



Evaluation Matters

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Steven M. Urdegar, Ph.D., Director

Teach for America: *An Analysis of Placement and Impact, 2013-14*

1. What is the purpose of this report?

This report examines the placement of Teacher for America (TFA) teachers and examines their impact on the learning gains of their students during the 2013-14 school year. TFA is an organization that recruits and trains recent college graduates/professionals to teach for two years in selected communities. Admission is competitive. All members attend five-weeks of intensive preparatory training and receive ongoing support from the TFA Foundation during their internship. Teachers who do not hold certification in their assigned content areas receive alternative certification through coursework taken while completing the program. TFA teachers receive the regular district salary and benefits, supplemented by a voucher that can be used to cover previous student loans, credentialing, or further education.

2. Which populations were targeted in this report?

Sets of eligible TFA teachers were identified in 2013-14 from which the subset of teachers assigned to teach language arts and/or mathematics to students in grades 3 through 10 were included. The comparison pool included all Non-TFA teachers assigned to teach students in grades 3 through 10 in schools with TFA teachers, who did not previously participate in the TFA program. For each TFA teacher, a teacher was drawn from the comparison pool matched on grade, subject area, the proportion of the teacher's course assignments in each of six predefined categories, and the number of assigned students. A description of the categories and of the matching process may be found in Appendix A.

3. How were the data for this report collected and analyzed?

Data used in this analysis were obtained from archival records supplemented by data from the student data-base system and student learning gains data computed by the Florida Department of Education (FLDOE). Analysis of the persistence of TFA teachers was limited to descriptive statistics. The placement of TFA teachers involved multiplying the proportion of each teacher's students enrolled in each course sequence by the number of periods in the school day. Course assignments were then examined using descriptive statistics. The analysis of the impact of TFA teachers was conducted by comparing the proportion of TFA and Non-TFA teachers' students who made Learning Gains, as defined by the Florida Department of Education (FLDOE), in core courses.

The statistical significance of any differences in the comparisons were then gauged using chi-squared (χ^2) tests. Phi (ϕ) coefficients were used to classify the practical significance of any statistically significant comparisons found as .10 (weak), .30 (moderate), or .50 (strong), based on Cohen's (1988) classification.

4. At what school levels were Teach for America teachers placed?

TFA teachers were primarily assigned to M-DCPS senior high schools, but varied in terms of grade organization, subject area, and level of the courses. Table 1 lists the total number of schools with TFA teachers, the total number of TFA teachers in those schools, and the number and percent TFA teachers assigned to teach reading and/or mathematics to grades 3-10, within each school type.

Table 1. Schools with Teach for America Teachers, 2013-14

Level	Number of Schools	Number of Teachers	Reading/Mathematics Grades 3-10	
			<i>n</i>	%
Elementary	10	55	26	47.3
K - 8	6	37	28	75.7
Middle	7	63	53	84.1
Senior	9	163	112	68.7
Total	32	318	219	68.9

Note. Percentages shown are within school type (row) and cannot be added together

- More than 300 TFA teachers were assigned to 32 schools during 2013-14; more than half of whom were assigned to senior high schools.
- Over half of TFA teachers were assigned to teach reading and/or mathematics to grades 3-10.

5. What types of courses were TFA teachers assigned to teach during 2013-14?

Tables 2 (reading) and 3 (mathematics) list the course group (first seven digits of course number); category; and the number and percent of class periods to which TFA teachers were assigned, within school level: Elementary (Grades 3-5), Middle (Grades 6-8), and Senior (Grades 9-10). Categories represent courses that serve distinct groups of students. For example, M/J Intensive Reading, M/J Language Arts, and M/J Language Arts Advanced would be considered basic education, standard education, and advanced courses, respectively. Core and Elective course categories, which are partitioned into separate categories for matching purposes, are accompanied by letter superscripts to indicate whether or not they are assumed to serve similar groups of students. The number and percent of class periods within school level are based on the proportion of students assigned to each unique course number. Counts are duplicated, as teachers may be assigned to teach multiple courses.

