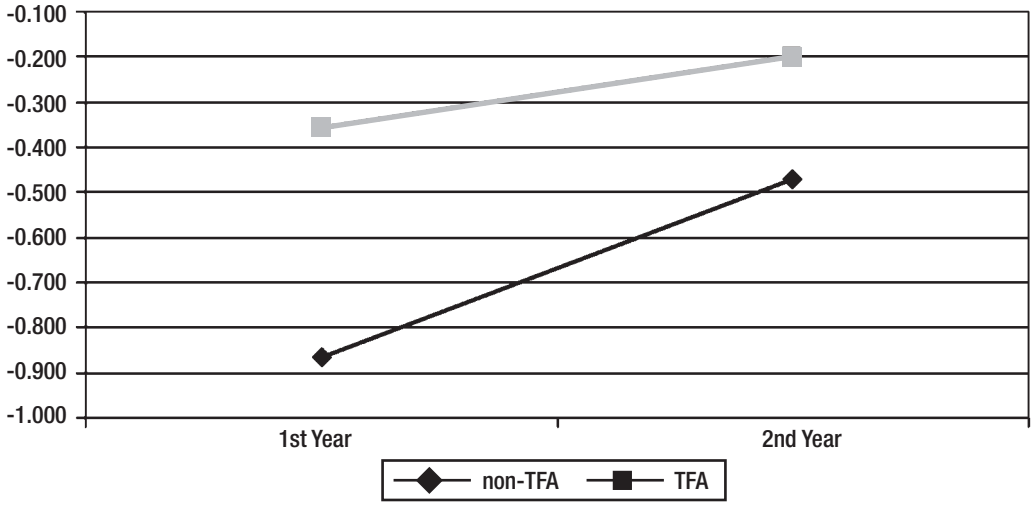

Figure 5. Standardized, two-year EOC Least-Square Mean interaction for teachers in their second year of teaching in 2008-09.

Principal feedback obtained through interviews revealed a great deal of variability in the perceptions of the TFA program and its recruits. Follow-up exploration of random effects at the teacher level also suggests a great deal of variability in student performance between teachers. This variability, coupled with the desire for some principals to be involved in the recruitment and placement process of TFA teachers, suggests further research focused on explaining the variability between teachers (or even schools). Other factors at the teacher or school level may help to explain why some TFA teachers are more successful in their placements than others. Identification of these other factors may help to assist future recruitment and placement strategies that would maximize the impact of the TFA program on CMS' students.

Limitations & Future Research

We attempted to approximate the conditions of the RCT conducted by Mathematica in 2004 to the best of our ability. In doing so, we made use of a number of student and teacher-level covariates to 'control' for differences between the student populations instructed by teachers and any difference in teachers themselves. Statistical controls, however, are no replacement for the benefits afforded to the used of random assignment. Future research would ideally allow us to make use of such assignment to strengthen the internal validity of our conclusions.

Future analyses should also take into account the nested structure of educational data, where students are nested within teachers and teachers are nested within schools. Here we used a fixed-effect regression approach with dummy variables to 'remove' the variance at the school level. We examined the variability in student outcomes at the teacher and school level using unconditional (no predictors), three-tiered multi-level models for each of the twelve analyses we conducted using the GLMs fixed-effect approach noted previously. All six analyses with the 2007-08 school year data showed significant variance at the teacher level, while two analyses also showed significant variance at the school level. For 2008-09, all six analyses revealed significant variation at the teacher level, with four of the six showing significant variance at the school level as well (see Appendix F for a complete table). Given the existing variability at these levels, future work should explore explanatory variables at the school and teacher level that help to statistically reduce the amount of variability and shed light on the factors that help to predict student achievement in the classroom. Potential variables include type of certification, college degree obtained and area of study, how area of study and subject taught align, and principal effectiveness at the school.

