Academic Return on Investment

Research Evaluation and Program Analysis

on Impact of Instructional Coaches

Prepared by PCS Offices of Assessment, Accountability, and Research

and Budget and Resource Allocation

2017

Pinellas County Schools

Research Analysis on Instructional Coaches

To begin our analysis, the evaluation team requested the Teaching and Learning division provide their respective instructional coaching models for the last five years. As demonstrated below, the instructional coaching model has evolved over the years.

Model History for Mathematics Instructional Coaching

The following describes how the Elementary Mathematics model has evolved over the past five years:

2010   Coaches were under the supervision of Area Superintendents. They were not embedded, but served multiple schools on a percentage basis, determined by schools' FCAT scores.

2011   Coaches were not only responsible for mathematics, but were also responsible for science coaching. Therefore, they were named Elementary Math/Science Coaches. Coaches were shifted to the supervision of the mathematics and science supervisors. At this time, they were considered ¼ coaches, serving only eight schools (priority Differentiated Accountability schools) and embedded.

2012-2014   The model shifted back to solely either a Mathematics coach or a Science Coach, still under the direction of the Content Supervisors. There were approximately 6 embedded Elementary Mathematics coaches serving the D and/or F schools.

2015-2016   The model has changed to provide service to all schools. Eighteen coaches were embedded at 16 schools based on priority need, from FCAT or FSA scores. Of those, Campbell Park and Pinellas Park Elementary have employed the same coach for three consecutive years and six elementary schools have had the same math coach for two consecutive years. Just in Time coaches were added to service approximately 66

other county schools. Coaches provide service on a "Just in Time" need basis as requested by the Principal. In addition, this year schools were again ranked by priority. Some coaches are ½ coaches, servicing two schools, some are ¼ serving four schools, and some give intensive Just in Time coaching to schools.

Model History for Reading/Literacy Coaches

The following describes the model changes among Elementary Reading coaches:

2010-2011   The district employed 51.5 Instructional Reading Coach units. Of those 51.5 units, 18.5 coaches serviced 74 Non-Title I schools using a ¼ unit allocation per school. Title I Schools employed 33 Reading coaches allocated at .75 per school.

2011-2012   The district employed 36.5 Instructional Reading Coach units. A differentiated model was used based on a formula that included percent of students in the L1 and L2, a percent of students in free/reduced lunch program, the size of the school and the DA requirements. 12 schools received Full Time embedded coaching for 165 days; 12 schools received support from coaches that rotated between schools for 110 days; 8 schools received support from coaches that rotated for 83 days and 10 schools received support from coaches that rotated for 41 days.

2012-2013   The district employed 40 Instructional Reading coach units. For this school year a different model was used focusing and delineating schools by titles such as: Intervene Schools, Correct Schools and Prevent Schools based on school grade. The 10 Intervene Schools received 20 Full Time Primary and Intermediate coaches. The 11 Correct Schools received 11 Full Time Primary and Intermediate coaches. The 16 Prevent Schools used a .25 model with 2 Primary and 2 Intermediate coaches sharing 16 schools for a total of 4 positions. One District LLI coach was employed to support the LLI project in elementary sites. A total of 4 District coaches were employed to support reading/language arts in the remaining schools.

2013-2014   The district employed 34 Instructional Reading coach units. Full Time embedded coaches were placed at 15 schools based on school grade of F/DDD/D and "at risk". For the remaining 59 schools, 30 Part Time

coaches were utilized; 4 District Support coaches were employed – 2 LLI coaches and 2 Staff Developers.

2014-2015   The district employed 38 Instructional Reading Coaches. For this school year 17 were school based coaches, 10 were Instructional Staff Developers and 1 was a District Staff Developer.

2015-2016   The district employed 27 Instructional Reading coaches. There were 17 Full Time school based coaches, 8 Just In Time Coaches and 2 District Coaches.

The coaching models for both reading and math have continually changed across all levels. As a result of these changes the evaluation team found difficulty in confirming Hanover's analysis that increases in student achievement were highest in the third year of a coaching program.

Analytical Measure and Calculations

In reviewing reports from Hanover Research (summary attached) and the state's Office of Program Policy Analysis and Government Accountability division (OPPAGA) regarding instructional coaches and its view on "Return on Investment," Pinellas County Schools conducted its own analysis of district instructional coaches. The district's Budget department and Research & Evaluation division collaborated on an extensive study to determine how the district compared with the findings provided by Hanover and OPPAGA. Our information included financial information surrounding the cost of instructional coaches and data as it related to student academic proficiency and growth on state assessments. The team also worked with various PCS department heads, content specialists, and the Office of Title I.

The resources and data points used included instructional coach and teacher rosters, school locations that received reading and math instructional coaching, student data, school grades, proficiency changes on state assessments and student gain information.

The following analyses across coaches and levels summarize our findings as a district. As cited in the OPPAGA report, the impact of instructional coaching on student achievement is a difficult area to determine as there are many factors that contribute to student outcomes. As such, it is important to note our analyses were prepared across an extensive number of factors (covariates) which could contribute to student performance and therefore ascribe to the effectiveness of instructional coaches. Applying these factors allowed us attempt to isolate the effect of an instructional coach on student performance metrics as described below. Some examples of those variables include:

- Years of consecutive coaching at a certain location

- Demographics of the student population

- ESE status of the student

- FRL status of the student

- ELL status of the Student

- Previous year of academic achievement

Detailed findings are provided below and were shared with district leadership via the Strategic Projects Oversight Committee (SPOC).

Academic Return on Investment (AROI) - Elementary Math Coaches
Analytic Measures

Teacher Growth Measure:

Table 1A

Marzano Instructional Practice Score Analysis - Elementary 2014-15 & 2015-16 Year-over-Year Analysis		
Group	Total Teachers	Avg. Change
Schools with Coaches	98	-0.200
Schools with Coaches (No Scale-up)	74	-0.183
Schools with Coaches (Scale-up Only)	24	-0.251
Schools With Coach for 1 Year	55	-0.254
Schools With Coach for 2 Years	31	-0.128
Schools With Coach for 3 Years	12	-0.135
Schools without Coaches	446	-0.323

Note: These data represent matched teachers only who had at least 1 math student.

Table 1B

Math VAM Analysis - Elementary 2014-15 & 2015-16 Year-over-Year Analysis		
Group	Total Teachers	Avg. Change
Schools with Coaches	98	-0.022
Schools with Coaches (No Scale-up)	74	-0.062
Schools with Coaches (Scale-up Only)	24	0.100
Schools With Coach for 1 Year	55	0.015
Schools With Coach for 2 Years	31	-0.046
Schools With Coach for 3 Years	12	-0.136
Schools without Coaches	446	0.006

Note: These data represent matched teachers only who had at least 1 math student.

Years of Math Coaching:

Table 1C — 4th Grade

Comparing the likelihood of a student passing the FSA Math based on the number of consecutive years of Math Coaching at their school		
School Group	Total Schools	Odds Ratio
0 Years with Coach	62	-
1 Year with Coach	8	1.15
2 Years with Coach	6	0.90
3 Years with Coach†	2	1.04

* Indicates significant result

Table 1D — 5th Grade

Comparing the likelihood of a student passing the FSA Math based on the number of consecutive years of Math Coaching at their school		
School Group	Total Schools	Odds Ratio
0 Years with Coach	62	-
1 Year with Coach	8	1.01
2 Years with Coach	6	1.32
3 Years with Coach †	2	1.28

* Indicates significant result

Covariates Used:
Years of Consecutive Math Coaching
2016 School Math VAM
2016 School Grade
2015-16 Average Daily Attendance
Race
Gender
ESE status
FRL status
ELL status
Previous year Math Achievement Level

†At schools with three years of coaching, the average years of consecutive instruction within the past three years is 1.72

Academic Return on Investment (AROI) - Middle School Math Coaches
Analytic Measures

Teacher Growth Measure:

Table 2A

Marzano Instructional Practice Score Analysis - Middle School 2014-15 & 2015-16 Year-over-Year Analysis		
Group	Total Teachers	Avg. Change
Schools with Coaches	76	-0.218
Schools without Coaches	124	-0.349

Note: These data represent matched teachers only who had at least 1 math student.

Table 2B

Math VAM Analysis - Middle School 2014-15 & 2015-16 Year-over-Year Analysis		
Group	Total Teachers	Avg. Change
Schools with Coaches	76	-0.028
Schools without Coaches	124	0.006

Note: These data represent matched teachers only who had at least 1 math student.