- Reading/Language Arts (see Table 2)
 - ◆ Elementary: TFA teachers' language arts course assignments were primarily comprised of standard education courses.
 - 22.5% were comprised of ESOL /ESOL related courses.
 - 72.3% were comprised of standard education courses.
 - 5.2% were comprised of advanced courses.
 - ◆ Middle: The TFA teachers' language arts course assignments were concentrated among standard education and elective courses.
 - 30.7% were comprised of intensive/ESOL related courses.

- 52.5% were comprised of standard education or elective courses.
- 16.8% were comprise of advanced courses.
- ◆ Senior: The TFA teachers' language arts course assignments were concentrated among basic and standard education/elective courses.
 - 25.9% were comprised of intensive/ESOL related courses
 - 58.1% were comprised of standard education courses.
 - 16.0% were comprised of advanced courses.

Table 2. Teach for America Teachers' Language Arts/Reading Course Assignments, 2013-14

Course Name/Course Group	Category	Class Periods	
		<i>n</i>	%
Grades 3 – 5			
English for Speakers of Other Languages, Grade 3 - 5010010E1	1	10	6.5
Language Arts/Reading, ESOL-Related - Grade 3, 5010044EE	2	11	7.1
Language Arts/Reading, ESOL-Related - Grade 4, 5010045,50FE	2	7	4.5
Language Arts/Reading, ESOL-Related - Grade 5, 5010046,50GE	2	7	4.5
Language Arts/Reading, Grade 3, 5010044E1	3	46	29.7
Language Arts/Reading, Grade 4, 5010045,50F1	3	50	32.3
Language Arts/Reading, Grade 5, 5010046,50G1	3	16	10.3
Language Arts/Reading, Gifted - Grade 4, 5010045,50F2	4	4	2.6
Language Arts/Reading, Gifted - Grade 5, 5010046,50F2	4	4	2.6
Total		155	100.0
Grades 6 – 8			
M/J Intensive Reading (MC) Enrichment/Plus, 1000010EN, PL	1	6	3.4
M/J Intensive Reading (MC) Grade 6, 100001006	1	12	6.7
M/J Intensive Reading (MC) Grade 7, 100001007	1	13	7.3
M/J Intensive Reading (MC) Grade 8, 100001008	1	17	9.5
M/J Devel. Lang. Arts ESOL (Reading) Level 3, 1002381L3	2	2	1.1
M/J Devel. Lang. Arts ESOL (Reading) Level 4, 1002381L4	2	2	1.1
M/J Language Arts 2 Through ESOL, 100201002	2	2	1.1
M/J Language Arts 3 Through ESOL, 100202002	2	1	0.6
M/J Language Arts 1, 100101001	3 ^a	27	15.1
M/J Language Arts 2, 100104001	3 ^a	11	6.1
M/J Language Arts 3, 100107001	3 ^a	25	14.0
M/J Creative Writing 1, 100900001	4 ^a	24	13.4
M/J Speech and Debate 1, 100700001	4 ^a	7	3.9
M/J Language Arts 1, Advanced, 100102001	5	9	5.0
M/J Language Arts 2, Advanced, 100105001,2	5	9	5.0
M/J Language Arts 3, Advanced, 100108001	5	12	6.7
Total		179	100.0

(table continues)

Table 2, continued

Course Name/Course Group	Category	Class Periods	
		<i>n</i>	%

Grades 9 - 10			
Intensive Reading Enrichment/Plus, 1000410, 01, 02, EN, PL	1	91	23.1
English 1 Through ESOL, 100230002	2	2	0.5
English 2 Through ESOL, 100231002	2	5	1.3
Devel. Lang. Arts ESOL Reading Level 3/4, 1002381L3,4	2	4	1.0
English 1, 100131001	3 ^b	46	11.7
English 2, 100134001	3 ^b	57	14.5
Florida's Pre-IB English 1, 1001800	4 ^b	3	0.8
Debate 1, 100733001	4 ^b	34	8.6
Journalism 1, 1006300	4 ^b	9	2.3
Pre-AICE English Literature IGCSE Level, 1005380	4 ^b	1	0.3
Speech 1, 100730011	4 ^b	65	16.5
World Literature, 1005300	4 ^b	7	1.8
Writing for College Success, 100937001	4 ^b	7	1.8
English 1 Honors/Gifted, 100132001,2	5	22	5.6
English 2 Honors/Gifted, 100135001,2	5	39	9.9
World Literature Honors, 1020850	5	2	0.5
Total		394	100.0

Note. Course groups are the first seven digits of the course number and are organized within categories representing courses that serve distinct groups of students. Counts are duplicated, as teachers may be assigned to teach multiple courses.

