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# The Impact of Formal Teacher Leadership Programs on Teachers' Instructional Practices

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## Abstract

Teacher leadership is a growing reform in the United States, with almost 300 active programs that are preparing, positioning, and/or rewarding teacher leaders (Berg et al., 2019). Despite this plethora of activity, there is relatively little empirical research on the influence of teacher leadership on teacher practice. This study adds to the research base on how teacher leaders influence instruction. The study focuses on the instructional influence of teacher leaders in formal teacher leadership programs in four districts in three American states. Although the programs had different emphases and structures, all four provided training, ongoing support, and formal school positions for teacher leaders, who were charged with working with teachers to support instructional improvement. Using survey data from approximately 1,050 teachers in 45 schools in the four districts and interview data from a subset of schools, we examined the relationship between the activities of teacher leaders and teacher reports of teacher leader influence and changes in instruction. The findings indicate that teachers who report being influenced by their teacher leader also report more frequently planning with their teacher leader, engaging in professional learning activities with their teacher leader, and participating in observations and feedback with their teacher leader. Additionally, higher levels of teacher leader influence are associated with teacher reports of change in instructional practice.

## Keywords

Teacher Leadership

## Disciplines

Education

# The Impact of Formal Teacher Leadership Programs on Teachers' Instructional Practices

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April 2021

## Overview

Teacher leadership is a growing reform in the United States, with almost 300 active programs that are preparing, positioning, and/or rewarding teacher leaders (Berg et al., 2019). Despite this plethora of activity, there is relatively little empirical research on the influence of teacher leadership on teacher practice. This study adds to the research base on how teacher leaders influence instruction. The study focuses on the instructional influence of teacher leaders in formal teacher leadership programs in four districts in three American states. Although the programs had different emphases and structures, all four provided training, ongoing support, and formal school positions for teacher leaders, who were charged with working with teachers to support instructional improvement. Using survey data from approximately 1,050 teachers in 45 schools in the four districts and interview data from a subset of schools, we examined the relationship between the activities of teacher leaders and teacher reports of teacher leader influence and changes in instruction. The findings indicate that teachers who report being influenced by their teacher leader also report more frequently planning with their teacher leader, engaging in professional learning activities with their teacher leader, and participating in observations and feedback with their teacher leader. Additionally, higher levels of teacher leader influence are associated with teacher reports of change in instructional practice.

## Literature Review

Scholars have identified at least six ascribed purposes of teacher leadership. First, some scholars emphasize the school-level resources enabled by teacher leaders and note how teachers in leadership positions can assist in direction-setting and organizational management (Carpenter & Sherretz, 2012, Leithwood & Strauss, 2008; Silins & Mulford, 2002), curriculum development (Darling-Hammond, Bullmaster & Cobb, 1995), and/or developing school culture (Beachum & Dentith, 2004). Second, other researchers note how teacher leaders can help to connect schools to parents and the community (Hands, 2012; Crowther, Kaagen, Furguson & Hann, 2002). A third purpose of teacher leadership is teacher representation and involvement in district decision-making (Firestone & Martinez, 2009).

A fourth purpose of teacher leadership is as a resource to improve the classroom practice of colleagues through mentoring (Hart, 1995), peer coaching (Guiney, 2001), instructional modeling (Curtis, 2013), and providing workshops and other professional development opportunities (Fessler & Ungaretti, 1994). Fifth, others frame teacher leadership as a valuable cultural resource of schools, represented as teacher involvement in school decision-making that arises out of individual willingness, opportunity, and context (Spillane, Halverson, Diamond 2001; Fairman & Mackenzie, 2015; Ingersoll, Sirinides & Daugherty, 2018). Finally, others note the value of developing the teacher leaders themselves, highlighting the rich opportunities for individual and professional growth (Margolis, 2008). Thus, teacher leadership can

encompass a wide range of educational activities at different system levels and in a variety of both informal to formal capacities.

The focus of this article is on the fourth of these purposes: the efforts of teacher leaders in formal leadership roles to influence the instruction of their peers. With this focus, we conducted a scan of the literature on teacher leaders' work with – and influence on – teachers and identified only a few empirical studies that examined the impacts of teacher leaders on teaching practices.

Mindful of this scarcity, we conducted our literature review with two lines of inquiry in mind. First, what is the empirical evidence of the impacts of teacher leadership on teachers' instructional practice? Second, what domains of instruction were investigated, and how were these measured? We further focused on studies that used survey data, as this was the instrument of our study. The scan of the literature was complicated by the multiple titles for teacher leadership, even after we narrowed our focus to teacher leader efforts to improve teaching, including distributed leadership, shared leadership, and instructional coaching. Our literature review therefore reaches into each of these areas.

We found only one empirical study that examined the impacts of formal teacher leaders on teaching. Yost, Vogel & Liang (2009) conducted a small-scale comparative case study that examined university support for six teacher leaders in one middle school. The project was designed to work with school-based teacher leaders to provide mentoring, professional development, lesson planning, and lesson modeling for teachers. The case study included structured classroom observations of teachers and focus groups of participants. The observation protocol had six domains, including classroom atmosphere, lesson structure, lesson activities and tasks, opportunities for students to engage with the lesson tasks, and teacher motivation of students during the lesson. The researchers observed the teachers at three time-points across the school year and found that the teachers' observation scores grew significantly over time. Within the overall change, the authors found particularly high growth in extending lessons to include higher order thinking, connecting to students' real-life experiences, and student self-directed learning. In focus groups, teachers stressed the value of collaborative leadership and the importance of establishing trust between teacher leaders and teachers. Finally, the authors compared test scores of students in the middle school to the performance of students in another similar middle school and found small but statistically significant performance growth in the treatment school relative to the comparison school, after controlling for the prior year's performance.

One way that teacher leadership has commonly been framed in the literature is as distributed leadership. Spillane's (2006) theory of distributed leadership involves both formal and informal leaders taking responsibility for particular school tasks. Nonetheless, several studies of distributed leadership use the term to ascribe role-identified teachers taking on leadership roles within improvement initiatives. One example of this was a study of distributed leadership in comprehensive school reform models by Camburn, Rowan and Taylor (2003). These authors examined the influence of formal school staff assigned to instructional leadership roles by comprehensive school reform (CSR) models, including as program coordinators and coaches. To assess the influence of the teacher leaders, the researchers administered a leadership survey to faculty members identified as those playing leadership roles in the CSR schools. The questionnaire contained a set of scales that measured four dimensions of instructional leadership: (1) setting instructional goals, (2) developing instructional capacity, (3) coordinating

curriculum, and (4) monitoring improvement, which they then rolled up into an overall instructional leadership composite. They found that the CSR teacher leaders reported lower levels of influence relative to principals and assistant principals on the overall composite. On the four sub-dimensions, they found that, relative to assistant principals, the CSR leaders reported developing instructional capacity significantly less, with no differences on the other three instructional leadership dimensions. Relative to a more nebulous set of "other" school leaders (not the principal or assistant principal), the CSR leaders reported higher levels of influence in all four domains. This study suggests that the leadership hierarchy has important sway over instructional influence.