Student Achievement Measures:

Table 2C

			Previous Year Level 1			Previous Year Level 2			Previous Year Level 3			Previous Year Level 4			Previous Year Level 5			% Gain at all levels	Median DSS Gain at all levels
Group	Grade Level	Total # Elig.	# Elig.	Median DSS Gain	% Gain	# Elig.	Median DSS Gain	% Gain	# Elig.	Median DSS Gain	% Gain	# Elig.	Median DSS Gain	% Gain	# Elig.	Median DSS Gain	% Gain		
District	6	5523	1228	3	29%	1266	1	25%	1462	1	50%	1090	0	46%	477	-6	41%	38%	1
	7	5758	1444	9	39%	1323	8	49%	1379	8	77%	1106	8	71%	506	2.5	73%	59%	8
	8	2976	1189	11	47%	1038	8	43%	632	7	65%	103	6	58%	9	10	56%	50%	9
Schools With Coaches	6	1959	650	3	28%	498	-1	23%	443	1	47%	260	-1	47%	108	-5	40%	34%	0
	7	1831	712	9	36%	475	8	46%	370	7	72%	225	3	60%	49	-1	59%	49%	7
	8	1204	564	8	42%	408	7.5	42%	204	5	58%	27	6.5	63%	0	.	.	45%	7
Schools Without Coaches	6	3507	578	3	31%	759	2	26%	1003	2	50%	815	1	46%	352	-7	41%	40%	1
	7	3916	732	10	41%	847	8	50%	1006	9	79%	879	9	74%	452	3	74%	64%	8
	8	1737	624	13	51%	622	8	43%	414	8	67%	67	5	57%	6	11	67%	52%	10

2016 Middle School FSA Math Learning Gains - Coach Comparison

Table 2D

Group	Avg. Gain % Level 1	Avg. Gain % Level 2	Avg. Proficiency %
Schools With Coaches	35.0%	36.3%	30.8%
Schools Without Coaches	38.2%	39.6%	44.3%

Table 2E

The effect of math coaches on the likelihood of an individual student passing the FSA Math Assessment	
Grade Level	Odds Ratio
6th Grade	1.58*
7th Grade	1.39*
8th Grade	0.78

* indicates significant result

Covariates Used:
Math Coach at School
2016 School Math VAM
2016 School Grade
2015-16 Average Daily Attendance
Race
Gender
ESE status
FRL status
ELL status
Previous year Math Achievement Level

Date: 03/22/2017
Source: 2016 INDV; FL DOE School Grades; 2015-2016 Teacher VAM Data; 2015-2016 Marzano Evaluations

Academic Return on Investment (AROI) - High School Math Coaches
Analytic Measures

Teacher Growth Measure:

Table 3A

Marzano Instructional Practice Score Analysis - High School 2014-15 & 2015-16 Year-over-Year Analysis		
Group	Total Teachers	Avg. Change
Schools with Coaches	5	-0.115
Schools without Coaches	28	-0.182

Note: These data represent matched teachers only who had at least 1 math student.

Table 3B

Algebra 1 VAM Analysis - High School 2014-15 & 2015-16 Year-over-Year Analysis		
Group	Total Teachers	Avg. Change
Schools with Coaches	5	-0.518
Schools without Coaches	28	-0.174

Note: These data represent matched teachers only who had at least 1 math student.

Student Achievement Measures:

Table 3C

			2016 High School FSA Math Learning Gains - Coach Comparison															
Group	Grade Level	Total # Elig.	Previous Year Level 1			Previous Year Level 2			Previous Year Level 3			Previous Year Level 4			Previous Year Level 5			% Gain at all levels	Median DSS Gain at all levels
			# Elig.	Median DSS Gain	% Gain	# Elig.	Median DSS Gain	% Gain	# Elig.	Median DSS Gain	% Gain	# Elig.	Median DSS Gain	% Gain	# Elig.	Median DSS Gain	% Gain		
District	9	2509	901	157	24%	825	152	20%	606	151	42%	132	147	12%	45	145	11%	26%	152
Schools With Coaches	9	674	289	156	24%	224	151	18%	141	150	37%	13	148	15%	7	148	.	24%	151
Schools Without Coaches	9	1835	612	158	24%	601	152	20%	465	152	44%	119	147	12%	38	145	13%	27%	153

Table 3D

Group	Avg. Gain % Level 1	Avg. Gain % Level 2	Avg. Proficiency %
Schools With Coaches	23.9%	18.3%	14.5%
Schools Without Coaches	24.0%	20.5%	23.9%

Table 3E

The effect of math coaches on the likelihood of an individual student passing the Algebra 1 EOC
Odds Ratio
1.21

* Indicates significant result

Covariates Used:
Math Coach at School
2016 School Math VAM
2016 School Grade
2015-16 Average Daily Attendance
Race
Gender
ESE status
FRL status
ELL status
Previous year Math Achievement Level

Date: 03/22/2017
Source: 2016 INDV; FL DOE School Grades; 2015-2016 Teacher VAM Data; 2015-2016 Marzano Evaluations

ACADEMIC RETURN ON INVESTMENT (AROI)
INSTRUCTIONAL MATHEMATICS COACHING –
DATA NARRATIVE

Elementary School:

1. Teacher Growth Measures
   a. **Marzano Instructional Practice Analysis** (Table 1A)
      i. The data presented in this table represent teachers who were at the same school for 2014-15 and 2015-16, and were associated with at least 1 student in a math course.
      ii. Across all subgroups, a negative change from 2014-2015 was noted in the average Instructional Practice Score.
      iii. Overall, teachers at schools with instructional math coaches had a smaller negative change compared to teachers at schools without coaches.
      iv. When separating out Scale-Up schools we can see that teachers at "Schools with coaches (Scale-up only)" had a smaller negative change in the average instructional practice score from 2014-15 to 2015-16 compared to teachers at schools without coaches. Similarly, teachers at "Schools with coaches (No scale-up)" also had a smaller negative change in the average instructional practice score compared to teachers at schools without coaches.
      v. In separating out schools by the years of consecutive math coaching, we can see that teachers at schools with 2 consecutive years of math coaching had the smallest negative change in the instructional practice score. All of these subgroups had a smaller negative change compared to schools without coaching.
   b. **Math VAM Analysis** (Table 1B)
      i. Overall, teachers at schools with math coaching had a decrease in VAM compared to teachers at schools without coaching who had an increase in the average Math VAM from 2014-15 to 2015-16.
      ii. In separating out scale-up schools, we can see that teachers at schools with coaches (No Scale-Up) had a decrease in the average math VAM from 2014-15 to 2015-16. Conversely, teachers at schools with coaches (Scale-up only) had a stronger increase in the average math VAM compared to any other subgroup, including teachers at schools without coaches.
      iii. In separating out schools by the years of consecutive math coaching, we observe that the 2 and 3 years of consecutive coaching subgroups had a negative change in the average VAM from 2014-15 to 2015-16. Furthermore, we can see that teachers at schools with a coach for 1 year had an increase in the average math VAM.

2. <u>Years of Math Coaching</u>
    a. Logistic regressions were performed to analyze the impact of consecutive years of math coaching on student performance on the FSA Math. The output from logistic regression is an "Odds Ratio", which tells us how much more likely an event is to happen in one group compared to another. In this case, we are comparing the likelihood of students passing the FSA Math in two groups: (1) Students who are enrolled at a school with math coaching for either 1, 2, or 3 consecutive years, and (2) students who are enrolled at a school without math coaching. For example, let us compare the likelihood of a student passing the FSA Math who is enrolled at a school who has had math coaching for 1 year, to the likelihood of a student passing the FSA Math who is enrolled at a school without coaching. An odds ratio of 1.00 would tell us that there is no difference in the likelihood of a student passing the FSA Math between the two groups. An odds ratio of 2.00 would tell us that students enrolled at a school with math coaching for 1 year were twice as likely to pass the FSA Math compared to students enrolled at a school without math coaching.
    b. The advantage of using logistic regressions to make these comparisons is that we can control for a number of other factors that will contribute to the likelihood of a student passing the FSA math. This allows us to specifically isolate the effect of math coaching on the likelihood of a student passing the FSA Math. In the "Covariates Used" table, there is a list of variables that were controlled for, including the school grade, school math VAM, the school's average daily attendance, previous year FSA Math achievement level, and other demographic variables.
    c. 4th Grade (Table 1C)
        i. 1 year of math coaching
            1. In comparing students enrolled at schools with math coaching for 1 year to students enrolled at schools without math coaching, our resulting odds ratio is 1.15. This is not a statistically significant result, and therefore we would conclude that there is no significant difference in the likelihood of passing the FSA Math between students enrolled at a school with math coaching for 1 year and students enrolled at a school without math coaching.
        ii. 2 years of math coaching
            1. In comparing students enrolled at schools with math coaching for 2 years to students enrolled at schools without math coaching, our resulting odds ratio is 0.90. This is not a statistically significant result, and therefore we would conclude that there is no significant difference in the likelihood passing the FSA Math between students enrolled at a school with math coaching for 2 years and students enrolled at a school without math coaching.
        iii. 3 years of math coaching
            1. In comparing students enrolled at schools with math coaching for 3 years to students enrolled at schools without math coaching, our resulting odds ratio is 1.04. This is not a statistically significant result, therefore we would conclude that there is no significant difference between these two groups in the likelihood of a student passing the FSA Math.
    d. 5th Grade (Table 1D)
        i. 1 year of math coaching

1. In comparing students enrolled at schools with math coaching for 1 year to students enrolled at schools without math coaching, our resulting odds ratio is 1.01. This is not a statistically significant result. Therefore we would conclude that there is no significant difference between these two groups in the likelihood of a student passing the FSA Math.

        ii. 2 years of math coaching
            1. In comparing students enrolled at schools with math coaching for 2 years to students enrolled at schools without math coaching, our resulting odds ratio is 1.32. This is not a statistically significant result. Therefore we would conclude that there is no significant difference between these two groups in the likelihood of a student passing the FSA Math.

        iii. 3 years of math coaching
            1. In comparing students enrolled at schools with math coaching for 3 years to students enrolled at schools without math coaching, our resulting odds ratio is 1.28. This is not a statistically significant result, therefore we would conclude that there is no significant difference between these two groups in the likelihood of a student passing the FSA Math.

    e. Years of Consecutive Instruction
        i. Research states that a three-year relationship between the instructional staff and coach is required before the maximum benefit of coaching is realized. Therefore we computed the average years of consecutive instruction by teachers within the past three years at these schools. We found that on average, teachers provided 1.72 years of consecutive instruction (out of 3.00) at these schools, within the past three years.

