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The Utilization of Instructional Coaches on the Impact of Student Achievement and Teacher Instructional Practices in Reading and Math in Grades Three Through Eight

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Abstract

Instructional coaches may assist teachers in their continued learning by providing embedded professional development in areas of need. In this study, most sub-groups in the school district realized increases in proficiency levels in math and reading after the implementation of instructional coaches. Some sub-groups evidenced significant rates of improvement; however, English Language Learners demonstrated lower levels of achievement in both math and reading throughout the year. Both math and reading proficiency levels remain still low and even with instructional coaches in all schools, student achievement did not reach 50%. These findings suggest that the implementation of instructional coaches did not significantly impact student achievement scores, nor did the implementation of instructional coaches improve teachers' instructional practices. Problems with the successful implementation of instructional coaches are described in an effort to increase the positive impact of instructional coaches in the future.

Background

School districts face increased pressure each year to increase student achievement. Beginning with the publication of *A Nation at Risk* (1983) to the Every Student Succeeds Act (2015), public schools remain challenged to increase student achievement and close educational gaps in student subgroups. Today's administrators remain tasked with managing a school building as well as

serving as an instructional leader. Past solutions for improving student achievement focused on professional development and teacher evaluation models. Professional development, while intended to be an opportunity for professional growth, often is designed as one day sessions and frequently becomes "disconnected from deep curriculum and learning, fragmented, and non-cumulative" (Ball & Cohen, 1999, pp. 3-4). The delivery format as well as the lack of follow through to ensure teachers implement learned strategies into classroom practices, remain as areas of disparity in the traditional professional development model. Follow through and delivery format are critical in order to increase both students' achievement and teachers' content knowledge (Knight, 2005). Data demonstrate teacher evaluation models do not yield higher student achievement scores as desired after states revamped teacher evaluation formats (Dynarski, 2016). With the increasing high stakes accountability and the desire to deliver quality education, school districts continue to implement instructional coaches as a means to improve students' achievement scores. Instructional coaches**,** tasked with increasing teachers' knowledge of best practices, target the goal to increase students' achievement scores (Knight, 2005).

Instructional Coaching

Instructional coaching**,** developed in the early 1980s, responded to school districts' efforts to meet the on-going demand for support for teachers who "needed to learn how to meet the mandated, more stringent standards for student learning" (Neumerski, 2012, p. 322). With the inception of instructional coaches, the professional development model shifted and transformed. Schools began to hire instructional coaches to support teachers in their classrooms during the school year by creating collaborative cultures wherein teachers requested on-demand professional development opportunities, participated in co-teaching with content experts, engaged in reflective feedback conversations, and committed to strong collaborative relationships (Cohen & Ball, 1999). Knight (2007) describes collaboration as a necessary component for instructional coaching. In order for reflection to occur on teacher practices, it is essential conversations occur. Collaborative teams, engaged in creating norms in which they operate**,** begin meaningful conversations about student achievement and instructional effectiveness. When this culture exists, instructional coaching becomes impactful.

Sparks (2008) describes non-collaborative teams as not prepared, not focused, and not positive. Sparks (2008) further discusses when collaborative teams engage in creating norms, they structure a work environment that is student focused; otherwise, it is difficult to resolve issues. Successful teams focus, define roles and responsibilities, structure and set processes, and evidence positive behaviors and relationships (Sparks, 2008). With the creation and implementation of norms, members of collaborative teams help teachers remain focused and engaged and then take risks. Norms are not created as "rules;" they are designed "to ensure that teams develop shared knowledge of how collaboratively developed team norms are an effective tool for enhanced team effectiveness" (Eaker & Keating, 2012, p. 113). The processes of collaborating involve teams deciding norms; these decisions drive teachers' work and provide a chance to negotiate and define particular practices for the ongoing collaboration (DuFour et al., 2006). These norms enable collaborative teams to create the desired work environment.

