SRI International

Developing Educators Throughout Their Careers: Evaluation of the Rio Grande Valley Center for Teaching and Leading Excellence

An i3 Development Grant

Final Report

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Rio Grande Valley Center for Teaching and Leading Excellence

The Rio Grande Valley Center for Teaching and Leading Excellence (the Center) is a partnership between IDEA Public Schools, a charter management organization, and Pharr-San Juan-Alamo Independent School District (PSJA ISD). The Center was funded in 2010 as part of the first cohort of the federal Investing in Innovation (i3) competitive grant program. The Center aimed to strengthen support for new teachers, teacher leaders, and school leaders and to raise the quality of teaching for students in one of the poorest regions in the country. Drawing on the Teach For America summer institute curriculum, the Center created New Teacher Training (NTT) featuring a summer institute, ongoing professional development, and coaching during the participants' first year of teaching. The Center also invested in teacher leaders with two types of training: (1) Leadership Skills Training (LST) focused on enhancing teacher leaders' management and problem-solving skills; and (2) Skillful Teacher Training (STT), developed and delivered by Research for Better Teaching to hone teachers' instructional leadership. Both LST and SST consisted of summer institutes and ongoing professional development during the school year. TLT participants took each training successively over two consecutive years. Under the Center's school leadership training, each district provided a range of development opportunities tailored for selected assistant principals and experienced, new, and aspiring principals.

The Center offered its first NTT and TLT summer institutes in 2011, and ran trainings for three years—2011-12, 2012-13, and 2013-14—under the i3 grant. At the end of the grant period, each district brought the NTT and TLT trainings in house and continued aspects of the school leader training further tailored to their respective contexts.

Evaluation of the Center

The three-year evaluation of Center activities followed the three cohorts of NTT and TLT participants served under the i3 grant. The evaluation had two purposes, as specified by i3 requirements. First, the study tracked implementation fidelity, primarily of NTT and TLT; second, it assessed the impact of NTT on teacher and student outcomes and the impact of TLT on teacher outcomes. The implementation fidelity analysis annually tracked participation and quality, as defined by Center directors, for NTT and TLT.

To estimate impact on outcomes, the evaluation design used a randomized controlled trial for NTT and TLT in PSJA ISD. Students in grades 4 through 8 were randomly assigned to new teachers and their peers in the same grade, subject, and school. Because IDEA Public Schools is a smaller district typically with one teacher per subject per grade at the secondary level and because all NTT participants from IDEA Public Schools were secondary teachers, student random assignment across NTT

participants and non-participants within the same grade, subject, and school was not possible. Analysis of NTT outcomes for IDEA Public Schools is therefore descriptive only.

For TLT, PSJA ISD identified large enough teacher leader pools each year to allow random assignment LST, STT, and delayed treatment comparison groups, with the latter beginning TLT one year after identification. IDEA Public Schools elected to train all of its teacher leaders selected as content or grade-level team leaders. Therefore, TLT participants at IDEA Public Schools were randomly assigned to either LST or STT and the results for IDEA Public Schools compare the relative effects of those two trainings, not the effects of LST or STT relative to a comparison group that had not taken either training.

To maximize statistical power, the impact analyses combined the sample of participants and comparison teachers across all three cohorts for each of NTT and TLT.

This final report provides annual implementation fidelity measures for NTT and TLT, the estimated effects of NTT on teacher and student outcomes, the estimated effects of TLT on teacher outcomes, and a discussion of other key aspects of the Center's work, including school leadership training and the partnership between IDEA Public Schools and PSJA ISD.

New Teacher Training

Implementation

New Teacher Training was implemented with fidelity all three years across the vast majority of indicators. Specifically, the NTT summer institutes met the thresholds of the fidelity measures for delivering sessions that were practice-based, interactive, and engaging for participants. On average, participants across all years also reported that NTT had a moderate to great deal of influence on their teaching practice. Attendance in both districts and across all years remained the greatest implementation hurdle, falling short of the threshold of 90% attendance set by the Center directors.