A common method of modeling educational outcome data for the purpose of quantifying teacher 'effectiveness' are value-added or growth models (McCaffrey et al., 2003, 2004; Sanders & Horn, 1998; Webster & Mendro, 1997). Value-added models make use of longitudinal student data nested within teachers, providing for more stable estimates of the impact of a teacher in a particular year by accounting for the strong correlation in student test scores from year to year. Analyses exploring the impact of TFA teachers based on these types of models would serve to increase confidence in effects noted here as well as to explicitly determine any longer-term impacts that TFA teachers may impart on their students.

Qualitative study results could be strengthened by increasing sample sizes and introducing probability sampling strategies to reduce selection bias in school and TFA teacher selection. Also, a more focused

approach in observing differences between math and reading classrooms by TFA and non-TFA-led classrooms might generate more insight into why TFA teachers may show positive results with respect to math achievement and why non-TFA teachers may show similar results to TFA teachers for reading achievement. Furthermore, it may be fruitful to include observations from next year's TFA summer institute training to gain better understanding of the program from key stakeholders' perspectives. Additionally, including interviews with students about their impressions of TFA and non-TFA teachers could allow a more in-depth look at teacher difference from a student perspective.

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APPENDIX A

Table A1. 2007-08 Fixed-effect coefficients and significance values, complete model.

	Math				Read				EOC			
	EOG C-Score		ABC Growth		EOG C-Score		ABC Growth		EOC C-Score		ABC Growth	
Student	Coeff	p>(t)	Coeff	p>(t)	Coeff	p>(t)	Coeff	p>(t)	Coeff	p>(t)	Coeff	p>(t)
Intercept	-0.907	<.0001	-1.494	<.0001	0.846	0.011	0.058	0.854	0.146	0.743	0.213	0.720
Math07/Read07	0.712	<.0001			0.686	<.0001						
Grade 8 Math									0.389	<.0001		
Grade 8 Reading									0.336	<.0001		
Asian	0.070	0.224	0.080	0.135	-0.187	0.031	-0.070	0.377	-0.051	0.628	0.067	0.592
Black	-0.130	0.001	-0.037	0.300	-0.191	0.001	-0.131	0.016	-0.181	0.016	-0.164	0.067
Hispanic	-0.049	0.274	0.034	0.415	-0.224	0.001	-0.155	0.015	-0.134	0.185	-0.052	0.674
Native Am.	-0.178	0.142	0.003	0.978	-0.459	0.002	-0.509	0.000	-0.759	0.045	-0.349	0.199
Multi	-0.077	0.240	-0.026	0.662	-0.004	0.970	-0.041	0.658	0.222	0.214	0.472	0.106
ED	-0.091	<.0001	-0.065	0.002	-0.078	0.028	0.002	0.962	-0.012	0.726	0.002	0.960
Age	0.043	<.0001	0.080	<.0001	-0.049	0.006	0.012	0.459	0.038	0.020	0.048	0.016
Prop Absences	-0.056	<.0001	-0.034	<.0001	-0.049	0.001	-0.047	0.000	-0.063	<.0001	-0.049	0.003
Teacher												
TFA	-0.010	0.758	-0.012	0.706	-0.019	0.683	-0.020	0.645	0.208	<.0001	0.219	0.000
Teacher Gender	0.020	0.390	-0.017	0.438	0.047	0.219	-0.024	0.491	0.089	0.011	0.183	<.0001
Teacher Exp <1	0.172	0.026	0.092	0.208	-0.143	0.392	-0.223	0.166	-0.453	<.0001	-0.379	0.022
Teacher Exp 1-2	0.236	0.003	0.132	0.074	-0.060	0.721	-0.154	0.344	-0.186	0.058	-0.211	0.211
Teacher Exp 3-5	0.155	0.041	0.051	0.476	-0.163	0.331	-0.266	0.099	-0.246	0.013	-0.115	0.516
Teacher Exp 6-10	0.066	0.385	-0.030	0.674	-0.178	0.304	-0.230	0.169	-0.273	0.003	-0.376	0.024
Teacher Exp 11-25	0.245	0.002	0.159	0.036	-0.133	0.434	-0.217	0.186	-0.333	0.001	-0.251	0.150
Teacher Exp 26+												
Class												
% Male	-0.058	0.323	0.017	0.762	0.218	0.012	0.135	0.112	-0.184	0.198	-0.095	0.596
% Asian	0.457	0.012	0.404	0.020	-0.686	0.022	-0.064	0.835	0.960	0.058	0.378	0.526