Another study of distributed leadership involved teachers who adopted leadership roles on school distributed leadership teams, whose charge was to improve instruction in their schools. Each distributed leadership team member was encouraged to identify and take the lead on their own instructional improvement effort. Supovitz (2018) described the instructional improvement roles of teacher leaders on these school leadership as "quasi-formal," in that they were provided with titles and positional status but had no release time nor authority to influence the behavior and practices of their peers. In a qualitative study of how teacher leaders described their resulting efforts to improve instruction, Supovitz (2018) ascribed their efforts as a set of "soft strategies" including leading by example, collaborating with and encouraging peers, and providing resources.

By focusing on teacher leaders' work with their peers to improve instruction, there is a substantial overlap with the instructional coaching literature. There is wide range of studies of formal coaches – who may or may not have classroom responsibilities, and who may be working in one or across many schools – in the empirical literature. Kraft, Blazer & Hogan (2018) provide a meta-analysis of experimental studies on coaching's impact on student outcomes. It is also noteworthy that there are a number of coaching studies that use classroom observation to measure teacher practice, which removes the constraint of teacher self-report from surveys (see, for example, Fisher, Frey & Lapp, 2011; Matsumara, Garnier & Spybrook, 2012; Teemant, 2014).

Even so, several coaching studies have used survey data to examine the instructional impacts of coaching. Marsh, McCombs & Martorell (2010) conducted a mixed method study of a Florida-wide reading initiative that trained reading coaches to work with teachers to use data-driven decision making. The researchers surveyed principals, coaches, and a sample of teachers in 113 middle schools in eight Florida districts and conducted fieldwork in six schools in two of the districts. Their survey included several measures that were informative to our study, including a measure of perceived coach influence on teacher practice that was used as a dependent variable, and scales of coach activities and data use. Overall, they found that both individual coaching activities and reviewing assessment data with their coach were positively associated with teachers' perceptions of influence, and the frequency of teacher reviews of assessment data was associated with math and reading achievement.

In another coaching study, Matsumura et al. (2010) conducted a randomized control trial of the impacts of a comprehensive literacy coaching model in high teacher mobility schools. Program developers trained coaches to meet with teachers weekly in grade-level teams to provide professional development on reading comprehension and plan lessons. Coaches were also expected to meet monthly with teachers for unit- and lesson-planning. To measure coach activity, participating teachers took fall and spring surveys that contained frequency measures
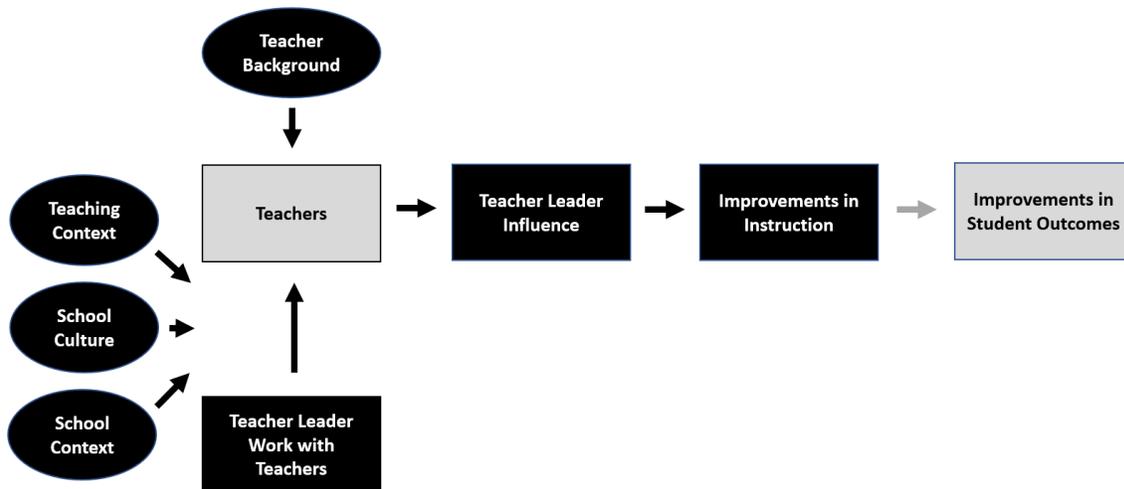
of coach activities including meeting individually, having a lesson observed, having the coach model a lesson, having the coach provide feedback within a lesson, and receiving help differentiating instruction. Teachers were also observed and student achievement data were analyzed. The authors found that both teacher self-reports of instructional impacts and observations were greater than those of control school teachers and that student performance in English language arts was significantly higher.

In sum, we only found one study that empirically examined the relationship between teacher leadership (titled as such) and teaching practice. However, expanding the definition of teacher leadership to distributed leadership or coaching expanded the pool of studies that investigated this relationship and provided some empirical support for the hypothesized relationship between teacher leaders' instructionally focused activities and influence of teachers' practice. Additionally, the measures of these studies provided clues as to what areas of teacher leader focus might be related to their influence, including planning, observations, modeling, and data use, as well as school culture and demographic factors that might moderate the relationships.

## Conceptual Model of Teacher Leader Efforts to Improve Instruction

Our conceptual model of how teacher leaders might influence the instructional practice of teachers is shown in Figure 1. On the bottom left of the diagram are teacher leaders' individualized and small group work with teachers in a variety of instructionally related areas, which might include lesson planning, classroom observations and feedback, data use, and other professional development activities. The influence of these activities may be moderated by individual teacher background characteristics such as experience, education, and demographics. Teacher leader efforts may be mediated by the context of teaching, including grade levels and subject areas, as well as aspects of school culture and school contextual factors such as the size and level of the school and students' socioeconomic challenge. Collectively, these contextual and cultural factors may mediate teacher leaders' work with teachers and the extent to which teachers report being influenced by their teacher leader. Our model further postulates that teacher leader influence will result in improvements in instruction, which will produce improvements in student outcomes. The gray box arrow and box associated with student outcomes indicates that, while these effects are hypothesized in our conceptual model, they are not included in the analyses in this paper.