3. Student Achievement Measures
    a. FSA Math Gains (Table 1E)
        i. The table presented here displays the number and percent of students making a gain, as defined by the FL DOE, by grade level and previous year achievement level. The data is grouped into the following categories: Overall District, Schools with Coaches (No scale-up), Schools with Coaches (Scale-up only), Schools with coaching for 1 year, Schools with coaching for 2 years, Schools with coaching for 3 years, Schools without Coaches.
        ii. While there is a lot of information presented in this table, we will focus on the percent of students making a gain in the "Previous Year Level 1" and "Previous Year Level 2" categories. This data is summarized in the smaller table below (Table 1F).
            1. We can see from the summary table that of previous-year level 1 students, schools with coaches had 39.9% of students making a gain. This is compared to schools without coaches, where 42.5% of these students made a gain. When we break out schools with coaches into the different subgroups we can see that Schools with coaches (No scale-up) and schools with coaches for 1 year had a higher percent of previous-year level 1 students making a gain compared to schools without math coaching.
            2. In looking at the percent of gains made by previous-year level 2 students, we can see that Schools with Coaches (No scale-up) and Schools with

coaching for 1 year had a similar percent of students making a gain compared to schools without coaches.

    b. Logistic Regression (Table 1G)

        i. A logistic regression was performed in order to assess the effect of math coaching on the likelihood of students passing the FSA Math by grade level.

        ii. 4th Grade

            1. In comparing students enrolled at schools with math coaching to students enrolled at schools without math coaching, the resulting odds ratio is 1.06. This result is not statistically significant. Therefore we would conclude that in 4th grade, there was no significant difference in the likelihood of a student passing the FSA Math between students enrolled at a school with and without math coaching.

        iii. 5th Grade

            1. In comparing students enrolled at schools with math coaching to students enrolled at schools without math coaching, the resulting odds ratio is 1.11. This result is not statistically significant. Therefore we would conclude that in 5th grade, there was no significant difference in the likelihood of a student passing the FSA Math between students enrolled at a school with and without math coaching.

Middle School:

1. Teacher Growth Measures

    a. **Marzano Instructional Practice Analysis** (Table 2A)

        i. The data presented in this table represent teachers who were at the same school for 2014-15 and 2015-16, and were associated with at least 1 student in a math course.

        ii. Among both groups, teachers at schools with coaches and teachers at schools without coaches, there was a decrease in the average Marzano Instructional Practice Score from 2014-15 to 2015-16.

        iii. We observe a greater decrease in the average instructional practice score of teachers at schools without math coaches compared to that of teachers at schools with math coaches.

    b. **Math VAM Analysis** (Table 2B)

        i. We observe a decrease in the average math VAM from 2014-15 to 2015-16 among teachers at schools with math coaches. Conversely, among teachers at schools without math coaches, a slight increase in the average math VAM was observed.

2. Student Achievement Measures

    a. FSA Math Gains (Table 2C)

        i. The table of FSA Math gains presented here is similar to the one presented for elementary. The data is separated by study group (Schools with Coaches, schools without coaches), grade level, and previous-year achievement level. The overall district gains are provided as well.

        ii. In the summary table below (Table 2D), the percentage of previous-year achievement level 1 and 2 students making a gain is presented. We can see from

this data that at both, previous-year achievement level 1 and 2, Schools without coaches slightly outperformed schools with coaches.

    b. Logistic Regression (Table 2E)

        i. Similarly to the elementary analysis, a logistic regression was performed to assess the impact of math coaches on the likelihood of an individual middle school student passing the FSA Math, by grade level. This regression controls for important demographic and academic variables (listed in the "Covariates Used" table) which allows us to isolate the effect of math coaching in middle school.

        ii. 6th Grade

            1. In comparing the likelihood of passing the FSA Math among students enrolled at schools with math coaching to students enrolled at schools without math coaching, the resulting odds ratio is 1.58. This is a statistically significant result. Therefore we can conclude that in 6th grade, students enrolled at a school with math coaching had a 58% increase in the odds of passing the FSA Math relative to 6th grade students enrolled at a school without math coaching.

        iii. 7th Grade

            1. In comparing the likelihood of passing the FSA Math among students enrolled at schools with math coaching to students enrolled at schools without math coaching, the resulting odds ratio is 1.39. This is a statistically significant result. Therefore we can conclude that in 7th grade, students enrolled at a school with math coaching had a 39% increase in the odds of passing the FSA Math relative to 6th grade students enrolled at a school without math coaching.

        iv. 8th Grade

            1. In comparing the likelihood of passing the FSA Math among students enrolled at schools with math coaching to students enrolled at schools without math coaching, the resulting odds ratio is 0.78. This is not a statistically significant result, therefore we would conclude that there is no difference in the likelihood of passing the FSA Math among 8th grade students enrolled at a school with or without a math coach.

High School:

    1. Teacher Growth Measures

        a. **Marzano Instructional Practice Analysis** (Table 3A)

            i. The data presented in this table represent teachers who were at the same school for 2014-15 and 2015-16, and were associated with at least 1 student in a math course.

            ii. In both groups, there was negative change in the average Marzano Instructional Practice score from 2014-15 to 2015-16.

            iii. We can see that among teachers at schools with math coaches, the negative change in the average score was slightly smaller in comparison to teachers at schools without coaches.

            iv. Please note that in high schools we are dealing with a smaller sample size of teachers. Therefore there is a lot of error associated with the "Average Change" value, and we should use caution in drawing conclusions based around this data.

b. **Algebra 1 VAM Analysis** (Table 3B)
   i. We can see that among Algebra 1 teachers at schools with coaches, there was a negative change in the average VAM score from 2014-15 to 2015-16. In comparison, Algebra 1 teachers at schools without math coaches had a negative change in the average VAM from 2014-15 to 2015-16.
   ii. Similarly with the Marzano Instructional Practice Analysis, we are dealing with relatively small sample sizes and large errors. Therefore we should use caution in drawing conclusions from this data.

2. Student Achievement Measures
   a. Algebra 1 Gains (Table 3C)
      i. The table of Algebra 1 gains is broken down by study group (Schools with coaches, schools without coaches) and previous-year achievement level. High School Algebra 1 gains are only provided for 9th grade students.
      ii. From the summary table (Table 3D), we can see that among previous-year achievement level 1 students, the percent of students making a gain at schools with and without math coaches was approximately equal. Among previous-year achievement level 2 students, schools without coaches slightly outperformed schools with coaches.
   b. Logistic Regression (Table 3E)
      i. Similar to the analysis in middle and elementary school, a logistic regression was performed to assess the impact of math coaching on the likelihood of students passing the Algebra 1 EOC.
      ii. In comparing the likelihood of passing the Algebra 1 EOC among 9th grade students who were enrolled at a school with and without math coaching, we observe an odds ratio of 1.21. This result is not statistically significant. Therefore we would conclude that for 9th grade students there is no significant difference in the likelihood of passing the Algebra 1 EOC based on whether the student is enrolled at a school with, or without math coaching.
      iii. The list of covariates that were controlled for in this regression are listed in the "Covariates Used" table.

Academic Return on Investment (AROI) - Elementary Reading Coaches
Analytic Measures

Teacher Growth Measure:

Table 1A

ELA Marzano Instructional Practice Score Analysis - Elementary 2014-15 & 2015-16 Year-over-Year Analysis		
Group	Total Teachers	Avg. Change
Schools with Coaches	109	-0.142
Schools with Coaches (No Scale-up)	91	-0.104
Schools with Coaches (Scale-up Only)	18	-0.325
Schools With Coach for 1 Year	38	-0.278
Schools With Coach for 2 Years	21	-0.148
Schools With Coach for 3 Years	50	-0.024
Schools without Coaches	406	-0.349

Note: These data represent matched teachers only who had at least 1 ELA student.

Table 1B

ELA VAM Analysis - Elementary 2014-15 & 2015-16 Year-over-Year Analysis		
Group	Total Teachers	Avg. Change
Schools with Coaches	109	0.101
Schools with Coaches (No Scale-up)	91	0.092
Schools with Coaches (Scale-up Only)	18	0.149
Schools With Coach for 1 Year	38	0.118
Schools With Coach for 2 Years	21	0.062
Schools With Coach for 3 Years	50	0.105
Schools without Coaches	406	0.037

Note: These data represent matched teachers only who had at least 1 ELA student.

Years of Reading Coaching:

Table 1C — **4th Grade**

Comparing the likelihood of a student passing the FSA ELA based on the number of consecutive years of Reading Coaching at their school		
School Group	Total Schools	Odds Ratio
0 Years with Coach	56	-
1 Year with Coach	7	0.95
2 Years with Coach	4	1.15
3 Years with Coach†	8	0.96

* Indicates statistically meaningful result

Table 1D — **5th Grade**

Comparing the likelihood of a student passing the FSA ELA based on the number of consecutive years of Reading Coaching at their school		
School Group	Total Schools	Odds Ratio
0 Years with Coach	56	-
1 Year with Coach	7	0.96
2 Years with Coach	4	0.85
3 Years with Coach†	8	1.08

* Indicates statistically meaningful result

Covariates Used:
Years of Consecutive Reading Coaching
2016 School ELA VAM
2016 School Grade
2015-16 Average Daily Attendance
Race
Gender
ESE status
FRL status
ELL status
Previous year ELA Achievement Level

†At schools with three years of coaching, the average years of consecutive instruction *within the past three years* is 1.64

Date: 05/09/2017
Source: 2016 INDV; FL DOE School Grades; 2015-2016 Teacher VAM Data; 2015-2016 Marzano Evaluations

Academic Return on Investment (AROI) - Elementary Reading Coaches
Analytic Measures

Student Achievement Measures:

Table 1E

2016 Elementary FSA ELA Learning Gains - Coach Comparison

Group	Grade Level	Total # Elig.	Previous Year Level 1 # Elig.	Median DSS Gain	% Gain	Previous Year Level 2 # Elig.	Median DSS Gain	% Gain	Previous Year Level 3 # Elig.	Median DSS Gain	% Gain	Previous Year Level 4 # Elig.	Median DSS Gain	% Gain	Previous Year Level 5 # Elig.	Median DSS Gain	% Gain	% Gain at all levels	Median DSS Gain at all levels
District	4	6135	1152	15	40%	1687	9	34%	1698	9	66%	1107	8	64%	491	3	51%	51%	9
	5	5973	1421	12	46%	1487	9	39%	1539	10	71%	1108	9	64%	418	4	49%	54%	10
Schools With Coaches	4	1348	440	14	38%	440	8	29%	317	9	65%	120	6.5	60%	31	-1	35%	43%	10
	5	1195	484	12	42%	323	8	36%	245	8	64%	118	8	64%	25	4	40%	47%	9
Schools With Coaches No Scale-Up	4	1034	269	14	40%	353	9	31%	275	9	66%	107	7	63%	30	-2	37%	46%	10
	5	954	332	12	42%	265	9	36%	222	8	64%	111	8	64%	24	5	42%	48%	9
Schools With Coaches Scale-up Only	4	314	171	14	36%	87	4	20%	42	7	60%	13	-1	38%	1	0	0%	35%	9
	5	241	152	12	42%	58	7	33%	23	8	61%	7	7	57%	1	-12	0%	42%	11
Schools with Coach for 1 Year	4	517	188	14	36%	161	9	29%	108	7	63%	53	6	57%	7	0	43%	42%	10
	5	426	200	12	41%	98	6	32%	74	9.5	70%	43	11	77%	11	3	18%	47%	10
Schools With Coach for 2 Years	4	274	68	13	37%	95	10	33%	67	12	76%	32	7.5	72%	12	0.5	33%	49%	11
	5	258	83	11	42%	75	11	44%	62	6.5	58%	31	6	52%	7	9	57%	48%	8
Schools with Coach for 3 Years	4	557	184	14.5	42%	184	6	26%	142	8.5	62%	35	4	54%	12	-5.5	33%	42%	9
	5	511	201	12	43%	150	8	34%	109	9	62%	44	7.5	59%	7	6	57%	46%	10
Schools Without Coaches	4	4721	702	15	41%	1233	10	36%	1360	9	67%	972	8	64%	454	3	52%	53%	9
	5	4718	924	12	49%	1150	10	39%	1280	10	73%	976	9	64%	388	4	50%	56%	10

Table 1F

Group	Avg. Gain % Level 1	Avg. Gain % Level 2	Avg. Proficiency %
Schools With Coaches	42.4%	31.6%	32.7%
Schools With Coaches - No Scale-Up	43.1%	33.2%	37.6%
Schools With Coaches - Scale-Up	41.0%	24.8%	15.1%
Schools With Coach for 1 Year	40.5%	30.1%	30.6%
Schools With Coach for 2 Years	41.7%	37.6%	40.3%
Schools With Coach for 3 Years	44.6%	29.6%	30.7%
Schools Without Coaches	47.0%	38.5%	57.8%

Table 1G

The effect of reading coaches on the likelihood of an individual student passing the FSA reading

Grade Level	Odds Ratio
4th Grade	1.00
5th Grade	1.04

* indicates statistically meaningful result

Covariates Used:
Years of Consecutive Reading Coaching
2016 School ELA VAM
2016 School Grade
2015-16 Average Daily Attendance
Race
Gender
ESE status
FRL status
ELL status
Previous year ELA Achievement Level

Date: 05/09/2017
Source: 2016 INDV; FL DOE School Grades; 2015-2016 Teacher VAM Data; 2015-2016 Marzano Evaluations

Academic Return on Investment (AROI) - Middle School Reading Coaches
Analytic Measures

Teacher Growth Measure:

Table 2A

ELA Marzano Instructional Practice Score Analysis - Middle School 2014-15 & 2015-16 Year-over-Year Analysis		
Group	Total Teachers	Avg. Change
Schools with Coaches	190	-0.362
Schools With Coach for 1 Year	150	-0.355
Schools With Coach for 2 Years	21	-0.299
Schools With Coach for 3 Years	19	-0.485
Schools without Coaches	18	-0.335

Note: These data represent matched teachers only who had at least 1 ELA student.

Table 2B

ELA VAM Analysis - Middle School 2014-15 & 2015-16 Year-over-Year Analysis		
Group	Total Teachers	Avg. Change
Schools with Coaches	190	-0.068
Schools With Coach for 1 Year	150	-0.041
Schools With Coach for 2 Years	21	-0.092
Schools With Coach for 3 Years	19	-0.255
Schools without Coaches	18	-0.261

Note: These data represent matched teachers only who had at least 1 ELA student.

Years of Reading Coaching:

Table 2C — 6th Grade

Comparing the likelihood of a student passing the FSA ELA based on the number of consecutive years of Reading Coaching at their school		
School Group	Total Schools	Odds Ratio
0 Years with Coach	2	-
1 Year with Coach	12	0.79
2 Years with Coach	2	0.73
3 Years with Coach[†]	3	0.81

* Indicates statistically meaningful result

Table 2D — 7th Grade

Comparing the likelihood of a student passing the FSA ELA based on the number of consecutive years of Reading Coaching at their school		
School Group	Total Schools	Odds Ratio
0 Years with Coach	2	-
1 Year with Coach	12	1.05
2 Years with Coach	2	0.95
3 Years with Coach[†]	3	1.03

* Indicates statistically meaningful result

Table 2E — 8th Grade

Comparing the likelihood of a student passing the FSA ELA based on the number of consecutive years of Reading Coaching at their school		
School Group	Total Schools	Odds Ratio
0 Years with Coach	2	-
1 Year with Coach	12	0.66*
2 Years with Coach	2	0.45*
3 Years with Coach[†]	3	0.72

* Indicates statistically meaningful result

[†] At schools with three years of coaching, the average years of consecutive instruction *within the past three years* is 2.03

Covariates Used:
Years of Consecutive Reading Coaching
2016 School ELA VAM
2016 School Grade
2015-16 Average Daily Attendance
Race
Gender
ESE status
FRL status
ELL status
Previous year ELA Achievement Level

Academic Return on Investment (AROI) - Middle School Reading Coaches
Analytic Measures

Student Achievement Measures:

Table 2F

2016 Middle FSA ELA Learning Gains - Coach Comparison

Group	Grade Level	Total # Elig.	Previous Year Level 1			Previous Year Level 2			Previous Year Level 3			Previous Year Level 4			Previous Year Level 5			% Gain at all levels	Median DSS Gain at all levels
			# Elig.	Median DSS Gain	% Gain	# Elig.	Median DSS Gain	% Gain	# Elig.	Median DSS Gain	% Gain	# Elig.	Median DSS Gain	% Gain	# Elig.	Median DSS Gain	% Gain		
District	6	5965	1288	8	40%	1677	6	40%	1492	5	64%	1126	4	64%	382	-1	63%	52%	5
	7	5754	1325	10	34%	1475	7	33%	1239	4	59%	1247	4	58%	468	0	66%	47%	5
	8	5708	1486	8	40%	1316	6	45%	1271	7	70%	1056	6	65%	579	1	66%	55%	6
Schools with Coaches	6	5068	1226	8	38%	1502	6	37%	1255	5	61%	841	4	63%	244	0	64%	49%	5
	7	4855	1280	10	33%	1323	6	32%	1017	4	58%	909	4	57%	326	0	67%	45%	6
	8	4849	1440	8	38%	1175	6	44%	1050	6	69%	809	5	63%	375	0	64%	52%	6
Schools with Coach for 1 Year	6	3677	840	8	41%	1086	6	40%	946	5	62%	620	4	62%	185	0	64%	51%	6
	7	3584	882	10	34%	967	6	33%	767	4	59%	731	4	56%	237	0	67%	46%	6
	8	3479	950	8.5	39%	859	6	45%	795	6	69%	592	5	64%	283	0	64%	54%	6
Schools With Coach for 2 Years	6	631	160	7	39%	197	6	37%	148	4	61%	110	4	63%	16	-2.5	50%	48%	5
	7	568	151	12	40%	175	7	32%	132	4.5	58%	86	4.5	63%	24	1.5	75%	46%	6
	8	617	215	8	37%	140	4.5	41%	112	5	65%	106	4.5	57%	44	0	52%	48%	6
Schools with Coach for 3 Years	6	760	226	6	27%	219	1	27%	161	2	52%	111	4	64%	43	-2	67%	40%	3
	7	703	247	8	25%	181	4	22%	118	3	53%	92	3	54%	65	-2	65%	36%	4
	8	753	275	6	35%	176	4	39%	143	7	69%	111	5	65%	48	2.5	73%	49%	5
Schools Without Coaches	6	836	62	12	58%	164	9.5	57%	214	8	79%	268	6	70%	128	-1	63%	68%	7
	7	836	45	12	42%	144	9	38%	207	5	64%	309	4	61%	131	1	63%	57%	5
	8	808	46	14.5	59%	136	9	58%	209	9	76%	231	6	69%	186	2	71%	69%	7

Table 2G

Group	Avg. Gain % Level 1	Avg. Gain % Level 2	Avg. Proficiency %
Schools With Coaches	36.4%	37.3%	47.1%
Schools With Coach for 1 Year	38.0%	39.1%	49.3%
Schools With Coach for 2 Years	38.4%	36.5%	43.7%
Schools With Coach for 3 Years	29.1%	29.0%	39.4%
Schools Without Coaches	53.6%	48.4%	78.8%

Table 2H

The effect of reading coaches on the likelihood of an individual student passing the FSA reading	
Grade Level	Odds Ratio
6th Grade	0.77
7th Grade	1.03
8th Grade	0.61*

* Indicates statistically meaningful result

Covariates Used:

Years of Consecutive Reading Coaching
2016 School ELA VAM
2016 School Grade
2015-16 Average Daily Attendance
Race
Gender
ESE status
FRL status
ELL status
Previous year ELA Achievement Level

Date: 05/09/2017
Source: 2016 INDV; FL DOE School Grades; 2015-2016 Teacher VAM Data; 2015-2016 Marzano Evaluations

Academic Return on Investment (AROI) - High School Reading Coaches
Analytic Measures

Teacher Growth Measure:

Table 3A

ELA Marzano Instructional Practice Score Analysis - High School 2014-15 & 2015-16 Year-over-Year Analysis		
Group	Total Teachers	Avg. Change
Schools with Coaches	137	-0.333
Schools With Coach for 1 Year	65	-0.355
Schools With Coach for 2 Years	25	-0.213
Schools With Coach for 3 Years	47	-0.365
Schools without Coaches	39	-0.045

Note: These data represent matched teachers only who had at least 1 ELA student.