^{a,b}Core and Elective courses with the same letter superscripts are assumed to serve similar groups of students.

Mathematics (Table 3)

- ◆ Elementary: TFA teachers' mathematics course assignments were almost solely comprised of standard education courses.
 - 15.3% were comprised of ESOL related mathematics courses.
 - 80.6% were comprised of standard education courses.
 - 4.1% were comprised of advanced courses.
- ◆ Middle: TFA teachers' mathematics course assignments were mainly comprised of basic and standard education courses.
 - 27.1% were comprised of intensive mathematics courses.
 - 50.4% were comprised of standard education courses.
 - 22.5% were comprised of advanced courses.
- ◆ Senior: TFA teachers' mathematics course assignments were comprised of one-half standard education courses and one-third intensive courses.
 - 39.5% were comprised of intensive mathematics courses.
 - 45.5% were comprised of standard education courses.
 - 16.0% were comprise of advanced courses.

Table 3. Teach for America Teachers' Mathematics Course Assignments, 2013-14

Course name/course group	Category	Class Periods	
		n	%

Grades 3 - 5			
Mathematics - Grade Three ESOL-Related, 5012050EE	1	2	2.0
Mathematics - Grade Four ESOL-Related, 5012060FE	1	6	6.1
Mathematics - Grade Five ESOL-Related, 5012070GE	1	7	7.1
Mathematics - Grade Three, 5012050E1	2	25	25.5
Mathematics - Grade Four, 5012060F1	2	27	27.6
Mathematics - Grade Five, 5012070G1	2	27	27.6
Mathematics - Grade Three Gifted, 5012050E2	3	2	2.0
Mathematics - Grade Four Gifted, 5012060F2	3	1	1.0
Mathematics - Grade Five Gifted, 5012070G2	3	1	1.0
Total		98	100.0
Grades 6 - 8			
M/J Intensive Mathematics, 120400001	1	35	27.1
M/J Mathematics 1, 120501001	2 ^a	22	17.1
M/J Mathematics 2, 120504001	2 ^a	18	14.0
M/J Pre-Algebra, 120507001	3 ^a	25	19.4
M/J Mathematics 1, Advanced/Gifted, 120502001	4	11	8.5
M/J Mathematics 2, Advanced/Gifted, 120505001	4	11	8.5
Algebra 1 Honors, 120032001	4	7	5.4
Total		129	100.0
Grades 9 - 12			
Intensive Mathematics, 120040001	1	77	38.5
Algebra 1, 120031001	2 ^b	45	22.5
Geometry, 120631001	2 ^b	46	23.0
Algebra 1 Honors/Gifted, 120032001, 2	3	7	3.5
Geometry Honors, 120632001	3	25	12.5
Total		200	100.0

Note. Course groups are the first seven digits of the course number and are organized within categories representing courses that serve distinct groups of students. Counts are duplicated, as teachers may be assigned to teach multiple courses.

^{ab}Core and Elective courses with the same letter superscripts are assumed to serve similar groups of students.

6. What was of the impact of the TFA teachers on students' Learning Gains?

The impact of TFA teachers on students' Learning Gains was examined by comparing the proportion of TFA and Non-TFA teachers' students who made Learning Gains and gauging the statistical significance of any differences found using chi-squared tests. Tables 4 (reading) and 5 (mathematics) list the total number of comparisons and the number and percentage of students who made gains when taught by TFA and Non-TFA teachers, followed by the results of chi-squared tests (χ^2) and phi coefficients used to gauge the statistical and practical significance of any differences found, for the 2013-14 school year. Results are presented by grade within school type: 3-5 (elementary), 6-8 (middle), and 9-10 (senior). Results from any K-8 centers are partitioned into elementary and middle grades. Statistically significant differences are indicated by asterisks following the results of the chi-squared test. The direction and practical significance (size) of the statistically significant difference is given by the phi (ϕ) coefficient: Positive signs indicate that higher percentages of students made gains when taught by TFA teachers

when compared to Non-TFA teachers. Negative signs indicate that lower percentages of students made gains when taught by TFA teachers when compared to Non-TFA teachers.