Figure 1. Conceptual model of how teacher leadership influences instruction

Teacher Background

Teaching Context

Teachers

Teacher Leader Influence

Improvements in Instruction

Improvements in Student Outcomes

School Culture

School Context

Teacher Leader Work with Teachers

Aligned with the conceptual model of how teacher leadership influences instruction, our analysis focused on addressing three central research questions in this study:

1. What instructional activities did teachers report working on with their teacher leaders and how did they describe these activities?

2. What aspects of teacher leaders' work with teachers on instruction were related to teacher reports of teacher leader influence, and what teacher and school factors were associated with teacher leader influence?

3. Did teacher leader influence predict teachers' reports of changes in their instruction, and what teacher and school factors were associated with teachers reports of changes in their instruction?

**Study Contexts**

The data for this study come from a mixed-methods study of teacher leadership programs in the United States. The study focused on four district-based programs that instituted formal teacher leadership initiatives within the last decade. The programs were selected based on a national scan of teacher leadership initiatives in the United States (Berg et al., 2019). The scan identified over 280 teacher leadership programs that either prepared teachers with knowledge and skills to lead, positioned them in leadership roles to capitalize upon their expertise, and/or recognized them as leaders through awards and other forms of appreciation or acknowledgement. Some of these programs combined all three of these approaches, which the authors found to be the most promising form of teacher leadership program. To be considered as a program for more in-depth study, potential programs needed to incorporate preparation, positioning, and rewarding into their programs, as well as to focus on instructional improvement. We identified about 20 programs that we considered for further fieldwork and conducted an interview with the leaders of teacher leader initiatives, trying to better understand their program. From this process we identified four districts in three states.

The first study district is a large urban district located in the Southwest. Twelve district schools participated in the study, which were selected via a stratified random sampling approach based on variation in school performance. The district's student population in 2019 (the year of

data collection) was 54% white, 32% Hispanic, 9% black, and 4% Asian. At the time of the study, the district had two main teacher leader roles. The first role was as an instructional coach. Coaches work weekly with anywhere from two to eight teachers (with commensurate release time) on classroom practices including standards focus, classroom management, lesson delivery, and formative assessment, using highly structured protocols that emphasized classroom management and instructional rigor. The second teacher leader role, done with minimal release time, focused on data coaching to inform lesson planning and flexible grouping.

The second study district is a small east coast suburban district of 11 schools, all of whom participated in the study, supporting about 4,000 students. The district's student population is 61% white, 26% Asian, 8% Hispanic and 4% black. At the time of the study, the district had two major teacher leader roles. First, each school had an instructional coach who has full release time to work with individual teachers on data-informed instructional improvement. Second, each school also had partially released mathematics and ELA specialists who worked with both students and teachers on subject specific activities. The district also had technology coaches at each school who had no release time and assisted teachers with technology-related issues.

The final two study districts are located in a southern state. A state program provided planning grants and a general teacher leadership framework to help districts design and implement a teacher leader model. The third study district, the smallest in the study, is a rural district with seven schools and just over 4,000 students, of which 93% are white. The district had a range of teacher leader roles in the study year, including ELA and mathematics content leads, professional development (PD) leads, K-2 literacy leads, technology leads, and mentors. ELA content and PD leads opened their classrooms as model classrooms, conducted school and district PD, and analyzed performance and non-academic data. Mentors supported new teachers, modeled pedagogy and best practices, observed classrooms and offered feedback, and served as model classroom teachers. Early literacy leads facilitated the K-2 curriculum implementation and served as model classroom teachers. Technology leads facilitated the district's one-to-one (laptop) initiative. The district's teacher leaders had little release time but worked directly with teachers in their planning periods, before and after school, and on district PD days.

The fourth study district is located on the fringe of a metropolitan area of the state. The district serves about 11,500 students in 23 schools. The student population is 84% white, 7% black, and 6% Hispanic.  The district chose to focus its teacher leader initiative on literacy, with 10 of the 30 teacher leaders serving as instructional coaches who were partially to fully released and literacy leads who were full-time teachers. The literacy leads focused on modeling effective literacy instruction by hosting model classrooms, serving as reading content specialists, supporting connections across content areas, developing and delivering teacher training at both the school and district levels, mentoring new teachers, and generally supporting the literacy instruction of their colleagues in their schools.

**Sample**

A total of 1,053 teachers in 45 schools across the four districts participated in the study. We surveyed the population of teachers in three of the four districts and used a stratified random sampling process to identify schools in District 1, given its large size. In this district, schools were selected to participate based upon school level (elementary, middle, high), teacher leader

density (the ratio of teachers to TLs), and a district-determined indicator of need for additional supports. In Districts 1 and 4 a small subset of sampled schools declined participation.[1] Response rates of participants by district are as follows: 58 percent for District 1, 65 percent for District 2, 64 percent for District 3, and 77 percent for District 4.

Qualitative data come from site visits to 11 schools over the course of the 2018–19 school year (two schools in district 1 and three schools in the other three districts). To select school sites, we collaborated with district personnel to introduce us to one elementary, one middle, and one high school they felt represented their model and were willing to participate in fieldwork. We visited each school three times (fall, winter, and spring) and interviewed school leaders, teachers, and teacher leaders. For this paper, we draw on 20 interviews and 28 focus groups with teachers and teacher leaders from across the districts.

**Measures**

Teachers in participating schools in the four districts completed an online survey about their experiences with teacher leadership between November 2018 and May 2019. Relevant to this study, the survey asked about teacher background, teaching assignment, school culture, experiences working with teacher leaders, influence of teacher leadership, and change in teaching practice over the past year. In addition to demographic information, we pulled nine scales from existing survey instrument as follows (See appendix A for full list of items in each scale and response categories):

Dependent Variables

1. Teacher Leader Influence ($\alpha$ =.92): A ten-item scale that asked teachers about the influence of their teacher leader on their instructional practice. This scale is informed by Marsh, McCombs & Martorell's (2010) items on teacher reports of perceived coach influence.

2. Change in Teaching Practice ($\alpha$ =.89): A seven-item scale that asked teachers about the extent to which their instruction and their work with students changed over the past year. This scale is based on the one used by Supovitz, Sirinides & May (2010) and Parise & Spillane (2010) who examined improvements in teaching associated with leadership activity.

Independent Variables

The main independent variables were four survey scales about teacher leader activities. These scales are informed by Camburn, Rowan and Taylor's (2002) survey of instructional leadership and based on the types of teacher leader and coaching activities reported in other studies (see, for example, Garet et al., 2008; Marsh, McCombs, & Martorell, 2010; Scott-Williams, Lakin, Kensler, 2015):

1. Observation Feedback ($\alpha$ =.81): A three-item scale that asked teachers how frequently they observed or were observed and received feedback from their teacher leader.