Risks for teachers can be intimidating because a weakness could be exposed. This is when instructional coaching can be impactful. Instructional coaches are seen as proactively becoming

partners in school communities and not perceived as evaluators (Knight, 2007). Transparent communication establishes effective partnerships when teachers become aware of vulnerability in their instruction requiring revision. The dialogue in a professional learning community meeting can be the beginning point of a collaboration between a teacher and an instructional coach. Effective communication exists between an instructional coach and a teacher; in this way, the meaning of the message is not distorted because, perceived as a partner, it is more likely the teacher receives the meaning as non-threatening (Knight, 2007). In order for instructional coaches to motivate a positive impact on improving teachers' instructional practices, a trusting relationship is established. As partners, instructional coaches work with teachers and leadership teams to improve instructional practices with the aim to improve student achievement (DuFour et al., 2006).

As instructional coaching increases in practice, it is critical for administrators to identify coaches who exemplify effective teaching as well (Knight, 2005). Effective instructional coaches, as well as effective teachers, understand demonstrated classroom strategies and work side-by-side with teachers and administrators without evaluation. Knight (2005, 2007) describes how it is critically important for instructional coaches to truly believe in teachers while working deeply with them, side by side, in order to improve their instruction and affect student achievement. Research findings indicate coaching increases teachers' willingness to implement new instructional strategies and practices (Showers & Joyce, 1996). As teachers improve their knowledge and instructional practices, the desired effect is to increase student achievement.

Professional Development and Student Achievement

In the past, the traditional approach for professional development is for teachers to enroll in sessions, attend, implement the new practices, and supposedly indicate an increase in student learning. Yet, data demonstrates this traditional professional development model fails to yield higher student achievement scores (Ball & Cohen, 1999). A particular problem with this traditional model is teachers remain restricted to participating only in district sessions and learning remains passive (Ball & Cohen, 1999). Additionally, school districts often fail to equip teachers with the necessary tools and equipment required for effective implementation (Guskey, 2014).

Another difficulty is for teachers to choose areas in which they truly require revised learning. The traditional professional development model indicates a 10% implementation rate (Bush, 1984). With such a low level of implementation of practices learned, the question becomes, **"**why do school systems continue this ineffective method of professional development?" This traditional "sit and receive" model is no longer an effective practice if the goal is to impact student achievement.

With the immense pressure for schools to perform at high levels, school leaders seek to change professional development delivery and support new initiatives in order for teachers to not feel overwhelmed by changes that are poorly planned and not well supported (Knight, 2007). In order to positively affect student achievement, it is critical professional development programs include job-embedded follow up for a sustained period of time, identify a specific focus, and frame active teacher learning (Darling-Hammond et al., 2009). Incorporating instructional coaches in

schools identifies relevant content, provides support for implementation, and ensures immediate feedback.

Another disparity with the traditional professional development model is frequently there is no clear and targeted purpose. Those in charge of developing the professional development content often negate the essential element; the process of the session is completed with no focus on the end results (Guskey, 2014). Planners often prepare the necessary scope of the work and provide materials for the session but never touch on or evaluate the desired session outcomes. It is critical professional development focuses on student outcomes; designing professional development learning based on student success goals which drives professional development decisions (Guskey, 2014).

Another issue related to traditional professional development is the lack of follow up after teachers complete sessions. Follow up is rarely a goal of school districts. The problem with this lack of follow-up is there is no school district accountability to ensure student achievement is increasing as a consequence of the professional development. Instructional coaching generates from teachers' requests; this approach supports teacher effectiveness which, in turn, influences student achievement.

It is important to acknowledge that not only administrators become instructional leaders. It is the administrator's responsibility to create a culture of trust and collaboration in schools. When this culture of trust and respect is created, embedded follow up of professional development practices further extends educators' experiences.

As a component in the traditional administrator's evaluation, the post conference allows administrators to offer instructional advice and suggest professional development to strengthen teachers' practices. These administrative suggestions may, in reality, create a negative perception of professional development, as teachers perceive it as punishment for performing negatively in areas of performance (Tschannen-Moran, B. & Tschannen-Moran, M., 2011). In contrast, using the instructional coach model, evaluation and professional development remain apart (Showers & Joyce, 1996). As administrators work to improve classroom instruction and implement instructional coaches to facilitate teachers' understanding of effective instructional practices, the evaluation and coaching cycles for teachers remain as two different processes.