% Black	0.059	0.633	0.313	0.007	-0.515	0.006	-0.243	0.189	-0.688	0.073	-0.795	0.094
% Hispanic	-0.179	0.213	0.283	0.040	0.033	0.875	0.188	0.362	0.432	0.385	-0.008	0.989
% Native Am.	0.541	0.160	0.641	0.074	-0.073	0.893	0.061	0.903	-2.448	0.021	-2.506	0.037
% Multi	-0.031	0.899	0.306	0.188	-0.541	0.211	-0.758	0.067	-2.160	0.014	-3.202	0.012
%White												
% Multi	-0.031	0.899	0.306	0.188	-0.541	0.211	-0.758	0.067	-2.160	0.014	-3.202	0.012

	Math				Read				EOC			
	EOG C-Score		ABC Growth		EOG C-Score		ABC Growth		EOC C-Score		ABC Growth	
School	Coeff	p>(t)	Coeff	p>(t)	Coeff	p>(t)	Coeff	p>(t)	Coeff	p>(t)	Coeff	p>(t)
School 301	0.118	0.029	0.039	0.446	-0.118	0.134	-0.177	0.014				
School 329	0.208	0.004	0.288	<.0001	-0.158	0.049	-0.120	0.121				
School 381	0.107	0.074	-0.011	0.844	-0.012	0.918	0.058	0.632				
School 427	0.197	0.010	0.267	0.000	-0.073	0.378	-0.012	0.873				
School 428	0.095	0.052	-0.005	0.919	0.113	0.149	0.119	0.131				
School 468	0.242	0.000	0.336	<.0001	-0.090	0.204	-0.037	0.577				
School 481	0.273	<.0001	0.173	0.000	0.258	<.0001	0.227	0.000				
School 513	0.198	0.000	0.128	0.013	0.207	0.005	0.071	0.299				
School 514	-0.047	0.337	-0.128	0.007	0.079	0.205	0.075	0.200				
School 527	0.465	<.0001	0.477	<.0001	-0.080	0.342	0.029	0.711				
School 553	0.124	0.105	0.300	<.0001	-0.025	0.769	0.077	0.345				
School 581	0.001	0.989	0.219	0.008	-0.058	0.389	0.017	0.796				
School 585												
School 405									-0.229	0.007	-0.003	0.979
School 496									-0.088	0.169	-0.170	0.024
School 576									0.439	<.0001	0.362	<.0001
School 579												

Table A2. 2008-09 Fixed-effect coefficients and significance values, complete model.