2. Data Use ($\alpha$ =.89): A two-item scale that asked teachers how frequently they examined student work and/or test data with their teacher leader.

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[1] Twelve of 28 schools in district 1 agreed to participate, and 15 of 20 schools in district 4 agreed to participate.

3. Planning (α =.69): A two-item scale that asked teachers how frequently they planned and/or received feedback on their lesson plans with their teacher leader.

4. Professional Learning Activities (α =.68): A two-item scale that asked teachers how frequently they participated in professional development and/or book talks/reading groups with their teacher leader.

In addition, we included three scales on teachers' perceptions of school culture. These scales were informed by Sebastian, Allensworth and Huang's (2016) study of teacher involvement and decision-making and derived from scales used in their analyses that were developed by the Chicago Consortium for School Research:

1. Reflective Dialogue (α =.66): A six-item scale that asked teachers about the frequency of their conversations with colleagues about curriculum, instruction, and students.

2. Teacher Trust (α =.83): A four-item scale that asked teachers about the trust amongst colleagues at their school.

3. Teacher Influence (α =.76): A five-item scale that asked teachers about their involvement in school policy decisions.

In addition to the survey, the broader study included interview and focus group data collected from site visits to 2-3 schools in each district during the 2018-19 school year. For the purpose of this study, interviews focused on the types of activities that teachers and teacher leaders reported working on together, their views of the influence of these activities, and their overall experiences with teacher leadership.

**Analysis**

To create the survey scales, we used both exploratory and confirmatory factor analyses guided by our conceptualization of the constructs we sought to measure in the study. For the two scales of teacher leader influence and change in teaching practice, we explored different extractions using principal components analysis with varimax rotation. We explored compositional makeup both by using a standard threshold of eigenvalues greater than one and forcing two and three factors. In all three cases, the principal components analysis results loaded primarily onto one factor and we decided to leave these scales as univariate measures.

Descriptive analyses emphasized the overall frequency and differences of the four reported teacher leader activities (observation/feedback, data use, planning, and professional learning activities) amongst districts. We compared district means using a one-way analysis of variance (ANOVA), with a posthoc Fisher's least significant difference test.

To model teacher and school level predictors of both teacher influence and change in teaching practice, we used two-level hierarchical linear modeling (HLM) to account for the nested structure of teachers within schools. Each model included the following predictors/covariates: years of teaching experience, gender, race/ethnicity, education level, grade band and subject of teaching assignment, responses on three school climate scales[2] (reflective dialogue, trust, and teacher influence), and frequency of professional development supports received both generally and from teacher leaders. School-level covariates include:

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[2] Researchers have modeled school culture variables at the individual and school levels (using aggregates of individual responses). We chose to include them at the individual level because individuals can have different perceptions of the same phenomenon within an organization.

school level (elementary, pre-kindergarten–8th grade, middle, or high), enrollment (as an indicator of school size), percent of students of color, and percent of students receiving free-and-reduced-price lunch (as an indicator of socioeconomic status).[3] The models also included controls for each of the districts at level two.

We analyzed the interview data in two phases. First, we used an a priori coding scheme based on major categories of our investigation and subcategories. Major categories included program design, site conditions, participant experiences, and program impacts. Second, for the purposes of this particular analysis, we recoded the participant experiences seeking quotes and comments related to the four different teacher leader instructional activities (planning, data use, observation/feedback, and professional learning experiences). We used these data to make sense of and enrich the quantitative findings (Huberman, Miles, & Saldaña, 2014).

**Study Limitations**

There are several limitations to this study. First, the study is based on a purposeful sample of four districts in three states that had formal teacher leadership programs. However, it is possible that this group is not representative of formal teacher leadership programs in the country. In addition, since there is no comparison group, and since many, if not most districts have some form of coaching or lead teacher initiative, it is uncertain if the results of this study reflect differences in concerted teacher leadership efforts above and beyond everyday school support efforts. Third, we took a particular literature-informed approach to identifying the kinds of activities that teacher leaders might focus on and hard-wired them into our survey. It is therefore likely that there are other teacher leader activities that are not adequately represented in these analyses.

**Descriptive Statistics**

The descriptive statistics for the analytic sample are shown in Tables 1 and 2. Table 1 shows the demographic characteristics for the teachers in the sample. The teachers were predominantly white (90%) and female (84%). About 40% of the sample had bachelor's degrees, while a similar percentage had master's degrees. On average, teachers had about 12.5 years of teaching experience, with a standard deviation of 10 years. Just over 30% of the sample were general education teachers, which corresponds with the early grade teachers in the sample. About 10 percent of the sample of teachers specialized in different subject areas, including math, ELA, and science, with fewer social studies teachers. The teachers were fairly equally distributed across the grade bands, with a slightly higher proportion in elementary school grades (pre-K to 5) relative to middle and high school teachers. Finally, the sample sizes were higher from district's 2 and 4 (about 35% from each), than from districts 1 and 3 (about 14% from each).

Table 1. Teacher Characteristics (N = 1053)[1]

|  | Percent or Mean (with standard deviation, where appropriate) |
| --- | --- |
| Teacher Demographic Characteristics |  |
| *Gender* |  |
| Percent Female | 84.10% |
| *Race* |  |

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[3] Due to missing achievement data for pre-kindergarten schools, we did not include achievement in our models.

| | |
|---|---|
| Percent African American | 1.33% |
| Percent Asian | 1.80% |
| Percent White | 89.55% |
| Percent Other | 7.03% |
| *Education Level* | |
| Percent Associates or Bachelors | 42.99% |
| Percent Masters | 41.56% |
| Percent Masters Plus or Doctorate | 19.47% |
| Years of Teaching Experience | 12.57 (9.58) |
| *Subject Area* | |
| Percent General Education | 31.62% |
| Percent Math | 10.07% |
| Percent English Language Arts | 13.01% |
| Percent Science | 7.41% |
| Percent Social Studies | 4.27% |
| Percent Other | 35.11% |
| *Grade Band* | |
| Percent PreK-2 | 33.72% |
| Percent Grades 3-5 | 35.34% |
| Percent Grades 6-8 | 23.59% |
| Percent Grades 9-12 | 24.74% |
| District 1 (12 schools)[2] | 14.34% |
| District 2 (11 schools) | 34.47% |
| District 3 (7 schools) | 12.82% |
| District 4 (15 schools) | 38.37% |
| Teacher Perceptions | |
| Change in Teaching Practices | 3.93 (1.38) |
| Teacher Leader Influence | 4.21 (1.08) |
| Reflective Dialogue | 4.02 (0.75) |
| Trust | 4.91 (0.85) |
| Teacher Influence | 3.04 (0.87) |
| Perceptions of Teacher Leader Selection | 3.99 (1.27) |

[1] Sample sizes vary slightly by item and scale due to within survey non-response.
[2] District percentages reflect district representation in the sample.