The desire to increase student achievement prompted states to reevaluate and rewrite teacher evaluation models (Hill & Grossman, 2013). Policy makers encroached upon teacher evaluation models. The results do not become a framework for improvement; rather, the feedback becomes a tool used for termination (Hill & Grossman, 2013). The failures of the evaluation models remain embedded into current state and district practices, thus only adding to an unchanging and ineffective process. Administrators, observing teachers, may not be knowledgeable in all content areas. Additionally, they may only observe a few times each evaluation cycle (Hill & Grossman, 2013). How effective is an evaluation model that requires an administrator to observe three hours of the approximately 1,260 hours an educator teaches each school year? Many current evaluation models do not provide for a complete and comprehensive representation of a teacher's effectiveness.

In 2009, 15,000 teachers in 12 school districts in the U.S. completed a survey regarding feedback given from teacher evaluations. Three-quarters of the teachers reported not receiving any areas of identified improvement on their evaluation results; almost half of the teachers who did report their evaluation identified an area of improvement received no subsequent support for improving in the deficit area (Weisberg et al., 2009).

Another evaluation model that researchers describe as ineffective is value added (VAM). The VAM model is based on the belief that, regardless of anything else, the gains students make on standardized tests relate to a teachers' effectiveness. This measure is based on a given assessment and assumes that no other influences affect the student's performance (Darling-Hammond et al., 2012). VAM models do not consider curriculum, adequate instructional time and materials, home life, individual student needs, prior teachers and schools, and specific tests used to generate the score (Darling-Hammond et al., 2012).

In the past decade, many states revamped the teacher evaluation systems with the purpose to create a more rigorous evaluation model with the intent to increase student achievement (Dynarski, 2016). However, when National Assessment of Educational Progress (NAEP) student scores from 10 years ago compare with current student scores, the test results do not match the effectiveness level scores teachers receive which generate from the revamped evaluation models. For example, in 2009, teacher effectiveness scores, based on state teacher evaluation models, included: Florida 98%, New York 95%, and Michigan 98% of teachers identified effective (Dynarski, 2016). In 2016, the Department of Education websites for Florida, New York, and Michigan, reported the following percentages for teachers identified as effective based on the evaluation models: Florida 97%, New York 97%, and Michigan 98%: however, the proficiency scores for the three states include: Florida, Grades 3-8, 52.6% proficient; New York, Grades 3-8, 38% proficient; and Michigan, Grades 3-8, 45% proficient (Dynarski, 2016). Evaluation models include checklists for what is observed in the classroom; most models fail to examine students' learning (Dynarski, 2016).

In order to meet federal and state reforms, school districts have utilized instructional coaches as a tool to help teachers improve instructional practices to positively impact student achievement. This study examines the effects of the utilization of instructional coaches.

Purpose of Study

The purpose of the current study is to determine if teacher instructional practices and utilization of instructional coaches support districts and schools to increase student achievement scores. While in the past, professional development and teacher evaluation models intended to increase student achievement, the field is currently studying the impact of embedded follow up with the utilization of instructional coaches. The research remains limited on what constitutes, "high quality coaching professional development" (Cobb & Jackson, 2011, p. 9).

In order for teachers to begin utilizing best classroom practices, instructional coaches help classroom teachers engage in high-quality and embedded feedback as well as guide in reflective feedback (Cobb & Jackson, 2011). Research indicates professional learning from sessions is more likely to be sustained across time when instructional coaches and instructional leaders work

with teachers to ensure that investigative pedagogies and enactment pedagogies become active in teachers' practices to ensure content knowledge growth and increased student achievement (Cobb & Jackson, 2011).

School districts and individual schools continue to struggle with accountability and the demand for increasing student achievement for all students. In order to support professional development and provide embedded follow up with teachers to ensure effective implementation of school and district initiatives, the instructional coach model warrants investigation. With professional coaches as support, teachers use effective and research-based instructional practices to improve delivery. The utilization of instructional coaches also allows for the professional development and evaluation processes to remain separate.

Research Questions

This study examines the effects of teachers' instructional practices and utilization of instructional coaches on student achievement scores in order to clarify if teachers' utilization of instructional coaches can assist schools in creating effective instructional coaching programs with the intent to improve student achievement. Research questions include:

1. Does the frequency of interactions with an instructional coach increase the instructional practices in reading in third through eighth grades?
2. Does the frequency of interactions with an instructional coach increase instructional practices in math in third through eighth grades?
3. Does instructional coaching impact student TNReady achievement in math in third through eighth grades?
4. Does instructional coaching impact student TNReady achievement in reading in third through eighth grades?