Table 4. Comparison of TFA and Non-TFA Teachers' Students' Learning Gains in Reading

Grade	TFA ^a			Non-TFA			Difference	
	N	Gain		N	Gain		χ^2	ϕ
		n	%		n	%		
Elementary								
4	299	189	63.2	273	154	56.4	2.8	.07
5	102	65	63.7	121	95	78.5	6.0*	-.16
ALL	401	254	63.3	394	249	63.2	0.0	.00
Middle								
6	567	328	57.8	637	358	56.2	0.3	.02
7	423	275	65.0	472	255	54.0	11.2***	.11
8	841	536	63.7	802	513	64.0	0.1	-.00
ALL	1,831	1,139	62.2	1,911	1,126	58.9	4.1*	.03
Senior								
9	1,922	929	48.3	1,815	926	51.0	2.7	-.03
10	3,613	2,066	57.2	3,051	1,795	58.8	1.9	-.02
ALL	5,535	2,995	54.1	3,905	2,721	69.7	3.4	.02

Note. The gains displayed above are the Learning Gains defined by the Florida Department of Education for use in the state's school grading system. Chi-squared (χ^2) tests measure the difference in the proportion of the groups' students who made gains with, statistically significant differences indicated by asterisks (*). Phi (ϕ) coefficients are effect sizes that indicate the direction and practical significance of those differences, which have been classified as .10 (weak), .30 (moderate), and .50 (strong) by Cohen (1988). Positive coefficients favor the Teach for America (TFA) teachers, while negative coefficients favor the Non-TFA teachers.

^a Teach for America

* $p < .05$. *** $p < .001$.

- Reading (Table 4, above)
 - ◆ Whereas the percentage of the TFA teachers' students who made gains was higher at the elementary and middle schools than at the senior high schools, the percentage of the Non-TFA teachers' students who made gains was generally similar across grade organizations.
 - ◆ Only two of the seven valid by-grade comparisons in Grades 4 - 10, were statistically significant. The difference, which favored the Non-TFA teachers in Grade 5 and the TFA teachers in Grade 7, had weak levels of practical significance.

Table 5. Comparison of TFA and Non-TFA Teachers' Students' Learning Gains in Mathematics

Grade	TFA ^a			Non-TFA			Difference	
	N	Gain		N	Gain		χ^2	ϕ
		n	%		n	%		
Elementary								
4	187	107	57.2	180	106	58.9	0.1	-.02
5	202	67	33.2	209	128	61.2	34.5***	-.28
ALL	389	174	44.7	389	234	60.2	18.6***	-.15
Middle								
6	625	408	65.3	354	190	53.7	12.8***	.11
7	238	208	87.4	283	233	82.3	2.6	.07
8	649	502	77.3	473	343	72.5	3.4	.06
ALL	1,512	1,118	73.9	1,110	766	69.9	7.7**	.05
Senior								
9	1,511	1,285	85.0	1,503	1,177	78.3	22.8***	.09
10	754	517	68.6	679	380	56.0	24.2***	.13
ALL	2,265	1,802	79.6	2,182	1,557	71.4	40.5***	.10

Note. The gains displayed above are the Learning Gains defined by the Florida Department of Education for use in the state's school grading system. Chi-squared (χ^2) tests measure the difference in the proportion of the groups' students who made gains with, statistically significant differences indicated by asterisks (*). Phi (ϕ) coefficients are effect sizes that indicate the direction and practical significance of those differences, which have been classified as .10 (weak), .30 (moderate), and .50 (strong) by Cohen (1988). Positive signs in this analysis favor Teach for America (TFA) teachers, while negative signs favor Non-TFA teachers.