Table 2 shows the demographics for the 45 schools in the sample, which were extracted from available state data. Of these, the majority (60%) were elementary schools, with about a third middle or high schools. On average, schools had about 500 students, with a standard deviation of almost 350 students. About 40 percent of students were students of color, with a similar percentage receiving free/reduced price lunch. Because four schools in our sample serve only pre-K students and therefore did not have achievement data, we decided not to include achievement data as a covariate in our models.

Table 2. School Characteristics (N = 45)

| School Level | N | Percent |
|---|---|---|
| Elementary | 27 | 60% |
| Middle | 8 | 18% |

| | | Mean | Standard deviation |
|---|---|---|---|
| High | 6 | | 13% |
| Pre-K – 8 | 4 | | 9% |
| | | Mean | Standard deviation |
| School Size | | 524.12 | 342.42 |
| Percent Minority Students | | 43.04 | 27.37 |
| Percent Free/Reduced Price Lunch | | 38.91 | 23.33 |

## Results

The study results are organized by the three research questions. Our first analysis takes a descriptive look at the survey results of the activities that teachers reported working on with their teacher leader, comparing the variation between teacher reports across the four participating districts. This analysis addresses research question 1: *What did teachers report working on with their teacher leaders and how did they describe these activities?* To enrich these descriptive results, we incorporate themes from the interviews and focus groups with teachers and teacher leaders.

Table 3. Means and standard deviations of frequency of teacher reports of activities with their teacher leaders.

| | Data Use with Teacher Leader | Professional Learning | Planning | Observation/ Feedback |
|---|---|---|---|---|
| All (n=1044) | 2.61 (1.49) | 2.36 (1.07) | 2.30 (1.26) | 1.96 (1.05) |
| District 1 (n=150) | 3.28 (1.35) | 2.90 (1.06) | 3.27 (1.32) | 2.76 (1.08) |
| District 2 (n=357) | 2.45 (1.48) | 2.28 (1.12) | 2.13 (1.25) | 1.90 (1.12) |
| District 3 (n=134) | 2.18 (1.40) | 2.51 (.97) | 1.91 (1.06) | 1.76 (.92) |
| District 4 (n=403) | 2.65 (1.48) | 2.18 (.99) | 2.23 (1.14) | 1.77 (.87) |

Note: Responses on a six-point scale: (1) Never; (2) A few times a year; (3) About once a month; (4) 2-3 times a month; (5) 1-2 times per week; (6) Daily.

*Teacher Use of Data with a Teacher Leader:* Of the four teacher leader activities that we assessed, teachers reported most frequently looking at data with their teacher leader. Our scale of data use consisted of two items; one item focused on examining student work samples and the other item asked about analyzing more formal assessment data.

Across the sample, teachers reported using data with their teacher leader about monthly. ANOVA analyses indicated that there were significant differences amongst the four districts [$F(3,1038)=16.05$, $p=.000$], with post hoc tests indicating that data use was significantly more frequently in district 1 than in each of the other districts, and that teachers in district 4 reported assessing data with their teacher leader significantly more frequently than did teachers in

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districts 2 and 3. There were no post hoc statistical differences between teacher reports in districts 2 and 3.

Descriptions of data use from the interviews indicated a range of different ways of using data. Several teachers talked about periodically looking at benchmark test data with their teacher leader and their grade level team members. Another common mention of data use was meeting at the beginning of the school year and deciding what to work on for the year. As a teacher leader in district 2 explained:

> We make a kind of war room with our data, put it all over the walls, which gives a picture of what we did last year. These are the things we see. These are the things we need to work on going forward. What kids are we going to target? What do we need in terms of professional development? I think that was a huge thing for us this year. It was really important.

The high frequency of data use in district 1, relative to the other districts, is likely related to the specified teacher leader role of data coach. Unlike in the other districts, where teachers described data examination as episodic, teachers in district 1 discussed more regular engagements around data. For example, one teacher in district 1 described how she worked with her data coach: "She brings data to me, we look at it together and decide what step to take next, or in my RTI [Response To Intervention] class, she looks at the data with me and helps me make decisions based on what we see.".

*Professional Learning Activities with a Teacher Leader:* The scale of professional learning was the second most frequent activity teachers reported engaging in with their teacher leaders. The professional learning scale contained two items that teachers reported participating in with their teacher leaders: participation in in-person professional development and discussing a book or professional article.

Across the sample, teachers reported engaging in these types of professional learning activities with their teacher leader from about monthly to a few times a year. Again, there were significant differences in the frequency of reports of professional learning across the four districts [$F(3,1040)=19.11$, p=.000). Teachers in district 1 reported participating in professional learning activities with their teacher leader significantly more frequently than teachers in any of the other districts. District 3 teachers reported participating in professional learning activities more frequency than did teachers in either district 2 or 4. There were no statistically significant differences between teachers in districts 2 and 4.

While professional development was often characterized as the delivery of a pre-identified set of information, a focus group of teacher leaders in district 2 described professional development as increasingly teacher directed. The teacher leader explained:

> Our teacher leader model has transformed and evolved. Some of the most successful PDs that we have had were those when we asked teachers to give their input. We're not going to stand in front of you and pour knowledge into you, so we called them the "give and take PDs." It was very collaborative and all the teachers would bring a strategy that they loved and how to implement it with examples. Then we would take them all and set up a google classroom or form so that we could have all the ideas in one place. It was very successful, and everyone always

left uplifted, feeling, "These are great ideas and I work with people who care about their students."

These "give and take" professional learning sessions differed from typical pre-planned teacher PD in that they were designed to highlight and share teacher strengths (i.e. strategies they loved), rather than focus on teacher deficits.

Teacher leaders across the districts frequently mentioned facilitating book studies in their descriptions of their responsibilities. Teacher leaders in district 4, for example, with their focus on literacy, emphasized the materials of Jan Richardson, an expert on guided reading. Teacher leaders from one of the elementary schools in district 3 described how they were leading a book study based on Ron Clark's *Move Your Bus*. Clark, who runs a middle school in Atlanta, is well known for his inspirational philosophy for school motivation. One of the teacher leaders at the district 3 elementary school had visited Clark's school and was working with the other teacher leaders in the school to run a multi-session book study on integrating Clark's ideas into the school's teaching.