Theoretical Framework

Situated learning theory connects how learning occurs in school communities with effective implementations of instructional coaches (Smith, 2003/2009). Knight (2007) describes instructional coaches as "a partnership," with teachers, "built around the core principles of equality, choice, voice, dialogue, reflection, praxis, and reciprocity" (p. 24). The foundational beliefs framing instructional coaching become what Lave and Wenger (as cited in Smith, 2003/2009) describe as, "communities of practice" (para. 5).

Lave and Wenger (as cited in Smith, 2003/2009) believe learning is social and occurs in daily life. The use of embedded professional development by instructional coaches illustrates the point of situated learning theory. Relationships with one another that nurture within schools when the community works together as a whole for things that matter have a positive culture (Lave & Wenger as cited in Smith, 2003/2009). Communities of practice begin when the school community engages together with the instructional coach facilitating their learning. This journey of learning together builds trust and binds the community (Smith, 2003/2009; Tschannen-Moran, B. &Tschannen-Moran, M., 2011). Lave and Wenger (as cited in Smith, 2003/2009) believe learning is based on relationships between people and the relationships help create meaningful exchanges. Situated learning theory is rooted in the belief that learning is both personal and

social. For educators, learning is social, taking place in both their classroom and school communities (Borko, 2004).

Guskey (1986) explains the need for a new model for professional development in education. He believes a new pathway reflecting on instructional practices would support teachers' understanding of their students' ongoing learning. In order to promote student achievement, feedback on instruction may also support teachers' understanding. Furthermore, change can be challenging for teachers, and to ensure teachers receive regular feedback on student learning, it is recommended continual support and follow up be provided teachers after initial trainings (Guskey, 1986). Situated learning, making learning a community partnership with the direction of an instructional coach, allows these necessary changes to occur in a safe and supportive environment.

Communities of practice allow teacher learning to continue daily; learning is an ongoing process together with colleagues. When changes occur in teacher practices, teachers grow together as a community. The changes are trustful, community-based, and relevant, and positively impact school's effectiveness (Smith, 2003/2009).

Methods

This study used a non-experimental, quantitative causal-comparative design and used the Tennessee Comprehensive Assessment Program (TCAP) scores of students in Grades 3 through 8 to first examine if the use of instructional coaches indicates an effect on student math and reading achievement scores. Causal-comparative studies are done when no manipulation to a variable occurs and when no experimental designs become implemented. A comparative study approach is appropriate (Van Dalen, 1979). In this non-experimental study design, the researcher is not manipulating any variables that may alter the findings.

The study analyzed student proficiency rates a year prior to the implementation of instructional coaches and three years after the implementation to explain the effects on the proficiency rates across time on TCAP test scores in math and reading and also to determine if gains were maintained after implementation. The researcher sought to discover a rate of change between the percentages of proficient students on TCAP math and reading tests for four years. Examining the rate of change of proficiency allowed the researcher to identify increases or decreases of proficiency levels during the implementation of instructional coaches and years following implementation. The rate of change is the percentage of change at which a variable change across time. Proficiency is defined at which a student is meeting the target projection of grade level or above mastery.

Secondly, a correlational study was conducted with the survey administered to teachers in third through eighth grades. The correlation was to examine the instructional practices implemented in classrooms by teachers to the number of times a teacher utilized an instructional coach in their school. The purpose was to determine any correlations to the increase of instructional practices used by teachers and the frequency of utilization of instructional coaches in Grades 3 through 8.

Participants

Six schools in the school system serving 3,579 students in grades pre-school through eighth in a small-size urban school district in the Southeastern U.S. participated. The participants include all of the 91 teachers, Grades 3 through 8, in the six schools. Two middle schools serve 1,143 students and four elementary schools include pre-k through fifth grades with 2,436 students. Most of the students in the school system are represented by sub-groups identified by the state Department of Education. Based on the subgroups identified by the state, 91.8% of the students are in an identified subgroup.