Table 3B

ELA VAM Analysis - High School 2014-15 & 2015-16 Year-over-Year Analysis		
Group	Total Teachers	Avg. Change
Schools with Coaches	137	-0.124
Schools With Coach for 1 Year	65	-0.233
Schools With Coach for 2 Years	25	0.167
Schools With Coach for 3 Years	47	-0.128
Schools without Coaches	39	-0.333

Note: These data represent matched teachers only who had at least 1 ELA student.

Years of Reading Coaching:

Table 3C — 9th Grade

Comparing the likelihood of a student passing the FSA ELA based on the number of consecutive years of Reading Coaching at their school		
School Group	Total Schools	Odds Ratio
0 Years with Coach	4	-
1 Year with Coach	5	0.69
2 Years with Coach	2	0.59*
3 Years with Coach[†]	5	0.69

* Indicates statistically meaningful result

Table 3D — 10th Grade

Comparing the likelihood of a student passing the FSA ELA based on the number of consecutive years of Reading Coaching at their school		
School Group	Total Schools	Odds Ratio
0 Years with Coach	4	-
1 Year with Coach	5	1.06
2 Years with Coach	2	1.04
3 Years with Coach[†]	5	1.34

* Indicates statistically meaningful result

Covariates Used:
Years of Consecutive Reading Coaching
2016 School ELA VAM
2016 School Grade
2015-16 Average Daily Attendance
Race
Gender
ESE status
FRL status
ELL status
Previous year ELA Achievement Level

[†]At schools with three years of coaching, the average years of consecutive instruction *within the past three years* is 2.46

Academic Return on Investment (AROI) - High School Reading Coaches
Analytic Measures

Student Achievement Measures:

Table 3E

			2016 High School FSA ELA Learning Gains - Coach Comparison																
Group	Grade Level	Total # Elig.	Previous Year Level 1			Previous Year Level 2			Previous Year Level 3			Previous Year Level 4			Previous Year Level 5			% Gain at all levels	Median DSS Gain at all levels
			# Elig.	Median DSS Gain	% Gain	# Elig.	Median DSS Gain	% Gain	# Elig.	Median DSS Gain	% Gain	# Elig.	Median DSS Gain	% Gain	# Elig.	Median DSS Gain	% Gain		
District	9	4665	1286	6	32%	1293	4	27%	1270	1	48%	605	-3	39%	210	-8	35%	36%	2
	10	7841	1418	10	39%	1638	6	34%	1730	4	56%	1880	2	51%	1162	-2	46%	46%	4
Schools With Coaches	9	3486	1132	6	31%	1006	4	28%	852	1	47%	369	-3	36%	127	-7	39%	35%	3
	10	5565	1234	9	36%	1279	6	32%	1218	4	55%	1165	2	51%	669	-2	48%	44%	4
Schools with Coach for 1 Year	9	1574	516	8	34%	444	4.5	32%	398	1	47%	163	-2	37%	53	-7	32%	37%	3
	10	2343	517	10	39%	616	6	34%	562	4	55%	454	2	51%	194	-3	37%	44%	5
Schools With Coach for 2 Years	9	749	224	6	29%	220	4	24%	183	1	49%	94	-3	41%	28	-8	43%	34%	3
	10	1052	219	10	37%	230	5	29%	225	2	53%	244	1	46%	134	-2	52%	43%	3
Schools with Coach for 3 Years	9	1163	392	6	29%	342	2	25%	271	1	46%	112	-4	30%	46	-6.5	46%	33%	2
	10	2170	498	8	33%	433	5	32%	431	4	55%	467	2	54%	341	-2	52%	45%	4
Schools Without Coaches	9	1179	154	7	32%	287	3	25%	418	1	48%	237	-2	42%	83	-9	28%	38%	1
	10	2276	184	13	53%	359	8	43%	513	5	58%	720	3	50%	500	-3	42%	49%	4

Table 3F

Group	Avg. Gain % Level 1	Avg. Gain % Level 2	Avg. Proficiency %
Schools With Coaches	33.8%	30.2%	42.7%
Schools With Coach for 1 Year	36.7%	33.2%	40.8%
Schools With Coach for 2 Years	32.7%	26.2%	43.9%
Schools With Coach for 3 Years	31.0%	28.5%	44.2%
Schools Without Coaches	43.2%	34.7%	64.0%

Table 3G

The effect of reading coaches on the likelihood of an individual student passing the FSA reading	
Grade Level	Odds Ratio
9th Grade	0.66*
10th Grade	1.14

* Indicates statistically meaningful result

Covariates Used:
Years of Consecutive Reading Coaching
2016 School ELA VAM
2016 School Grade
2015-16 Average Daily Attendance
Race
Gender
ESE status
FRL status
ELL status
Previous year ELA Achievement Level

Date: 05/09/2017
Source: 2016 INDV; FL DOE School Grades; 2015-2016 Teacher VAM Data; 2015-2016 Marzano Evaluations

Elementary School:

4. Teacher Growth Measures
   a. **Marzano Instructional Practice Analysis** (Table 1A)
      i. The data presented in this table represent teachers who were at the same school for 2014-15 and 2015-16, and were associated with at least 1 student in an ELA course.
      ii. Across all subgroups, a negative change from 2014-2015 was noted in the average instructional practice score.
      iii. Overall, teachers at schools with instructional reading coaches had a smaller negative change compared to teachers at schools without coaches.
      iv. When separating out scale-up schools we can see that teachers at both, Schools with coaches (Scale-Up only) and Schools with coaches (No Scale-up) had smaller negative changes in the average instructional practice score from 2014-15 to 2015-16 compared to teachers at schools without coaches.
      v. In separating out schools by the years of consecutive reading coaching, we can see that teachers at schools with 3 consecutive years of reading coaching had the smallest negative change in the instructional practice score. All of these subgroups had a smaller negative change compared to schools without coaching.
      vi. Here we can see that as the number of consecutive years of coaching increase, the smaller negative change in the instructional practice score we observe. This may represent evidence of reading coaching affecting positive change on the teacher's instructional practice.
   b. **ELA/Reading VAM Analysis** (Table 1B)
      i. Overall, teachers at schools with reading coaching had a strong increase in average ELA VAM compared to teachers at schools without reading coaching.
      ii. In separating out scale-up schools, we can see that both subgroups had a larger increase in average ELA VAM compared to schools without coaches, with Scale-up schools only having the strongest increase.
      iii. In separating out schools by the years of consecutive reading coaching, each subgroup had a larger increase in average ELA VAM compared to schools without reading coaching. "Schools with coach for 1 year" had the strongest increase among these subgroups.

5. Years of Reading Coaching
   a. Logistic regressions were performed to analyze the impact of consecutive years of reading coaching on student performance on the FSA ELA. The output from logistic regression is an "Odds Ratio", which tells us how much more likely an event is to happen in one group compared to another. In this case, we are comparing the likelihood of students passing the FSA ELA in two groups: (1) Students who are enrolled at a school with reading coaching for either 1, 2, or 3 consecutive years, and (2) students who are enrolled at a school without

reading coaching. For example, let us compare the likelihood of a student passing the FSA ELA who is enrolled at a school who has had reading coaching for 1 year, to the likelihood of a student passing the FSA ELA who is enrolled at a school without coaching. An odds ratio of 1.00 would tell us that there is no difference in the likelihood of a student passing the FSA ELA between the two groups. An odds ratio of 2.00 would tell us that students enrolled at a school with reading coaching for 1 year were twice as likely to pass the FSA ELA compared to students enrolled at a school without reading coaching.

b. The advantage of using logistic regressions to make these comparisons is that we can control for a number of other factors that will contribute to the likelihood of a student passing the FSA ELA. This allows us to specifically isolate the effect of reading coaching on the likelihood of a student passing the FSA ELA. In the "Covariates Used" table, there is a list of variables that were controlled for, including school VAM, school grade, average daily attendance of each school, previous year FSA ELA achievement level, and other demographic variables.

c. 4th Grade (Table 1C)
   i. 1 year of reading coaching
      1. In comparing students enrolled at schools with reading coaching for 1 year to students enrolled at schools without reading coaching, the resulting odds ratio is 0.95. This is not a statistically significant result. Therefore we would conclude that there is no significant difference between these two groups in the likelihood of a student passing the FSA ELA.
   ii. 2 years of reading coaching
      1. In comparing students enrolled at schools with reading coaching for 2 years to students enrolled at schools without reading coaching, our resulting odds ratio is 1.15. This is not a statistically significant result. Therefore we would conclude that there is no significant difference between these two groups in the likelihood of a student passing the FSA ELA.
   iii. 3 years of reading coaching
      1. In comparing students enrolled at schools with reading coaching for 3 years to students enrolled at schools without reading coaching, our resulting odds ratio is 0.96. This is not a statistically significant result, therefore we would conclude that there is no significant difference between these two groups in the likelihood of a student passing the FSA ELA.

d. 5th Grade (Table 1D)
   i. 1 year of reading coaching
      1. In comparing students enrolled at schools with reading coaching for 1 year to students enrolled at schools without reading coaching, our resulting odds ratio is 0.96. This is not a statistically significant result. Therefore we would conclude that there is no significant difference between these two groups in the likelihood of a student passing the FSA ELA.
   ii. 2 years of reading coaching
      1. In comparing students enrolled at schools with reading coaching for 2 years to students enrolled at schools without reading coaching, our resulting odds ratio is 0.85. This is not a statistically significant result.