Teachers in district 3 reported the second most frequent use of professional learning. In interviews, district 3 teachers and teacher leaders described how the district had provided training to use John Hattie's *Visible Learning* and schools were using the different books as the basis for professional learning activities. Teacher leaders in the district attended training on *Visible Learning* and led book studies with teachers in their schools on the approaches that Hattie reported as effective. For example, a high school teacher leader in the district described monthly departmental meetings where teachers were assigned particular chapters to read in advance and the ensuing discussions involved both how to implement the strategies in their classes, how previous implementation plans had fared, and how they could be refined. These book talks became the catalyst for engaging teachers in instructional conversations.

*Planning:* Teachers across the four districts reported planning with their teacher leader a little less than monthly. Teachers in district 1 planned significantly more frequently than did teachers in the other three districts, while there was no statistically significant differences amongst the frequency of planning in the other three districts.

Teacher and teacher leader descriptions of planning activities, either one-on-one or in teams largely focused on planning for upcoming units by reviewing the curriculum and standards represented in the unit and preparing how to engage students with the standards. A district administrator in district 2, for example, described how the purpose of content coaches in the district was to "ensure that everybody knows the content and the curriculum really strongly at every grade level." A district 3 teacher described how in grade level meetings "we spent a lot of time taking whatever standard we were teaching and putting it into the target, like 'today we will. . . so we can….' And, 'I'll know we have it when . . . because I feel like it really helps to analyze and explain to kids, because we'll read it, but the kids need to go through the steps of the process."

A teacher leader in district 2 described how data informed the quarterly grade level planning process. "Ok, unit three is coming up. These are the skills students are coming in already knowing. These are the skills that are the focus of the unit. Here's how the kids scored last year on the end of unit three assessment. This is the skill that really seemed to be difficult. Let's go through the skill and kind of talk about how we could improve it." The combination of

planning and data use shows how these categories of teacher leader support are not exclusive of each other in practice.

*Observation-Feedback:* The least frequent instructional activity teachers reported working on with their teacher leaders was classroom observations, often accompanied by feedback conversations after the observation. The three-item observation-feedback scale included questions about the frequency of observing, being observed, and receiving feedback on teaching. Across the entire sample, teachers reported participating in these collective activities about monthly, with a standard deviation of about one unit on the six-point response scale. There were significant differences in the frequency of these activities amongst districts $(F(3,1039)=39.18, p=.000]$. Teachers in district 1 reported engaging in observations/feedback the most frequently (about monthly), which was significantly more frequently than teachers in any of the three other districts, who were not statistically different from each other.

Teachers across the districts reported the value of observations for multiple dimensions of teaching including instructional strategies; knowledge of, and relationships with, student relationships; classroom management; curricular enactment; and the use of other classroom resources. A focus group of teachers in District 4 captured many of the qualities and benefits of regular classroom observations that teachers and teacher leaders reported across the sample:

Teacher 1: The observation I did in her [the teacher leader's] classroom was just priceless because I was having such a hard time and I saw how it could be done. And so I'll use those strategies. And at the end of this month she's going to come watch me and give me feedback on how I've integrated it. So, it's that follow-through that I really value.

Teacher 2: It's essential in our profession. You have to see it be emulated.

Teacher 1: Yep. And so often there isn't that follow-through.

Teacher 3: And both of our coaches are willing to do that at any time. 'Cause I know the coach that's with us for kindergarten has come in and taught some of my small reading groups. She did it for a whole week so I could watch, because you know, we have different things we do each day. She did it for a whole week so I could see the whole week...

Teacher 4: I did the same with her. I did it for three days, I wanted to see at least the three-day process. And like you said, the follow-through, she remembers those students in my grade. When we have conversations about them or look at their data, she is thinking of an individual and remembering the things she saw them do. Like, did they appeal to me for an answer? Did they ask questions about that? I mean, it kind of blows my mind just how knowledgeable they are about it, and it's so beneficial.

In this conversation, teacher 1 noted how observations allowed her to cull strategies from the teacher leader and incorporate them into her own practice. She also described how the initial observation in the teacher leaders' classroom led to a follow-up with her own students and further discussion about the way she was incorporating the approaches she had observed into her own teaching. This description, along with teacher 2's stress on seeing things "emulated," provides a good example of the value of ongoing observation-feedback cycles that build open each other and allow for the back-and-forth that is important for teachers to refine their practice.

Teacher 3 and teacher 4's emphasis on ongoing observations and interactions with their teacher leader over multiple lessons across several days highlights the benefit afforded to a coaching strategy that is embedded in schools. Because of their proximity, teacher leaders can observe and participate in how teachers interact with students as the learning process unfolds over time, rather than viewing an instructional observation as a discrete event. Finally, this also raises the possibility that teacher responses on the survey scale may be underestimated, depending on whether teachers interpret these ongoing events as part of the same activity or a series of distinct observations.

Finally, interviews pointed out how time constraints limited opportunities for classroom observations, but highlighted innovative efforts to overcome them. A teacher leader in district 3, which provided no release time for its teacher leaders, described the ways that she found time to support teachers in their classrooms. "I may model a lesson for them in the morning and then they may teach it to their afternoon class so that they get a sense of a different way of presenting the material," she explained. "But you know we really have to make it work. We'll meet before school, we'll meet after school. Sometimes somebody has a prep that's not my prep." Time and logistics often limited the potential benefits of classroom observations.

*Models predicting teacher leader influence and change in instruction*

Based on the different emphases of teacher leader activity, we constructed a series of models that first used the different teacher leader activities as predictors of teachers' reports of the influence of their teacher leader, and, secondly, investigated whether teacher leader influence predicted teacher's reports of change in their practice. The results of these models are shown in Table 4.

Table 4. Predictors of Teachers' Reports of Teacher Leader Influence and Change in Instruction

| Parameter | Model 1 Predicting Teacher Leader Influence | Model 2 Predicting Change in Instruction |
|---|---|---|
| Intercept | 1.165*** (0.253) | 1.350*** (0.426) |
| Professional Learning with Teacher Leader | 0.162*** (0.035) | – |
| Planning with Teacher Leader | 0.126** (0.039) | – |
| Observational/Feedback with Teacher Leader | 0.107** (0.039) | – |
| Data Use with Teacher Leader | 0.045 (0.029) | – |
| Teacher Leader Influence | – | 0.279*** (0.047) |
| Female Teacher | 0.061 (0.076) | 0.242~ (0.127) |
| Teacher Experience | -0.004 (0.003) | -0.012~ (0.005) |

| | -0.034 | 0.998** |
|---|---|---|
| African American Teacher | (0.223) | (0.368) |
| Asian Teacher | 0.062 | 0.855** |
| | (0.189) | (0.313) |
| Other Race Teacher | -0.037 | 0.375* |
| | (0.104) | (0.172) |
| Associates/Bachelor's Degree | -0.039 | 0.022 |
| | (0.057) | (0.094) |
| Master's Degree Plus Coursework and Doctorate | -0.227** | 0.054 |
| | (0.072) | (0.120) |
| Mathematics Teacher | -0.127 | 0.039 |
| | (0.096) | (0.160) |
| ELA Teacher | -0.128 | 0.119 |
| | (0.088) | (0.147) |
| Science Teacher | -0.218* | 0.267 |
| | (0.108) | (0.179) |
| Social Studies Teacher | 0.024 | 0.024 |
| | (0.142) | (0.234) |
| Other Subject Teacher | -0.036 | 0.077 |
| | (0.072) | (0.118) |