Student ethnic groups were comprised on Asian (1.6%), Black or African American (18.8%), Hispanic or Latino (14.4%), Native American or Alaskan (0.3%), Native Hawaiian or Pacific Islander (0.3%), and White (64.6%).

Specific student groups included: Black, Hispanic, Native American (33.5%), Economically Disadvantaged (37.2%), Students with Disabilities (5.3%), English Language Learners (13%), Students in Foster Care (0.1%), Homeless (1.3%), and Migrant (0.2%). Student gender was 50.7% male and 49.3% female.

Teacher demographics showed 80% female, 8.8% male, and 2% no data recorded. Teacher ethnicity included American Indian or Alaskan Native (1.1%), Black or African American (1.1%), White (95.6 %) and Other - No Data Given (2.2%). Teacher years of experience had the following range: 0-3 years (11%), 4-6 years (16.5%), 7-10 years (12.1%), 11-15 years (17.6%), and 16+ years (40.7%). Teacher pathway to licensure accounted for 22% with a Master's in Education – Undergraduate Degree in Non-education Field, 66% with Traditional Undergraduate Degree in Education, and 4.4% with Alternative Licensure.

A survey adapted from the Wisconsin Center for Educational Research's Survey of Instructional Practices Teacher Survey Grades K-12 Mathematics and English (Blank, 2009) was used. The survey, in its entirety, included 412 questions and targeted Grades K-12. The survey was divided into different sections such as demographics of the classroom to instructional practices.

Data Collection

Student data in this study were gathered from the Tennessee Comprehensive Program (TCAP). Student data consisted of TCAP results for math and reading from the state achievement test administrations from the following years: 2009-2010, year of implementation of instructional coaches, 2010-2011, year after implementation of instructional coaches, and the 2011-2012 and 2016-2017 school years. Test administrations were based on the state allowable accommodations for students. The survey on teachers' instructional practices was sent to every third through eighth grade teacher in the school district. The survey consisted of selected questions from the Wisconsin Center for Educational Research survey. For the current study, the teacher instructional practices survey was used to collect teacher perception data on utilizing instructional coaches and instructional practices.

A correlational test on the teacher survey and a percent of change test was performed to determine if there was an increase or a decrease in state assessment scores. Tests checked for statistically significant results at the p =.05 level for the research questions. In the percent of change tests, utilizing proficiency data from Grades 3 through 8 in reading and math, data demonstrate the percentages in terms of student proficiency. The percentages reported represent the percent of students scoring in the proficient bands of advanced and proficient, and mastered and on-track. Data for this study was analyzed using a PC computer version of IBM's SPSS statistical software and Excel.

Data Analysis

Data was analyzed for the following research questions (RQ):
RQ 1. Instructional Coaching and Reading Practices. Does the frequency of interactions with an instructional coach increase instructional practices in reading in Grades 3 through 8?

When analyzing the data from correlations from the survey for questions regarding reading, approximately half of the questions showed a positive correlation and half indicated a negative correlation. No questions regarding reading and the number of times using an instructional coach resulted in a significant correlation. The following reading instructional practices show negative correlations: supporting arguments with evidence r = (-.005), n = 88, p = (.966), exploring language arts content with technology r = (-.040), n = 90, p = (.709), responding creatively to texts r = (-.042), n = 91, p = (.689), and making predictions and hypothesis
r = (-.008), n = 88, p = (.942).

These instructional strategies indicate direct links to the state standards on which students' assessment occur. The survey questions link to reading multiple texts, analyzing multiple texts, and generating a written text based on the texts read and analyzed. These are all higher order levels of thinking and analyzing for students to perform. These negative correlations could be the result of the instructional coach only providing surface levels coaching; it is desirable to implement a more rigorous form of a teaching model or of a co-teaching approach with teachers. There could also be a resistance to coaching from the teachers, or the particular instructional coach is not as effective to facilitate teachers on how to instruct on a more rigorous level to move students to higher levels of learning.

The instructional practices that revealed negative correlations indicate practices that remain essential to teach many of the state content standards set forth by the Department of Education that create the proficiency standards for students r = (-.138), n= 88, p = (.195) as shown in Table 1. In order for students to be proficient (on grade level) students demonstrate mastery of the content standards on the state assessment. There is no statistical significance in the frequency of interactions with an instructional coach and the increase of instructional practices in reading in third through eighth grade.