Therefore we would conclude that there is no significant difference between these two groups in the likelihood of a student passing the FSA ELA.

iii. 3 years of reading coaching

1. In comparing students enrolled at schools with reading coaching for 3 years to students enrolled at schools without reading coaching, our resulting odds ratio is 1.08. This is not a statistically significant result, therefore we would conclude that there is no significant difference between these two groups in the likelihood of a student passing the FSA ELA.

e. Consecutive Years of Instruction

i. Research states that a three-year relationship between the instructional staff and coach is required before the maximum benefit of coaching is realized. Therefore we computed the average years of consecutive instruction by teachers within the past three years at these schools. We found that on average, teachers provided 1.64 years of consecutive instruction (out of 3.00) at these schools, within the past three years.

6. Student Achievement Measures

a. FSA ELA Gains (Table 1E)

i. The table presented here displays the number and percent of students making a gain, as defined by the FL DOE, by grade level and previous year achievement level. The data is grouped into the following categories: Overall District, Overall Schools with Coaches, Schools with Coaches (No scale-up), Schools with Coaches (Scale-up only), Schools with coaching for 1 year, Schools with coaching for 2 years, Schools with coaching for 3 years, and Schools without Coaches.

ii. While there is a lot of information presented in this table, we will focus on the percent of students making a gain in the "Previous Year Level 1" and "Previous Year Level 2" categories. This data is summarized in the smaller table below (Table 1F).

1. We can see from the summary table that of previous-year level 1 students, schools with coaches had 42.4% of students making a gain. This is compared to schools without coaches, where 47.0% of these students made a gain. When we break out schools with coaches into the different subgroups we can see that Schools with coaches (No scale-up) and schools with coaches for 3 years had a higher percent of previous-year level 1 students making a gain compared to the other subgroups. However, all of the Schools with Coaches subgroups had a lower percentage of level 1 students making a gain compared to Schools without Coaches.

2. In looking at the percent of gains made by previous-year level 2 students, we can see that Schools with Coaches for 2 years had a similar percentage of level 1 students making a gain compared to Schools without Coaches. The other subgroups, and Schools with Coaches overall had a lower percentage of level 2 students make a gain compared to Schools without Coaches.

b. Logistic Regression (Table 1G)

      i. A logistic regression was performed in order to assess the effect of reading coaching on the likelihood of students passing the FSA ELA by grade level.

      ii. 4th Grade

         1. In comparing students enrolled at schools with reading coaching to students enrolled at schools without reading coaching, the resulting odds ratio is 1.00. This result is not statistically significant. Therefore we would conclude that in 4th grade, there was no significant difference in the likelihood of a student passing the FSA ELA between students enrolled at a school with and without reading coaching.

      iii. 5th Grade

         1. In comparing students enrolled at schools with reading coaching to students enrolled at schools without reading coaching, the resulting odds ratio is 1.04. This result is not statistically significant. Therefore we would conclude that in 5th grade, there was no significant difference in the likelihood of a student passing the FSA ELA between students enrolled at a school with and without reading coaching.

Middle School:

3. Teacher Growth Measures

    a. **Marzano Instructional Practice Analysis** (Table 2A)

      i. The data presented in this table represent teachers who were at the same school for 2014-15 and 2015-16, and were associated with at least 1 student in an ELA course.

      ii. Among both groups, teachers at schools with coaches and teachers at schools without coaches, there was a decrease in the average Marzano Instructional Practice Score from 2014-15 to 2015-16.

      iii. We observe a greater decrease in the average instructional practice score of teachers at schools with reading coaches compared to that of teachers at schools without reading coaches. The Schools with Coach for 2 Years had the smallest decrease of any subgroup, including the Schools without Coaches.

    b. **ELA VAM Analysis** (Table 2B)

      i. We observe a decrease in the average ELA VAM from 2014-15 to 2015-16 among both Schools with Coaches, and Schools without Coaches. Schools with Coaches had a smaller decrease in the average ELA VAM compared to Schools without Coaches. Furthermore, we observe that all of the Schools with Coaches subgroups had a smaller decrease in the average ELA VAM compared to Schools without Coaches.

4. Years of Reading Coaching

    a. Similarly to the elementary analysis, a logistic regression was performed at each middle school grade level that assessed the difference in the likelihood of a student passing the FSA ELA between schools with coaches and schools without coaches. Schools were grouped by the number of years of consecutive reading coaching at their school. These multi-variate regression analyses control for a number of other relevant variables. These variables

    b. 6th Grade (Table 2C)

i. The odds ratios for each subgroup (1, 2, and 3 years with Coach) are 0.79, 0.73, and 0.81 respectively. None of these results are statistically significant. Therefore, we would conclude that students enrolled at a school without reading coaching are just as likely to pass the FSA ELA compared to students enrolled at a school with 1, 2 or 3 years of consecutive reading coaching.

c. 7th Grade (Table 2D)
   i. The odds ratios for each subgroup (1, 2, and 3 years with Coach) are 1.05, 0.95, and 1.03 respectively. None of these results are statistically significant. Similarly to 6th grade, we would conclude that students enrolled at a school without reading coaching are just as likely to pass the FSA ELA compared to students enrolled at a school with 1, 2, or 3 years of consecutive reading coaching.

d. 8th Grade (Table 2E)
   i. The "1 year with Coach" and "2 years with Coach" subgroup analyses resulted in odds ratios of 0.66, and 0.45 respectively. These results are statistically significant *in the negative direction*. Therefore we would conclude that students enrolled at a school with either 1 or 2 years of consecutive reading coaching are *less likely* to pass the FSA ELA compared to students enrolled at a school without reading coaching.
   ii. The 3 years with Coach Subgroup analysis resulted in an odds ratio of 0.72 which was not statistically significant. Therefore we conclude that there is no difference in the likelihood of a student passing the FSA ELA between those students enrolled in a school with reading coaching for 3 consecutive years and students enrolled in a school without reading coaching.

e. Consecutive Years of Instruction
   i. Research states that a three-year relationship between the instructional staff and coach is required before the maximum benefit of coaching is realized. Therefore we computed the average years of consecutive instruction by teachers within the past three years at these schools. We found that on average, teachers provided 2.03 years of consecutive instruction (out of 3.00) at these schools, within the past three years.

5. Student Achievement Measures
   a. FSA ELA Gains (Table 2F)
      i. The table of FSA ELA gains presented here is similar to the one presented for elementary. The data is separated by study group (Schools with Coaches, schools without coaches), grade level, and previous-year achievement level. The overall district gains are provided as well.
      ii. In the summary table below (Table 2G), the percentage of previous-year achievement level 1 and 2 students making a gain is presented. We can see from this data that at both previous-year achievement level 1, and 2, schools without coaches outperformed schools with coaches (including each subgroup) in terms of gains.
   b. Logistic Regression (Table 2H)
      i. Similarly to the elementary analysis, a logistic regression was performed to assess the impact of reading coaches on the likelihood of an individual middle school student passing the FSA ELA, by grade level. This regression controls for important demographic, academic, and school-level variables (listed in the "Covariates Used"

table) which allows us to isolate the effect of reading coaching in the middle school grades.

   ii. 6th Grade

     1. In comparing the likelihood of passing the FSA ELA among 6th grade students enrolled at schools with reading coaching to students enrolled at schools without reading coaching, the resulting odds ratio is 0.77. This is not a statistically significant result. Therefore we would conclude that in 6th grade, the presence of reading coaching at a school did not significantly impact the likelihood of individual students passing the FSA ELA.

   iii. 7th Grade

     1. In comparing the likelihood of passing the FSA ELA among 7th grade students enrolled at schools with reading coaching to students enrolled at schools without reading coaching, the resulting odds ratio is 1.03. This result is not statistically significant. Therefore we would conclude that in 7th grade, the presence of reading coaching at a school did not significantly impact the likelihood of individual students passing the FSA ELA.

   iv. 8th Grade

     1. In comparing the likelihood of passing the FSA ELA among 8th grade students enrolled at schools with reading coaching to students enrolled at schools without reading coaching, the resulting odds ratio is 0.61. This is a statistically significant results *in the negative direction*. Therefore we would conclude that in 8th grade, students enrolled at a school with reading coaching are significantly *less likely* to pass the FSA ELA compared to students enrolled at a school without reading coaching.

High School:

3. <u>Teacher Growth Measures</u>

   a. **Marzano Instructional Practice Analysis** (Table 3A)

     i. The data presented in this table represent teachers who were at the same school for 2014-15 and 2015-16, and were associated with at least 1 student in an ELA course.

     ii. In both groups, there was negative change in the average Marzano instructional practice score from 2014-15 to 2015-16.

     iii. We can see that teachers at schools with reading coaches had a larger decrease in their average instructional practice score compared to teachers at schools without coaches. This conclusion holds true across all subgroups.

   b. **ELA VAM Analysis** (Table 3B)

     i. We observe that both Schools with Coaches overall and Schools without Coaches had a negative change in the average ELA VAM from 2014-15 to 2015-16. However the Schools with Coaches had a smaller decrease compared to Schools without Coaches. Additionally, the Schools with Coach for 2 Years subgroup observed an *increase* in the average ELA VAM from 2014-15 to 2015-16.