	Math				Read				EOC			
	EOG C-Score		ABC Growth		EOG C-Score		ABC Growth		EOC C-Score		ABC Growth	
Student	Coeff	p>(t)	Coeff	p>(t)	Coeff	p>(t)	Coeff	p>(t)	Coeff	p>(t)	Coeff	p>(t)
Intercept	0.312	0.012	-0.210	0.059	0.334	0.005	-0.217	0.046	0.131	0.617	-0.217	0.384
Math08/Read08	0.706	<.0001			0.719	<.0001						
Grade 8 Math									0.369	<.0001		
Grade 8 Reading									0.300	<.0001		
Asian	0.014	0.732	0.059	0.111	-0.094	0.017	-0.026	0.473	0.007	0.927	0.114	0.128
Black	-0.145	<.0001	-0.076	0.002	-0.060	0.018	-0.033	0.146	-0.096	0.022	-0.029	0.469
Hispanic	-0.068	0.017	-0.010	0.689	-0.053	0.053	-0.011	0.671	-0.042	0.417	0.029	0.569
Native Am.	-0.121	0.152	-0.098	0.193	-0.110	0.170	-0.083	0.259	0.198	0.327	0.286	0.170
Multi	-0.033	0.435	-0.020	0.607	0.057	0.163	0.068	0.067	-0.035	0.692	0.017	0.844
ED	-0.057	0.001	-0.009	0.552	-0.075	<.0001	-0.046	0.002	0.025	0.288	0.044	0.057
Age	0.008	0.186	0.034	<.0001	0.021	0.001	0.047	<.0001	-0.070	<.0001	-0.008	0.478
Prop Absences	-0.063	<.0001	-0.053	<.0001	-0.022	0.001	-0.016	0.009	-0.077	<.0001	-0.084	<.0001
Teacher												
TFA	0.050	0.016	0.060	0.002	0.033	0.100	0.023	0.217	0.256	<.0001	0.297	<.0001
Teacher Gender	-0.005	0.803	-0.004	0.796	0.046	0.018	0.043	0.018	0.000	0.988	0.022	0.327
Teacher Exp <1	-0.202	<.0001	-0.163	<.0001	-0.021	0.551	-0.016	0.616	-0.010	0.906	-0.208	0.017
Teacher Exp 1-2	-0.151	0.000	-0.120	0.001	-0.041	0.235	-0.046	0.150	-0.051	0.563	-0.214	0.014
Teacher Exp 3-5	-0.102	0.011	-0.065	0.072	-0.029	0.383	-0.038	0.212	0.036	0.685	-0.121	0.168
Teacher Exp 6-10	-0.100	0.015	-0.081	0.029	-0.036	0.290	-0.043	0.167	0.024	0.790	-0.117	0.180
Teacher Exp 11-25	-0.099	0.017	-0.061	0.105	-0.027	0.437	-0.022	0.490	0.007	0.943	-0.161	0.074
Teacher Exp 26+												
Class												
% Male	-0.113	0.012	-0.004	0.796	-0.170	<.0001	-0.074	0.060	0.247	0.004	0.203	0.017
% Asian	-0.088	0.561	-0.163	<.0001	-0.068	0.648	0.032	0.814	-0.054	0.864	0.030	0.920
% Black	-0.192	0.036	-0.120	0.001	-0.388	<.0001	-0.144	0.064	0.145	0.429	0.118	0.503
% Hispanic	-0.142	0.144	-0.065	0.072	-0.388	<.0001	-0.100	0.236	0.647	0.005	0.390	0.083
% Native Am.	0.404	0.254	-0.081	0.029	0.039	0.908	0.405	0.187	-0.500	0.537	-1.330	0.092
% Multi	0.241	0.149	-0.061	0.105	-0.013	0.941	0.010	0.952	0.362	0.337	-0.145	0.694
% White												