^a Teach for America

*** $p < .001$.

- Mathematics (Table 5, above)
 - ◆ The percentage of students who made gains was lowest in the elementary grades for both the TFA and Non-TFA teachers. In fact, less than one-third of the TFA teachers' fifth grade students made gain.
 - ◆ Four of the seven valid by-grade comparisons, in Grades 4-10, were statistically significant. Of those, three favored the TFA teachers and had weak to moderate levels of practical significance. One favored the Non-TFA teachers and had a moderate level of practical significance.
 - ◆ When grouped by school-level, all three comparisons were statistically significant, favoring the Non-TFA teachers in the elementary schools and the TFA teachers in the middle and senior high schools.

7. How long do TFA teaches remain employed in the District after completing their commitment to the program?

The extent to which TFA teachers who completed their commitment to the program on or after 2009-10 and remained teaching in the District in 2013-14, was gauged by matching their employee numbers to the course/scheduling file for reporting cycle 131. Table 6 lists the total number of TFA

teachers and the number and percent who were still teaching, grouped by their first year of post TFA service.

Table 6. Number and Percent of TFA Teachers Still Teaching in the District

First Post TFA Year	Total TFA	Teaching (2013-14)	
		n	%
2013-14	139	51	36.7
2012-13	93	8	8.6
2011-12	54	0	0.0
2010-11	56	4	7.1
2009-10	41	2	4.9
ALL	383	65	17.0

- Of the 139 TFA teachers who entered their first year of post-TFA service in 2013-14, 36.7% continued teaching in the District.
- Of the 93 TFA teachers who entered their first year of post-TFA service in 2012-13, 8.6% continued teaching in the District.
- Of the 54 TFA teachers who entered their first year of post-TFA service in 2010-11 and 2011-12, 3.4% continued teaching in the District.
- Of the 41 TFA teachers who entered their first year of post-TFA service in 2009-10, 4.9% continued teaching in the District.
- Of all the TFA teachers who completed their commitment since 2009-10, only one in six were still teaching in the District at the end of 2013-14.

8. What were the principal conclusions of this report?

In both reading and mathematics, the bulk of TFA teachers in FCAT-tested grades were assigned to teach standard education courses. When the learning gains made by students of TFA teachers are compared with those made by students of their Non-TFA counterparts who were assigned to similar courses, a consistent impact was only found for senior high school mathematics courses. No consistent impact was found for other grade levels or subject areas. The vast majority of TFA teachers do not continue teaching in the district after completing their commitments with the program, with over 80% leaving at the end of their two year commitment.

References

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Appendix A - Course Categorization and Matching

In order to conduct the analysis of TFA teachers' course assignments and identify comparison teachers for the impact analyses, the courses of all teachers serving Grades 3-10, in schools with TFA teachers, were partitioned into distinct categories, according to the classification scheme shown in Table A1.

Table A1. Course Categories/Levels

	Language Arts			Mathematics		
	Elementary	Middle	Senior	Elementary	Middle	Senior
Special Education	0	0	0	0	0	0
ESOL	1	--	--	--	--	--
Intensive	--	1	1	--	1	1
ESOL Strategies	2	2	2	1	--	--
Standard Education - Core ^a	3	3	3	2	2	2
Standard Education - Elective ^a	--	4	4	--	3	3
Advanced/Gifted/Honors/AP	4	5	5	3	4	4

Note. Each category except Core and Elective is assumed to serve a distinct subpopulation of students

ESOL - English for Speakers of Other Languages

^aCore and Elective courses are assumed to serve the same subpopulation of students, but are partitioned into separate categories for matching purposes.

The matching process involved two stages. First, the proportion of each teacher's students within each of the six course categories and their average pretest score were computed separately for each subject area within each grade that they taught. Second, a comparison group for the TFA teachers was identified by matching according to grade, subject area, the proportion of the teacher's course assignments in each of the six predefined categories, and number of assigned students, using Multivariate and Propensity Score Matching Software with Automated Balance Optimization (Mebane & Sekhon, 2011; Sekhon, 2011) in R version 3.0.0 (R Development Core Team, 2013).