RQ 2. Instructional Practices and Math Practices. Does the frequency of interactions with an instructional coach increase instructional practices in math in third through eighth grade?

When analyzing the data from the correlations from the survey, data demonstrate seven negative correlations between math practices and number of times an instructional coach utilized by a teacher, but findings evidenced no statistical significance. Integration of math r = (-.070), n = 89, p = (.508), teaching with manipulatives r = (-.012), n = 87, p = (.914), reasoning mathematically r = (-.126), n = 84, p = (.246), applying mathematical concepts to the real world r = (-.034), n = 86, p = (.755), making predictions or hypothesis r = (-.022), n = 89, p = (.834), and assessing credibility and relevance of mathematical precision r = (-.053), n = 85, p = (.624). These math practices represent high level instructional strategies recognized by the National Council of Teachers of Mathematics. It is essential students master these practices in order to demonstrate proficiency on the state assessment.

The positive correlations, shown in Table 1, include instructional strategies, but not higher order levels of math practices. Again, it is important to analyze instructional coaches' effectiveness and interactions with teachers in order to determine coaching effectiveness in classrooms. There is no statistical significance in the frequency of interactions with an instructional coach and the increase of instructional practices in math in third through eighth grade.

Table 1

Correlations for Number of Times Teachers Used an Instructional Coach

Question	r_s	*Df*	*p*
I integrate math with other subjects	-.070	89	.508
I integrate reading with other subjects	.205	89	.051
I teach my students problem solving strategies	.004	89	.943
I teach math with manipulatives	-.012	87	.914
I develop students; communication skills in expressing mathematical concepts and procedures	-.096	84	.378
I teach students to reason mathematically and to evaluate mathematical claims	-.126	84	.246
My students solve word problems from a textbook or worksheet	.003	86	.977
My students explain their reasoning or thinking in solving a problem by using several sentences orally or in writing	.063	88	.556
My students apply mathematical concepts to real-world problems	-.034	86	.755
My students make predictions and/or generate hypotheses	-.022	89	.834
My students analyze data to make inferences or draw conclusions	.073	88	.491

My students assess the accuracy, credibility, and/or relevance of mathematical precision	-.053	85	.624
My students work with manipulatives to understand mathematical concepts	.009	84	.937
My students collect, summarize, and/or analyze information or data from multiple sources	-.026	89	.803
My students listen to the teacher explain or observe the demonstration of modeling of English, language arts, the reading and writing process	.011	87	.922
My students present or demonstrate to others	.109	88	.305
My students work individually on language arts and reading assignments	.033	87	.755
My students participate in whole group discussion about language arts and literature	.033	86	.701
My students engage in a writing process to support arguments with evidence	-.005	86	.966
My students use computers or other technology to learn, practice, or explore language arts content	-.040	88	.709
My students work on a project in which group members engage in peer revision and editing	.093	88	.382
My students explain their reasoning or thinking in solving a problem by using several sentences orally or in writing	.009	89	.933
My students respond creatively to texts	-.042	89	.689
My students make predictions and can generate hypotheses	-.008	88	.942
My students can analyze text information to make inferences or draw conclusion	.043	87	.687
My state content standards influence my instruction	-.138	88	.195
My district's pacing guide influences my instruction	.022	88	.839
The district textbook and instructional materials influence my instruction	.162	88	.128
State test results influence my instruction	-.201	88	.057
District test results influence my instruction	-.121	88	.258

I have many opportunities to learn new instructional practices with mathematics	.049	83	.654
I have many opportunities to learn new instructional practices for reading	.246	86	.021
How many years have you taught	-.117	87	.275

RQ 3. Does instructional coaching have an impact on student TNReady achievement in math in third through eighth grades? Examining the proficiency scores of math in Grades 3 through 8 shows increases and declines in scores in particular subgroups. See Table 2. The largest increase in proficiency gains show for the English Language Learner subgroup and the students with disabilities versus non-disabilities. Both sub-groups evidenced gains in proficiency levels in math. In the 2011-2012 school year, the second year of implementation of instructional coaches, data reveal an increase in proficiency in ethnic subgroups versus all, economically disadvantaged versus non-economically disadvantaged students, and students with disabilities versus non-disabilities. Data indicated a decline that year in the English Language Learner subgroup.