	Math				Read				EOC			
	EOG C-Score		ABC Growth		EOG C-Score		ABC Growth		EOC C-Score		ABC Growth	
School	Coeff	p>(t)	Coeff	p>(t)	Coeff	p>(t)	Coeff	p>(t)	Coeff	p>(t)	Coeff	p>(t)
School 300	0.006	0.904	0.017	0.722	-0.162	0.003	-0.139	0.005				
School 301	0.029	0.617	-0.094	0.074	-0.111	0.059	-0.154	0.005				
School 308	-0.128	0.054	-0.068	0.263	-0.308	<.0001	-0.277	<.0001				
School 316	0.066	0.288	0.044	0.436	-0.023	0.713	-0.081	0.159				
School 318	0.004	0.956	0.038	0.569	-0.082	0.267	-0.053	0.434				
School 329	-0.171	0.003	-0.181	0.001	-0.152	0.008	-0.166	0.002				
School 341	-0.180	0.002	-0.312	<.0001	-0.143	0.024	-0.230	<.0001				
School 351					-0.132	0.049	-0.099	0.110				
School 381					-0.195	0.004	-0.216	0.001				
School 393	-0.237	0.001	-0.228	0.000	-0.174	0.009	-0.205	0.001				
School 410	-0.045	0.400	-0.039	0.424	-0.098	0.066	-0.103	0.038				
School 416	0.299	<.0001	0.333	<.0001	0.009	0.869	0.049	0.324				
School 422	-0.037	0.533	-0.032	0.554	-0.098	0.097	-0.082	0.136				
School 424	0.205	0.000	0.102	0.045	0.026	0.642	-0.022	0.676				
School 427	0.144	0.024	0.119	0.041	-0.124	0.051	-0.124	0.034				
School 428	0.185	0.003	0.155	0.007	-0.252	<.0001	-0.271	<.0001				
School 432	0.058	0.300	0.112	0.026	-0.103	0.062	-0.108	0.035				
School 434	-0.344	<.0001	-0.261	0.001								
School 450	-0.218	0.003	-0.285	<.0001	-0.190	0.008	-0.238	0.000				
School 468	-0.024	0.657	-0.056	0.258	-0.135	0.012	-0.132	0.009				
School 471	-0.010	0.864	0.010	0.852	-0.174	0.003	-0.184	0.001				
School 474	0.153	0.005	0.187	0.000	-0.022	0.682	-0.042	0.407				
School 481	0.065	0.255	-0.051	0.330	-0.016	0.785	-0.132	0.012				
School 501	-0.078	0.226	-0.036	0.541	-0.148	0.022	-0.145	0.016				
School 503	0.008	0.882	0.042	0.398	-0.132	0.016	-0.142	0.005				
School 509	-0.095	0.119	-0.143	0.010	-0.234	0.000	-0.248	<.0001				
School 513	-0.064	0.288	-0.173	0.002	-0.007	0.906	-0.124	0.020				
School 514	0.008	0.876	-0.051	0.310	-0.208	0.000	-0.259	<.0001				
School 517	0.003	0.963	-0.003	0.966	-0.238	0.000	-0.216	0.000				
School 527	0.065	0.344	0.038	0.541	-0.122	0.074	-0.136	0.032				
School 541	-0.117	0.151	-0.166	0.026	-0.202	0.005	-0.185	0.005				
School 553	-0.031	0.657	0.063	0.316	-0.248	0.000	-0.161	0.010				
School 565	-0.107	0.093	-0.070	0.227	-0.052	0.409	-0.038	0.514				
School 574	0.057	0.417	0.084	0.192	-0.185	0.008	-0.196	0.002				
School 581					-0.125	0.057	-0.133	0.028				
School 585	0.014	0.818	-0.026	0.656	-0.135	0.022	-0.163	0.003				
School 587	0.064	0.255	0.087	0.091	-0.120	0.033	-0.123	0.019				
School 589	0.000	.	0.000	.	0.000	.	0.000	.				
School 376									0.501	<.0001	0.202	0.024
School 405									0.530	<.0001	0.204	0.044
School 426									0.742	<.0001	0.308	0.000
School 496									0.508	<.0001	0.158	0.065
School 576									0.704	<.0001	0.353	0.001
School 579									1.133	<.0001	0.689	<.0001
School 592									0.631	<.0001	0.179	0.057
School 693									0.000	.		