Teacher Outcomes

Teacher outcomes studied for NTT include self-reported job satisfaction and teacher efficacy ratings and one-year retention rates. NTT participants in PSJA ISD reported slightly higher job satisfaction ratings than comparison teachers (same grade and subject in the same school) did (3.3 versus 3.2 on a 4-point scale, $p < 0.05$). Their self-efficacy ratings were lower than those of comparison teachers (3.35 versus 3.52 on a 4-point scale, $p < 0.0001$). These results suggest that the preparation from the summer institute and the ongoing professional development and coaching supports during the school year sufficiently mitigated the challenges that typically overwhelm beginning teachers. At the same time, NTT participants seemed to have a realistic sense of their

abilities in the classroom relative to the comparison group (necessarily composed of more experienced peers because all beginning teachers participated in NTT).

NTT participants in IDEA Public Schools did not differ in job satisfaction or self-efficacy ratings compared with teachers of the same subjects and grades at other IDEA campuses. Because the majority of new hires at IDEA Public Schools were beginning teachers and because IDEA has been growing rapidly, the average years of teaching experience is lower at IDEA than at a typical school district. The closer match between NTT participants and comparison teachers at IDEA (e.g., 62% of NTT participants and 44% of comparison teachers had less than three years of experience) might explain the similarities in job satisfaction and self-efficacy.

The teacher retention rates one year after training were lower for NTT participants than for the respective comparison groups in each district. PSJA and IDEA NTT participants were 72% and 52% less likely to stay, respectively, compared with veteran teachers in the same district. To contextualize these findings, NTT participants in PSJA ISD had a much higher likelihood—3.9 times greater—of retention one year later compared with beginning teachers from 2008-09 through 2010-11 who would have been eligible for NTT had it existed then. This difference probably also reflects the economic recession beginning in 2009 and the state budget cutbacks in 2011. Nonetheless, it suggests the importance of new teacher supports in helping novices be resilient and successful in the classroom that first year.

Student Outcomes

We analyzed student achievement on state tests (State of Texas Assessments of Academic Readiness or STAAR) in reading and math in grades 4 through 8 and in social studies in grade 8 in PSJA ISD. On the basis of a randomized controlled trial and controlling for prior achievement, the student outcomes of NTT participants in PSJA ISD did not differ from those of the comparison group. Considering other research that documents lower student achievement for beginning teachers compared with veteran teachers (Croninger, Rice, Rathbun, & Nishio, 2005; Harris & Sass, 2008; Rice, 2003; Vanderhaar, Munoz, & Rodosky, 2007), our finding of similar performance suggests a potentially positive influence of NTT on student achievement.

Teacher Leader Training

Implementation

We tracked the implementation fidelity and outcomes separately for the two types of TLT, Leadership Skills Training (LST) and Skillful Teacher Training (STT). As with NTT, LST and STT were implemented with fidelity in both districts, meeting the thresholds for the vast majority of indicators. The summer institutes were practice-based, interactive, and engaging for participants. Both types of summer institutes initially did not meet the check-for-understanding indicator but improved in

subsequent summers. A majority of LST and STT participants reported that the training influenced various aspects of their leadership practices. Attendance among LST and STT participants in both districts, however, was lower than the implementation fidelity threshold across all three years with the exception of LST in the first year.

Teacher Outcomes

Teacher outcomes for TLT included self-reports of teacher efficacy, job satisfaction, instructional leadership efficacy, management efficacy, and problem-solving efficacy. LST and STT participants in PSJA ISD did not differ from the delayed treatment comparison group on any of the teacher outcomes, except that STT participants had a lower self-reported teacher efficacy rating than the comparison group (3.4 versus 3.6 on a 4-point scale, $p < 0.05$). LST participants did not differ from STT participants in IDEA on these teacher outcomes.

These results suggest that, although the trainings were generally well-delivered and well-received, the intensity of training received within one year, especially as reflected in attendance rates, may not have been sufficient to result in short-term changes in outcomes.

Other RGV Center Results

School Leader Training

Both IDEA Public Schools and PSJA ISD supported a significant number of experienced, new, and aspiring principals through a range of offerings tailored to individual needs. Opportunities included formal training such as leadership institutes at Harvard University, internships or residency programs for prospective principals, and new principal support and coaching. IDEA Public Schools and PSJA ISD supported a total of 67 and 70 participants, respectively, across the three years. Large majorities of school leader training participants reported that their training effectively addressed key leadership skills such as evaluating and providing instructional feedback, encouraging teachers to take leadership roles, and building professional community (71% to 88% across the two districts).