In 2016, data showed an increase in ethnic groups versus all and English Language Learners versus non-English Language Learners, and students with disabilities versus non-disabilities. These scores represent the test years (2010-2011, 2011-2012, and 2016-2017) versus the year before implementation (2009-2010).

When analyzing the proficiency percentages from year to year, decreases in proficiency rates become evident. In the 2010-2011 versus 2011-2012 school years, English Language Learners versus non-English Language Learners indicated the only subgroup to decline in proficiency. In the 2011-2012 versus 2016-2017 school years, English Language Learners versus Non-English Language Learners subgroup demonstrated the only subgroup to increase. All other subgroups evidenced drastic declines in proficiency levels. When analyzing the proficiency percentages from year to year, decreases in proficiency rates become evident. In the 2010-2011 versus 2011-2012 school years, English Language Learners versus non-English Language Learners indicated the only subgroup to decline in proficiency. In the 2011-2012 vs 2016-2017 school years, English Language Learners versus Non-English Language Learners subgroup demonstrated the only subgroup to increase. All other subgroups evidenced drastic declines in proficiency levels. It appears that the independent variable, instructional coaches, did not impact student math achievement in Grades 3 through 8 as measured by the TCAP.

Table 2

Math Proficiency Rates on TCAP

Student Sub Groups	2009/2010 school year implementation	2010/ 2011	% of Change	2011/ 2012	% of Change	2016/ 2017	% of Change
Ethnic subgroup vs all	21.7	28	29.03%	43.7	101.38%	30.6	40.78%

Economically Disadvantaged vs non	24	31.3	30.42%	45.6	90.00%	28.7	19.58%
ELL vs non ELL	15.4	23.5	52.60%	21.4	38.96%	26.1	69.16%
Students with disabilities vs non	16.1	33.2	106.21%	36.7	127.95%	23.1	43.17%

RQ 4. Does instructional coaching have an impact on student TNReady achievement in reading in third through eighth grades? The reading proficiency percentages fluctuate in sub-groups from 2009-2010 to 2016-2017. See Table 3. Every subgroup realized increases from the 2009-2010 school year except English Language Learners versus Non-English Language Learners until the 2016-2017 school year; and all sub-groups declined in proficiency percentages. From the 2010-2011 to 2011-2012 school years, English Language Learners versus Non-English Language Learners declined in proficiency. All other subgroups increased in proficiency levels. From the 2011-2012 to 2016-2017 school years, all subgroups saw significant declines in proficiency except the English Language Learners versus Non-English Language Learners sub-group. It appears that the independent variable, instructional coaches, did not have an impact on student reading achievement in Grades 3 through 8 as measured by the TCAP.

Table 3
Reading Proficiency Rates on TCAP

Student Sub-Groups	2009/ 2010	2010/ 2011	% of change	2011/ 2012	% of change	2016/ 2017	% of change
Ethnic subgroup vs all	39.5	42	6.33%	50.5	27.85%	24.9	-37.09%
Economically Disadvantaged vs non	38.5	46	19.48%	49.6	28.83%	24.1	-37.53%
ELL vs non-ELL	10.3	29.4	185.44%	8	-22.33%	7.45	-27.67%
Students with disabilities vs non	23.3	41.9	79.83%	37.8	62.23%	19.1	-18.03%

Summary of Findings

These findings illustrate the student state data prior to implementing instructional coaches as low. No sub-group approximated close to 50% proficient in math. The year after implementation, scores did increase in all sub-groups. This growth, however, did not maintain by all sub-groups.

In the 2011-2012 school year, scores for both English Language Learners and students with disabilities decreased. ELL diminished significantly to a level that was lower than the year before implementation of instructional coaches. This trend continued for the next few years. In the 2016-2017 school year, every sub-group decreased significantly to percentages lower than the year before implementation of instructional coaches.

Most sub-groups in the school district realized increases in proficiency levels in math and reading after the implementation of instructional coaches. Some sub-groups evidenced significant rates of improvement; however, English Language Learners demonstrated lower levels of achievement in both math and reading throughout the year. Both math and reading proficiency levels remain still low and even with instructional coaches in all schools, student achievement did not reach 50%. These findings suggest that the implementation of instructional coaches did not significantly impact student achievement scores, nor did the implementation of instructional coaches improve teachers' instructional practices.