Table 4 (continued)

| Parameter | Model 1 Predicting Teacher Leader Influence | Model 2 Predicting Change in Instruction |
|---|---|---|
| PK-2 Teacher | -0.072 | 0.120 |
| | (0.068) | (0.114) |
| 6-8 Teacher | -0.028 | 0.282 |
| | (0.105) | (0.175) |
| 9-12 Teacher | -0.375** | 0.243 |
| | (0.137) | (0.232) |
| Culture: Reflective Dialogue | 0.193*** | 0.221** |
| | (0.041) | (0.067) |
| Culture: Teacher Trust | 0.166*** | -0.067 |
| | (0.035) | (0.060) |
| Culture: Teacher Influence | 0.225*** | 0.081 |
| | (0.034) | (0.058) |
| PreK-8 School | -0.059 | -0.274 |
| | (0.161) | (0.277) |
| Middle School | -0.051 | -0.077 |
| | (0.137) | (0.230) |

| | | |
|---|---|---|
| High School | 0.267~ | -0.038 |
| | (0.158) | (0.270) |
| School Free/Reduced Lunch % | -0.004 | -0.002 |
| | (0.004) | (0.006) |
| School Minority % | 0.004 | -0.001 |
| | (0.003) | (0.005) |
| School Enrollment (x 100) | -0.024* | -0.002 |
| | (0.010) | (0.007) |
| Site 2 | 0.103 | 0.202 |
| | (0.144) | (0.242) |
| Site 3 | 0.270 | 0.467 |
| | (0.166) | (0.284) |
| Site 4 | 0.093 | 0.307~ |
| | (0.102) | (0.167) |

~$p<.10$ * $p < .05$. **$p < .01$ ***$p<.001$

Model 1 shows a set of independent variables that predict teachers' reports of the influence of their teacher leader. This model addresses research question 2: *What aspects of teacher leaders' work with teachers were related to teacher reports of teacher leader influence, and what teacher and school factors were associated with teacher leader influence?* The first four independent variables in this model are the scales of teacher leader activities described in the previous section. Professional learning, planning, and observation-feedback were the teacher leader activities that were significantly associated with teacher reports of teacher leaders' influence, after controlling for individual and school variables. That is, a one unit increase in the frequency that teachers reported working with their teacher leader on these activities was associated with an approximately .15 unit increase in teacher leader influence. Finally, and surprisingly, the frequency of teacher leaders work with teachers on using data was not associated with teachers' reports of teacher leader influence.

Importantly, there were essentially no differences in teacher reports of teacher leader influence associated with teachers' background characteristics. Neither teacher gender, experience, nor ethnicity were associated with teacher reports of teacher leader influence. There was, however, a difference by education level; teachers with more than a master's degree reported significantly less teacher leader influence than did teachers with a master's degree, while there was no difference between teachers with a bachelor's degree and teachers with a master's degree.

There were few differences in teacher leader influence amongst teachers in different subject areas. Of all the subjects, only the small percentage of science teachers in the sample (7%) reported less teacher leader influence than general elementary teachers (the omitted group). There were also no differences in teacher reports of teacher leader influence in the elementary and middle grades, while high school teachers reported less teacher leader influence relative to grades 3-5 teachers (the omitted group).

Interestingly, of all the variables in model 1, teacher perceptions of the culture of their school were amongst the strongest predictors of teacher leader influence. Teacher reports of the reflective dialogue in their school – the frequency of conversations with colleagues about

curriculum, instruction, and students – were strongly and significantly associated with teachers' perceptions of teacher leader influence. Likewise, teacher reports of trust amongst their colleagues in their school and their involvement in school decision making were also significantly associated with teacher leader influence. These indicators suggest the important role of school culture as an enabler of teacher leader influence.

There were also no differences in teacher leader influence between schools at different levels, different poverty rates, and different percentages of minority students. However, teachers in larger schools reported less teacher leader influence than did teachers in smaller schools. Finally, after controlling for all the other variables in the model, there were no differences in teacher leader influence between site 1 (the omitted category) and the other three sites. This was somewhat surprising since we observed large differences in the frequency of teacher work with teacher leaders in the descriptive data shown in Table 3. Therefore, we explored interactions between each of the four teacher leader activities and the districts, but found no significant interactions.

Having demonstrated the relationship between the frequency of different teacher leader support activities and teacher reports of teacher leader influence, we turn to the third research question: *Did teacher leader influence predict teachers' reports of changes in their instruction, and what teacher and school factors were associated with teachers reports of changes in their instruction?*

The answers to this research question are found in model 2 in Table 4. Foremost, teachers' reports of the influence of their teacher leader were strongly and significantly associated with teacher reports of changes in their instructional practice. Every unit increase in teacher reports of teacher leader influence (on the six-point frequency scale) was associated with more than a quarter of a point (.28) increase in teacher reports of change in teaching practice (on a seven-point magnitude of change scale), after controlling for all other variables included in the model.

There were several other predictors of change in practice found in model 2. There were a few teacher demographics associated with teacher reports of change in instructional practice associated with teacher demographics. Female teachers reported higher levels of change in practice than did male teachers, although the difference was only significant at the .10 level due to a large standard error. Perhaps not surprisingly, experienced teachers reported slightly less change in practice than did less experienced teachers, although again this was only significant at the .10 level. There were also some marginally significant differences in teacher reports of change in practice associated with teacher race, although the samples of minority teachers were small, with less than 2% of teachers in the sample identifying as African American or Asian. There were no differences in teacher reports of change in practice associated with either education level, subject area, or grade level.

Of the three school culture scales included in the model, only teacher reports of reflective dialogue – professionally-related conversations with peers – were associated with changes in instructional practice. Changes in practice did not vary by any of the school-level predictors included in the model, with neither school level, percentage of minority students in the schools, school poverty level, or school size associated with teacher reports of change in practice. Finally, there were few differences between the four districts in reports of change in

practice, with only district 4 having a marginally significant higher level than district 1, after controlling for all else in the model.