In addition, leaders in both districts participated in Action Learning Training, which focused on a team-based, problem-solving approach to address key organizational priorities. IDEA Public Schools had 72 participants across three years and PSJA ISD had 64 participants across two years. Smaller proportions of district leaders, however, reported that the training was effective in addressing a range of district leadership functions. Of the district-level respondents, fewer than 45% in IDEA and fewer than 72% in PSJA reported that the training supported them in activities such as helping schools develop and maintain high standards, model instructional leadership for principals, or develop tools to support principals' instructional leadership.

Comparative Interrupted Time Series

Because the Center played a larger role in each district's human capital strategy beyond NTT and TLT, we conducted additional analyses to understand whether the Center had a broader impact on student outcomes not captured in the NTT and TLT results. These analyses, using a comparative interrupted time series approach, indicate that PSJA ISD student achievement in reading and math across all tested grades relative to other schools in South Texas (Education Service Center Region 1) was similar the three years before and the three years after the establishment of the Center. IDEA Public Schools exhibited similar results for grades 6 through 8 in reading. While IDEA Public Schools' grades 6-8 math achievement continued to be higher than that of Region 1 schools on average, the gap became smaller in the three years after the Center was established.

Limitations and Implications

Several key limitations shape our interpretation of the findings.

- The NTT student outcome results derived from a randomized controlled trial in PSJA ISD and the results probably cannot be generalized to IDEA Public Schools or charter school contexts more broadly because of organizational differences that are likely to affect whether and how new teachers are able to apply what they learned from NTT.

- NTT participation was broader than the state-tested grades and subjects, and the evaluation was unable to measure effects on the full range of grades and subjects taught by NTT participants.

- Both NTT and TLT might have had effects on other classroom outcomes, such as classroom culture, positive teacher-student relationships, and student engagement in learning, that were beyond the scope of this study.

The overall partnership was an ambitious effort that provided opportunities for collaboration across multiple levels of the system at both districts. Implications and lessons about partnership include the importance of having Center directors with similar authority in their respective districts to make joint decisions about the Center; creating buy-in at all levels of the system if leaders expect collaboration at those levels; and finding balance in joint work where appropriate and separate implementation where difficult logistics or different goals, strategies, or organizational structures warranted having the districts following their own path.

Overview of the Rio Grande Valley Center for Teaching and Leading Excellence

The Rio Grande Valley Center for Teaching and Leading Excellence (the Center), a joint effort between IDEA Public Schools and Pharr-San Juan-Alamo Independent School District (PSJA ISD), aimed to build strong teachers and leaders, ultimately in the service of making college a reality for all students in the Rio Grande Valley (RGV) region. Funded as a development grant in 2010 under the first cohort of the federal Investing in Innovation (i3) program, the Center provided New Teacher Training, Teacher Leader Training, and school leader training to strengthen the human capital in each district.

Exhibit 1 depicts the logic model guiding the development of the Center. The Center was a joint effort between two districts with very different contexts. PSJA ISD is a non-charter school district with a long-standing Early College High School initiative and related technical assistance on the Common Instructional Framework, a set of instructional strategies developed by Jobs for the Future and supported throughout the district. IDEA Public Schools is a rapidly expanding charter school network. Hiring fueled by growth and teacher turnover is a major district function, and teacher preparation and induction into the IDEA school model is a critical need each year. The average years of teacher experience at PSJA ISD is higher than at IDEA Public Schools, and therefore the scale of new teacher support needs and teacher leader pools differed between the two districts.

Under the Center, the two districts refined their new teacher recruitment and selection process based on Teacher For America (TFA) rubrics. They also created the New Teacher Training (NTT), comprising a five-day summer institute drawn on TFA's summer training curriculum, three ongoing professional development sessions, and coaching during the school year immediately following the summer institute. All novice teachers and teachers new to the district with less than five years of experience were eligible for NTT participation. The Teacher Leader Training (TLT) had two parts: (1) Leadership Skills Training (LST), developed by IDEA Public Schools and PSJA ISD to help teacher leaders manage teams, provide critical feedback, and problem-solve; (2) Skillful Teacher Training (STT), a course developed and delivered by Research for Better Teaching to help participants hone their instructional leadership. The Center also offered school leader training, a variety of supports for experienced, new, and aspiring principals.

As noted in Exhibit 1, the logic model lays out expectations that NTT leads to teacher outcomes such as job satisfaction and efficacy in the classroom and improved instruction, ultimately leading to student outcomes of achievement and college readiness. TLT leads to teacher leader outcomes such as improved team management

skills and instructional supports and to improved teaching practice among team members. The confluence of NTT, TLT, and school leader training leads to improved systems outcomes such as superior districtwide achievement, increased teacher and leader capacity, and improved human capital retention.