4. <u>Years of Reading Coaching</u>
    a. Similarly to the elementary and middle school analyses, logistic regressions were performed at each grade level to assess the effect of consecutive years of coaching at a school on the likelihood of a student passing the FSA ELA.
    b. 9th Grade (Table 3C)
        i. The 1 Year with Coach and 3 Years with Coach subgroup analyses resulted in an identical odds ratio of 0.69. This result is not statistically significant. Therefore we would conclude that 9th grade students enrolled at a school with consecutive reading coaching for 1 year or 3 years have no significant difference in the likelihood of passing the FSA ELA compared to students enrolled at a school without reading coaching.
    c. 10th Grade (Table 3D)
        i. The 1, 2, and 3 Years with Coach subgroup analyses resulted in odds ratios of 1.06, 1.04, and 1.34 respectively. None of these results were statistically significant. Therefore we would conclude that in 10th grade the likelihood of students passing the FSA ELA is not significantly different between those students enrolled at a school with 1, 2, or 3 years of consecutive reading coaching and those students enrolled at a school without coaching.
    d. Consecutive Years of Instruction
        i. Research states that a three-year relationship between the instructional staff and coach is required before the maximum benefit of coaching is realized. Therefore we computed the average years of consecutive instruction by teachers within the past three years at these schools. We found that on average, teachers provided 2.46 years of consecutive instruction (out of 3.00) at these schools, within the past three years.

5. <u>Student Achievement Measures</u>
    a. FSA ELA Gains (Table 3E)
        i. The table of FSA ELA gains is broken down by study group (Schools with coaches, schools without coaches) and previous-year achievement level.
        ii. From the summary gains table (Table 3F), we can see that among previous-year achievement level 1 and 2 students, schools without coaches outperform schools with coaches (including each subgroup). The difference is greatest among level 1 students (about 10% difference), compared to that among level 2 students (about 5% difference).
    b. Logistic Regression (Table 3G)
        i. Similar to the analysis in middle and elementary school, a logistic regression was performed to assess the impact of reading coaching on the likelihood of students passing the FSA ELA at each grade level.
        ii. 9th Grade
            1. In comparing the likelihood of passing the FSA ELA among 9th grade students enrolled at schools with reading coaching to students enrolled at schools without reading coaching, the resulting odds ratio is 0.66. This is a statistically significant result *in the negative direction*. Therefore we would conclude that in 9th grade, students enrolled at a school with reading

coaching were *less likely* to pass the FSA ELA compared to students enrolled at a school without reading coaching.

 iii. 10th Grade

   1. In comparing the likelihood of passing the FSA ELA among 10th grade students enrolled at schools with reading coaching to students enrolled at schools without reading coaching, the resulting odds ratio is 1.14. This is not a statistically significant result. Therefore we would conclude that in 10th grade, the presence of reading coaching at a school did not significantly impact the likelihood of individual students passing the FSA ELA.

 iv. The list of covariates that were controlled for in this regression are listed in the "Covariates Used" table.

A R O I – Instructional Coaches

Financial Impact and Instructional Coach Trend

In 2014/15 and 2015/16, Pinellas County Schools has spent approximately $9.5M on math and reading instructional coaching. Both general operating and federal funds support this program. Not included in the analysis are allocations provided by the general operating fund for district support, ST Math and Just-In Time coaching totaling approximately $2.5M. The Just-In Time coaching provides support to schools on an as needed basis.

"The Instructional Coach Trend" provides a school level view of the financial aspects along with student data. Both year include schools which had either a reading instructional coach, a math instructional coach or both. Please note, in 2013/2014 school year, student math and reading gains were not measured. As a result, no percentage of student gains could be included. "The Instructional Coach Trend" analysis includes the following data points:

- School Grade
- School Name
- Number of Coaching Units
- Total Cost per school per Reading and Math Instructional Coach
- Student Proficiency
- Student Percent of Gain
- Fiscal Student Change of Proficiency
- State Ranking
- Fiscal Student Change in School Grade

(Please see attachment 1 and

Math Instructional Coach Information

In 2015-16, there were 27 math coach units across 25 schools from Elementary, Middle and High School. The total cost was $1,738,457.37.

- 5 of 10 regular zoned elementary schools had the same instructional coach for 2 consecutive years.

- 3 of the 5 scale-up elementary schools had the same instructional coach for 2 consecutive years.

- 6 of 7 middle schools had the same instructional coach for 2 consecutive years.

- All 4 high schools had the same instructional coach for 2 consecutive years.

- Campbell Park, Pinellas Park ES and Azalea MS coaches have been at location for 3 years.

- 3 out of 7 elementary schools that lost a portion of a math coach unit from previous year had an increase in proficiency and student gains. Significantly, Belleair ES increased by 18 points in proficiency with 77% learning gains.

- 2 out of 3 elementary schools that added a math coach unit had a slight increase in proficiency and had 50% or above in learning gains.

- 9 out of 14 elementary schools who maintained a math coach unit had an increase in proficiency and had 50% or above in learning gains.

    o Pinellas Park ES had 4 points increase in proficiency, 64% learning gains and has maintained the same math coach for 3 consecutive years.

    o Campbell Park ES had a 4point decrease in proficiency, 39% learning gains and has maintained 1 of their 2 coaches for 3 consecutive years.

    o Sandy Lane improved 2 letter grades, had a 4 point increase in proficiency and had 47% learning gains.

- o Maximo improved 2 letter grades, increased by 17 points in proficiency and had 58% learning gains.

- Across all levels (Elementary, Middle, and High), 34.4% of students with a math coach passed the FSA Math (or Algebra 1 EOC for HS).

- Schools with math coaches had an average learning gain of 43.3% whereas schools without a coach had a 55.3% average learning gain. Across all levels, schools without coaches also had a higher average proficiency on the FSA Math and Algebra 1 EOC.

- District-wide, there were greater learning gains at the fourth grade level as compared to fifth grade. At our scale-up schools, which had a math coach, there were close to double the learning gains in the fifth grade math levels 1, 2, and 4 compared to fourth grade. In regards to middle school learning gains, 7th grade gains were higher compared to 6th and 8th grade level. Per Middle School Math department the main focus of the coaches on a middle school level are their 6th grade students which could explain the greater learning gains in 7th grade.

Reading Instructional Coach Information

For 2015-16, there were 44 reading instructional coach units across 51 schools from Elementary, Middle and High School. The total cost was $3,009,370.71.

- 4 of 14 regular zoned elementary schools had the same instructional coach for 2 consecutive years.
- Bear Creek, Eisenhower, High Point, Pinellas Central, Ponce de Leon and Sandy Lane had the same coach for 3 consecutive years.
- 2 of the 5 Scale Up elementary schools, Fairmount and Maximo, had the same instructional coach for 3 years.
- 2 of the 18 middle schools had the same instructional coach for 2 consecutive years.
- Dunedin Highland, John Hopkins and Largo Middle had the same instructional coach for 3 consecutive years.

- 2 of 12 high schools had the same instructional coach for 2 consecutive years.

- Boca Ciega, Gibbs, Lakewood, Largo and St Pete High had the same coach for 3 consecutive years.

- 5 of 16 elementary schools who maintained reading coach units from the previous year maintained or increased in proficiency and had 50% or above in gains.

  - Pinellas Central showed 8 points decrease in proficiency, 60% learning gains and has maintained the same reading coach for 3 consecutive years.

  - Fairmount Park showed 4 points increase in proficiency, 40% learning gains and had maintained the same reading coach for 3 consecutive years.

  - Sandy Lane improved 2 letter grades, had a 3 points increase in proficiency and had 44% learning gains.

  - Maximo improved 2 letter grades, increased by 11 points in proficiency and had 50% learning gains.

- 3 of the 5 elementary schools who lost a reading coach unit showed decreases in proficiency but showed above 50% in learning gains.

- Across all levels (Elementary, Middle, and High) 44.2% of students with a reading coach passed the FSA ELA.

- Schools with reading coaches had an average learning gain of 45.5% whereas schools without a coach had a 54.1% average learning gain. Across all levels, schools without coaches also had a higher average proficiency on the FSA ELA.

- District-wide there were greater learning gains at the fifth grade level as compared to fourth grade. At our scale-up schools, fifth grade learning gains were higher compared to fourth grade learning gains at all FSA ELA levels, with the exception of level 5. At the middle school level, FSA ELA learning gains

were higher in 8th grade compared to 6th and 7th grade gains. At the high school level, learning gains were higher among 10th grade students compared to 9th grade students.

Belleair showed some of the greatest area of growth in the district and across the state. They did not have a full-time embedded coach (Reading or Math) on staff for 2015/16. This school utilized the "Just-In Time" coaching model and showed significant gains. Belleair relied heavily on that resource for both Math and Reading and they increased 2 letter grades from a "D" to a "B". The increase in Student Math Proficiency increased by 18 points from 45 to 63 and 77% of students showed gains.

The Academic Return on Investment team evaluated the 'Return on Investment' of Instructional Math and Reading Coaches in Pinellas County Schools for the two most recently completed fiscal years, 2014/2015 and 2015/2016. The team began its research with a national view by procuring the services of Hanover Research in identifying evidence-based practices for implementing instructional coaching in K-12 schools and their effectiveness. Additional outside resources included a state view provided by the Florida Legislature Office of Program Policy Analysis & Government Accountability (OPPAGA) in which the state studied instructional coaches for fiscal year 2014/2015. The data provided in the program analysis and program/project cost analysis was extracted from Pinellas County School Board data resources and data files from the Florida Department of Education.