Discussion

National reform movements have failed to significantly improve proficiency levels for students in math and reading in US schools. Many schools and school districts continue struggling to achieve increases in student achievement on state level assessments. Proficiency levels in math and reading remain low throughout the United States. This study is congruent with NAEP results.

Instructional coaching, when implemented and utilized effectively, may impact best practices teachers use in instruction; thus, their practices impacting student achievement. In this study, negative correlations could be the result of the instructional coach only providing surface levels coaching. There could also be a resistance to coaching from the teachers, or the particular instructional coach is not as effective to facilitate teachers to instruct on a more rigorous level to move students to higher levels of learning.

Instructional coaches can provide teachers with clear, concise, and effective feedback associated with instructional practices (Ball & Cohen, 1999; Cohen & Ball, 1999; DeFour et al., 2006; Knight, 2005, 2007). This immediate feedback has the potential to facilitate students to gain higher levels of achievement.

In the future, one important goal for instructional coaches is to create trusting relationships with teachers. Teachers cannot view instructional coaches as evaluative or as leaders who represent the capacity to enact punitive measures when teachers indicate vulnerability as they attempt to learn new practices. Rather, instructional coaches can become a tool for teachers to use in order to better their practices and build their capacity as instructional leaders in their school building.

Another goal is to provide coaches who represent specific content knowledge in order to coach teachers in specific content areas and, thus, impact student achievement (L'Allier & Elish-Piper, 2006).

In addition to coaches building trusting relationships with teachers and providing instructional content knowledge for teachers, it is important for school districts to examine how instructional coaches are utilized. The dialogue in a professional learning community meeting may serve as the beginning point of a collaboration between a teacher and an instructional coach.

Current findings indicate higher-level teaching strategies that require integration and higher order thinking and problem-solving skills did not occur as strategies on which teachers and instructional coaches collaborated. These higher order skills remain essential for students to acquire proficiency on the state assessment.

Although utilizing instructional coaches may indicate improvements in professional development and thereby increase student achievement scores, it is incumbent school districts consider the following questions generated from this study: What did the school system do to prepare for these instructional shifts, how did instructional coaches support teachers during these changes, what professional development did schools offer, did district assessments align with the new standards to provide teachers with data to inform their instruction, and did instructional coaches receive any specialized training in specific content areas to help teachers increase student achievement?

Results also question what did the school system do to prepare for these instructional shifts, did teachers know how to choose appropriate texts with Lexiles appropriately matched, how did instructional coaches support teachers during these changes, what writing instruction professional development did the district offer to teachers, what reading professional development did the district offer teachers, and did the district assessments align with the new standards to provide teachers with data to inform their instruction?

How teachers utilize instructional coaches to improve instructional practices may help school districts support effective student learning. Improved implementation of coaching strategies may assist teachers in their continued learning by providing embedded professional development and collaboration in areas of need.

Limitations

This study evidenced several limitations. First, the study was limited to six schools in a small district with only 91 teachers participating in the survey. Second, none of the current instructional coaches received their formal evaluation which described teacher effect scores and were not made available to the researcher. Third, administrators' post observation feedback was not reviewed; the researcher did not know if administrators recommended particular teachers seek help from instructional coaches for specific instructional practices. Also, there was no set procedure for administrators to follow through on any collaboration between the teacher and the instructional coach based on the post observation feedback conversation.

Fourth, the professional training of instructional coaches in this district was unknown. Fifth, some teachers did not utilize the instructional coach as often as they may have needed. Teachers who are struggling are not required to meet with the instructional coach a specific number of times. This allows for some teachers to not ask the instructional coach for help. Because of this, some ineffective teachers may remain vulnerable until the school creates a plan of improvement for the teacher. If school leaders do not act quickly with intervening with an ineffective teacher, students may develop academic learning gaps difficult to remedy in future years of instruction.

Sixth, some students in the different grade cohorts left the school system. Seventh, different instructional coaches serviced different schools which may have impacted teachers building a trusting relationship with the new instructional coach. The last limitation is the faculty who may have been new to the school and not yet trusting of the instructional coach.

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