APPENDIX B

Principal Interview Guide

Principal Interview Questions

1. Overall, how has the Teach for America program impacted your school?
2. How satisfied are you with how the Teach for America program has contributed to your school?
3. In general, how satisfied are you with the Teach for America teachers assigned to your school?
    a. Overall, how satisfied are you with Teach for America teacher *ability* in the following areas?
        i. Leadership Skills/Classroom Management Practices
        i. Curriculum Proficiency
        i. Facilitation of Student Learning

APPENDIX C

TFA Teacher Interview Guide

Teach for America Teacher Interview Questions

1. In general, how satisfied are you with your experiences in the Teach for America program?
2. In general, how satisfied are you with the school you've been assigned to?
3. Overall, how satisfied are you with your *ability* in the classroom?
    a. Leadership Skills/Classroom Management Practices
    b. Curriculum Proficiency
    c. Facilitation of Student Learning
    d. [Note: Satisfaction with the *content alignment* process of matching college specialty area with current teaching assignment?]
4. Do you plan to continue teaching (or remain in the education field as a school administrator, or with a nonprofit that is involved in education reform) after your Teach for America 2-year commitment ends?

APPENDIX D

Classroom Observation Guide

- **Classroom Management**
  - Overall classroom feel
  - Behavioral Outcomes
    - Student interruptions
      - ✦ Verbal interruption of other students
      - ✦ Verbal interruption of teacher/class activities
      - ✦ Refusal to follow classroom rules
      - ✦ Physical conflict among students
      - ✦ Disciplinary incidents (sent out of room/suspensions/expulsions)

- **Teaching Skills/Teacher Preparedness**
  - Evidence of organized lesson planning
  - Clear presentation of academic material
  - Confidence in lesson delivery
  - Efficiency in classroom procedures (i.e., directions, delivery of handouts, etc)

- **Teaching Style**
  - Note usage of concepts outside subject area
  - Teaching Techniques

- **Student-Teacher Dynamics**
  - Level of Respect Shown
    - Teacher towards students
    - Student towards teacher
    - Student towards other students
  - Level of cultural sensitivity/awareness witnessed of teacher
  - Personalization of curriculum/adjustment of teaching style/technique to meet teaching needs
  - Student motivation (by appearance of student participation in class activity)
  - Level of student engagement in material (depth of questioning/application to "real world" experience)
  - Clear expectations/goals described
  - Check for comprehension
    - By questioning students
    - By listening to student feedback

APPENDIX E

Table E. Variance estimates from unconditional, three-tiered multi-level models.

		2007-08				2008-09			
		Estimate	SE	p	Prop. Var.*	Estimate	SE	p	Prop. Var.*
EOG Math	Teacher	0.251	0.028	<.001	0.268	0.158	0.012	<.001	0.176
	School	0.065	0.033	0.026	0.070	0.051	0.015	0.001	0.056
	Residual	0.621	0.013	<.001	0.663	0.693	0.009	<.001	0.768
EOG Math Growth	Teacher	0.035	0.005	<.001	0.124	0.038	0.003	<.001	0.125
	School	0.004	0.002	0.076	0.012	0.011	0.004	0.001	0.035
	Residual	0.245	0.006	<.001	0.864	0.258	0.004	<.001	0.840
EOG Read	Teacher	0.141	0.025	<.001	0.164	0.136	0.011	<.001	0.154
	School	0.038	0.022	0.044	0.045	0.041	0.012	0.001	0.046
	Residual	0.679	0.017	<.001	0.791	0.707	0.009	<.001	0.800
EOG Read Growth	Teacher	0.012	0.004	0.005	0.040	0.014	0.002	<.001	0.047
	School	0.005	0.003	0.074	0.017	0.006	0.002	0.0013	0.018
	Residual	0.273	0.009	<.001	0.943	0.285	0.004	<.001	0.935
EOC	Teacher	0.134	0.033	<.001	0.195	0.086	0.017	<.001	0.119
	School	0.026	0.037	0.250	0.038	0.067	0.042	0.056	0.093
	Residual	0.528	0.016	<.001	0.767	0.568	0.012	<.001	0.788
EOC Growth	Teacher	0.095	0.027	0.000	0.185	0.061	0.012	<.001	0.138
	School	0.012	0.017	0.242	0.024	0.030	0.019	0.062	0.067
	Residual	0.407	0.015	<.001	0.792	0.352	0.008	<.001	0.795

**proportion of variance accounted for within the model.*

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