INSTRUCTIONAL COACH SUMMARY REPORT

PREPARED BY HANOVER RESEACH

´Best Practices in Instructional Coaching"
And "Benchmarking Instructional Coaching Models – Analysis"

Hanover is an external research partner of Pinellas County Schools. Pinellas County Schools enlisted the services of Hanover Research in identifying evidenced-based studies that investigated the impact of instructional coaching on teacher effectiveness and-or student achievement. Below are their key findings:

KEY FINDINGS

- **A combination of both individual and group coaching formats appears to be effective in helping teachers learn new instructional strategies**. One-on-one coaching is typically characterized by the modeling of new instructional practices, observing teachers use of these new practices, and facilitating feedback and reflection on the use of these practices. Group coaching may take a variety of forms, such as professional development or trainings for content area or grade-

level teams, facilitation of professional learning communities, or building teachers' skills in reviewing and acting on student data.

- **Instructional coaching models are customized to meet the specific needs of the district**. School districts vary greatly in the number of coaches they employ and the focus areas of these coaches. Most districts employ full-time instructional coaches, but some assign coaching duties' to school administrators. Additionally, some districts deploy coaches uniformly throughout the district, while others focus efforts on the schools or teachers with the greatest need for support.

- **Studies have found that several program characteristics can increase the effectiveness of instructional coaching: relationship quality, time devoted to coaching, and administrator support for coaches.** Teacher resistance is a commonly identified barrier to successful coaching; it can take some time for coaches to develop strong, trusting relationships with teachers which result in the feedback and reflection needed to improve instructional practices. A large, randomized controlled trial in Virginia *which compared coached schools to non-coached schools* found that increases in student achievement were highest in the **third year** of a math coaching program, *this effect was strongest for grade 4 and. 5. The authors emphasized that these positive results were* likely because more effective relationships between coaches and teachers emerged over time. Other researchers suggest that coaches and teachers must spend at least six to twenty hours with one another in order for teachers to adopt a new practice or achieve a goal. Administrator support of coaching programs, including scheduling adequate time for coaching activities, is key to the success of instructional coaching programs.

- **Coaches should seek to actively gain teacher buy-in for instructional coaching**. In some districts, coaches work only with teachers who are interested in participating; in other districts, coaches are expected to work with all teachers, but may prioritize new teachers or teachers of struggling students. Regardless of which teacher participation model a district selects, administrators should be aware that teachers are unlikely to benefit from coaching if they are unwilling to be coached.

Therefore, administrators and coaches must clearly define coaches' roles *and responsibilities*, ensuring that teachers understand that coaching does not play a role in teacher's performance evaluation. Coaches should demonstrate their respect for teachers' knowledge and expertise, and emphasize that the goal of coaching is to support **students' learning** rather than singling out teachers' strengths and weaknesses. *Additionally, instructional coaching should be tailored to each teachers' goals and challenges they are facing.* If teachers are referred to instructional coaching by the principal, it must be framed as a support and not as a punishment.

- **Experts generally concur that at least one instructional coach should be assigned to each school**. Research studies have not identified the ideal coach-to-teacher ratio, but education researchers generally agree that coaches should be employed as full-time staff and should not be assigned to multiple schools *as coaching should occur on a frequent and ongoing basis.* Assigning coaches on a part-time basis or to multiple schools can make it difficult for coaches to build relationships *and trust* with teachers. *Additionally it is more difficult to* devote adequate time to each coaching relationship. Larger schools may benefit from more than one coach per school. In cases where there are not enough resources to place a coach at every school, districts have prioritized low-performing or high-poverty schools as the first to receive coaches.

- **Professional development for coaches is frequently identified as a need within instructional coaching programs**. A study of five districts with exemplary instructional coaching programs found that all five districts required coaches to participate in preparatory trainings as well as in ongoing professional development. Coach professional development should occur on a regular, ongoing basis and should seek to build coaches' skills and competencies in specific content areas, pedagogical practices, and strategies for working with adult learners and special student populations. Principals who have not worked with coaches in the past may also require training on how to effectively work with coaches and create a culture of reflection and improvement.

- **A common challenge among districts is balancing coaches' administrative duties with instructional and mentoring duties.** Moving forward, several district's planned improvements for the program include maximizing the amount of time that coaches spend with teachers. Administrators suggest that a clearly defined vision and fidelity to the model is essential in creating a successful instructional coaching program.

At the district's request, Hanover Research conducted interviews to build upon findings from the previously completed report titled *Best Practices in Instructional Coaching*. They conducted in-depth interviews with administrators at peer school districts to further explore promising practices in modeling instructional coaching programs in a K-12 setting. Hanover reached out to more than 70 district administrators, including those with titles such as Chief Academic Officer, Director of Curriculum and Instruction, and Assistant Superintendent for Teaching and Learning. Hanover completed six in-depth interviews regarding their instructional coaching model. Below is a summary of their findings:

Staffing Models:
- A majority of school districts have two types of instructional coaches: general instruction and specialized content.
- One respondent stated that these flexible models allow districts to tailor the number of coaches at each school based on demand and budget.

Coaching Responsibilities:
- Primary responsibilities typically include coaching of teachers, with an emphasis on improving instructional practice and classroom modeling.
- Several administrators referenced the challenge in balancing coaching duties with administrative duties.
- Some administrators explained key responsibilities through the lens of a three-stage coaching cycle that include planning programs, supporting teachers and reflecting on the process.

- Planning helps establish a positive relationship between the coach and the teacher. This first stage is crucial in establishing a constructive tone and pace for remainder of the year. Supporting teachers based on their specific needs is a critical responsibility for coaches. This is the most heavily emphasized stage and where districts allocate the most amount of time.

- The final stage includes, reflection upon the information and techniques learned during the planning and support stages. Coaches and teachers may use this final stage to evaluate the work they have completed and re-examine their goals moving forward.

Implementation Challenges

School districts encounter several challenges in implementing instructional coaching programs. Most notably, administrators cite a need for more administrative support and additional resources. For instance, coaches may be pulled into classrooms to act as substitute teachers when needed. One administrator expressed concern that assigning additional duties to coaches may compromise the fidelity of implementation and that it can be a challenge to "stay true to design." Another administrator describes difficulty in managing coaches that are spread across the district and finds it challenging to get enough face time with each coach and collect feedback.

Return on Investment

Respondents were asked to comment on the return on investment in instructional coaching programs. Several districts commented on the educational value that instructional coaching provides to teachers and students. One respondent suggested that the coaching program has improved teacher retention.

Florida Legislature Office of Program Policy Analysis

& Government Accountability

OPPAGA Presentation on Instructional Coaches

House Education Committee (November 5, 2015)

OPPAGA surveyed 67 Florida school districts about their use of instructional coaches in the 2014/2015 school year. They conducted in-depth interviews with a sample of Florida school districts and analyzed staff salary, coach log data and instructional coach position job descriptions.

Instructional coaches are specially trained teachers who provide leadership for a school's teachers and offer on-site and ongoing support to help teachers improve their instructional capacity. The sample districts required similar minimum qualifications for coaches: bachelor's degree, Florida teacher certification, a minimum of 3 years successful teaching experience and experience conducting presentations and/or training. Nineteen districts provided training for their instructional coaches through a combination of in-house and/or outside training. On-going professional development included lessons learned, content area expertise, coaching strategies, data-driven decision making, and book studies. Bay, Palm Beach, Hillsborough and Martin counties sent reading coaches to conferences or summer trainings. Indian River and Escambia coaches completed 2-year coaching programs. Broward offers an extensive 2-year program that applicants must attend to be considered for a coaching position.

In 18 districts, coaches were assigned to schools based on schools' needs for assistance, as shown by performance data. In 6 districts, every school received a coach. The impact of instructional coaching on student outcomes is difficult to assess, per OPPAGA. Several reasons include: (1) research linking instructional coaches to student outcome is limited and (2) there are many other factors that

could affect student outcomes that cannot be measured. There is some evidence that instructional coaches improve academic outcomes, but researchers were unable to attribute the improved outcomes only to the use of coaches. Most of the available literature focuses on building teacher ability, best practices, professional development and features of coaching.

In 2014/15, Florida school districts used 4,231 instructional coaches. The majority (52%) of instructional coaches were reading coaches. Math coaches comprised of 18% and other coaches combined represented 23%. About half of instructional coaches were used in elementary schools. Of the 67 schools surveyed, 30 of the districts increased their number of coaches and 7 decreased their number of coaches. Most districts had one coach, on average, per school. Most commonly, districts had reading and math coaches that covered multiple schools and/or only elementary schools.

Coaches' pay are similar to teachers. In 2014/15, districts spent an estimated $259 million on instructional coaches, or $61,281 per coach. In most districts instructional coaches were on the teacher salary schedule. They were classified as teachers or instructional support and received no pay increase or supplements specific to coaching. The duties of coaches were similar across districts:

- Planning
- Attend district and school meetings
- Meet with and support teachers
- Facilitate and coordinate student assessments
- Modeling/co-teaching
- Data analysis
- Identify, alter, write curriculum
- Provide professional development

Districts reported several benefits associated with the use of instructional coaches. They stated coaches helped support and sustain effective teaching. Coaches play a vital role in providing curriculum and professional development support to administrators and teachers. They aid teachers and build teacher capability to improve practice, which in turn leads to improved student performance. Coaches work with their school leadership teams to analyze data, target needs, create and deliver professional development, model classroom instruction, provide interventions, suggest enrichment and share research-based instructional strategies.