**Discussion**

As noted by Wenner and Campell (2017), research on the effects of teacher leadership on instruction is exceedingly thin. This study contributes to the small evidence base by examining the relationship between different types of teacher leadership support efforts and teacher reports of teacher leader influence, as well as the relationship between teacher leader influence and teacher reports of change in instruction. The frequency of teachers' work with a teacher leader on professional growth, instructional planning, and observations and associated feedback were all significantly related to their reports of teacher leader influence. Somewhat surprisingly, the most common activity teachers reported working on with teacher leaders – examining different kinds of student data – was not associated with teacher leader influence.

Switching teacher leader influence from the dependent variable to a predictor of teachers' reports of change in practice, we found a strong and positive association between teacher reports of teacher leader influence and teachers' reports of change in practice. This provides important evidence that teacher leaders can systematically influence teachers to change their instruction.

Teacher perception of school culture was also a strong and significant predictor of teacher leader influence. The three indicators of school culture – reflective dialogue, teacher trust, and teacher influence on school decisions – all had significant and positive predictive power on teachers' report of teacher leader influence. This indicates that school cultural elements play an important role in the ability of teacher leaders to conduct their work. It also hints at the interplay between formal and informal teacher leadership in schools because teachers' feelings of trust and involvement in school decisions have been associated with positive teacher and student outcomes in other studies (Ingersoll, Sirinides, & Dougherty, 2018; Sebastian, Allensworth, & Huang, 2016). The connections between formal and informal teacher leadership are an important avenue for future study. Interestingly, of the three school culture variables, only reflective dialogue – the frequency of teachers' conversations about teaching, curriculum, and students – remained significant in the model predicting change in instruction. Future structural equation models of the pathways of relationships might help to disentangle the ways in which school culture indicators mediate the work of teacher leaders.

We take heart that neither teacher demographics nor school demographics had much predictive power for teacher leader influence. This indicates that teacher reports of teacher leader influence were relatively equally reported across teachers of different genders, races, degree levels, levels of experience, subject areas, grade levels, and school types. Thus, the impacts of teacher leadership appear to be working across teachers and schools from different contexts.

Finally, we expected to see differences in the influence of teacher leadership and even reports of change in practice across the different districts, which had different programmatic emphases and different reports of the emphasis of teacher leader activities. However, we did not detect much systematic programmatic variation in teacher leader activities associated with teacher leader influence, nor changes in practice associated with the districts. Future analyses of these and other data should attempt to disentangle variation in programmatic emphasis and

teacher outcomes in order to learn more about what program strategies are more influential than others.

As educational leaders seek innovative ways to facilitate the ongoing improvement of their teachers, formal teacher leadership approaches – in which knowledgeable teachers are identified, prepared, positioned, and supported to work with other teachers to improve their instruction – are being increasingly adopted. This study provides important contributing evidence about what kinds of teacher leader activities are influential to teachers and the effects of teacher leadership on teaching practice, as well as some of the important associated conditions. These results suggest that teacher leadership can become an important element in a broad educational improvement strategy.

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APPENDIX A: SURVEY ITEMS, SCALES, AND RELIABILITIES

**Teacher Leader Influence Scale (alpha = .92)**

(Response Categories: Six options ranging from Strongly Disagree to Strongly Agree).

My work with my teacher leader (s) this year has:

1. Made me pay closer attention to particular things I was doing in my classroom.
2. Led me to seek out additional information about my subject and/or teaching practices.
3. Led me to think about an aspect of my teaching in a new way.
4. Gave me many opportunities to work on aspects of my teaching that I am trying to improve.
5. Advocated practices I do not believe in. (reverse coded)
6. Provided me with knowledge or information that is useful to me in the classroom.
7. Allowed me to focus on a problem over an extended period of time.
8. Provided me with useful feedback about my teaching.
9. Included enough time to think carefully about, try, and evaluate new ideas.
10. Included opportunities to work productively with colleagues in my school.

**Changes to Teaching Practices Scale (alpha = .89)**

(Response Categories: Eight options ranging from Not at All to A Great Deal).

Indicate how much you have changed the following aspects of your teaching this year:

1. The teaching methods you use
2. The materials you use
3. The kinds of work you have students do
4. The kinds of questions you ask students
5. The assignments you give to students
6. The way you assess your students
7. Your understanding of the needs of individual students.

**Reflective Dialogue Scale (alpha = .66)**

(Response Categories: Six options ranging from Never to Daily or Almost Daily).

This school year, how often do you have conversations with colleagues about:

1. What helps students learn the best.
2. Development of new curriculum.
3. The goals of this school.
4. Managing classroom behavior.

(Six options ranging from Strongly Disagree to Strongly Agree).

5. Teachers talk about instruction in the teachers' lounge, faculty meetings, etc.
6. Teachers in this school share and discuss student work with other teachers.

**Teacher Trust Scale (alpha = .83)**

(Response Categories: Six options ranging from Strongly Disagree to Strongly Agree).

1. Teachers in this school trust each other.
2. It's OK in this school to discuss feelings, worries, and frustrations with other teachers
3. Teachers respect other teachers who take the lead in improvement efforts
4. Teachers at this school respect those colleagues who are experts at their craft.

**Teacher Influence Scale (alpha = .76)**

(Response Categories: Five options ranging from Not at All Influential to Very Influential).

How influential are teachers in your school over school policy in the following areas:

1. Planning how discretionary school funds should be used.
2. Determining which books or other instructional materials are used in classrooms.
3. Establishing the instructional program.
4. Determining the content of professional development.
5. Setting standards for student behavior.

**Observation – Feedback Scale (alpha = .81)**

(Response Categories: Six options ranging from Never to Daily or Almost Daily).

During the current school year, about how often have you done the following with a teacher leader:

1. Observed a lesson in a teacher leader's classroom
2. Had one of my lessons observed
3. Received feedback on my teaching

**Data Use Scale (alpha = .89)**

(Response Categories: Six options ranging from Never to Daily or Almost Daily).

During the current school year, about how often have you done the following with a teacher leader:

1. Analyzed my students' work products (other than test scores)
2. Examined my students' test data

**Planning Scale (alpha = .69)**

(Response Categories: Six options ranging from Never to Daily or Almost Daily).

During the current school year, about how often have you done the following with a teacher leader:

1. Planned for instruction
2. Received feedback on a lesson plan

**Professional Learning Activities Scale (alpha = .68)**

(Response Categories: Six options ranging from Never to Daily or Almost Daily).

During the current school year, about how often have you done the following with a teacher leader:

1.  Discussed a book or article
2.  Participated in in-person professional development