Exhibit 1. Logic Model

State Context: (1) Budget cuts; (2) Dropout prevention; (3) College readiness; (4) High accountability

District Context	PSJA ISD	IDEA Public Schools
	(1) Large non-charter district	(1) Growing charter network
	(2) ECHS/JFF instructional strategies	(2) Past leadership skills development
	(3) Majority teachers with 3+ years experience	(3) Majority teachers with 1-3 years experience
		(4) New elementary model (fall 2011)

Rio Grande Valley Center for Teaching and Leading Excellence
Developing a sustainable, high-quality human capital pipeline

New Teacher and Teacher Leader Development

Collaborators

(1) Teach For America Recruitment; selection; new teacher training design; coaching summit

New Teacher Recruitment/ Selection Implement new recruitment process in IDEA and new selection tool aimed at candidate quality in IDEA and PSJA to ensure high-quality teachers enter districts

Training Content: instruction; assessment; classroom culture & management **Quality:** practice-based; interactive; adjustable; engaging

Teacher Training *Support and develop novice and new teachers in PSJA and IDEA (secondary only) [one year training/support]*
(1) Summer institute (5 days)
(2) Ongoing professional development (IDEA: 5 sessions; PSJA: 3 sessions)
(3) Ongoing coaching (Once per month for teachers with 0 years experience)
-- IDEA: coaching provided by campus-based coaches
-- PSJA ISD: coaching provided by RGV Center coaches in Years 1 and 2; campus-based coaches in Year 3

(2) Research for Better Teaching Skillful Teacher Training provider

Teacher Leader Selection Select participants based on role as grade team or content team leader and application

Training Content: instruction; leadership; facilitation skills **Quality:** practice-based; interactive; adjustable; engaging

Teacher Leader Training *Build the capacity of teacher leaders in IDEA and PSJA ISD (teacher receives both trainings over 2 yrs). Training administered separately by district.*
(1) Summer institute
- Skillful Teacher (3 days)
- Leadership Skills (2 days)
(2) Ongoing professional development (3 sessions)

School Leader Development

**(3) Action Learning
(4) Scholastic Achievement Partners
(5) Harvard Aspiring Leaders Program**

School Leader Recruitment Select participants based on role, leadership experience, and/or relevance to project work

Training Content: based on school leader program

School Leader Training *Increase the effectiveness of school leaders. IDEA and PSJA ISD facilitate separate, parallel trainings.*

PSJA ISD	IDEA
1) Harvard Scholars	1) Rhodes Fellowship
2) School Leader Interns	2) Principals in Residence
3) Action Learning Training	3) Action Learning Training
4) SAP Leadership Fellowship	4) New Principal Training
5) Masters Tuition	5) Masters Tuition

Teacher Outcomes
(1) Improved sense of instructional efficacy*
(2) Improved job satisfaction*

Improved teaching and classroom experience

Teacher Leader Outcomes
(1) Improved team leadership and instructional skills*
(2) Improved job satisfaction*
(3) Improved sense of leadership and instructional efficacy*

School Leader Outcomes
(1) Improved team leadership
(2) Improved job satisfaction
(3) Improved sense of efficacy

Student Outcomes
(1) Greater student learning
(2) Improved TAKS/STAAR scores*
(3) Improved achievement-related behavior (e.g., attendance)
(4) College readiness

System Benefits
(1) Exemplary student achievement*
(2) Increased capacity (teacher & leader)
(3) Improved teacher and leader retention*

* Measured outcomes

Rio Grande Valley Center for Teaching and Leading Excellence
Logic Model
Revised December 2013

Evaluation of the RGV Center for Teaching and Leading Excellence
Final Report

SRI International
Copia Consulting

Evaluation of the Center

SRI International and Copia Consulting conducted the evaluation of the Center, a longitudinal study using mixed quantitative and qualitative methods to examine implementation—primarily of NTT and TLT—and effects on teacher and student outcomes. We followed three cohorts of new teacher training and teacher leader training participants, from 2011-12 through 2013-14.

The evaluation featured annual implementation fidelity analyses; annual teacher and teacher leader surveys; annual training observations; interviews with stakeholders including program directors, district leaders, school leaders, and training participants to provide formative feedback; and randomized controlled trials to examine the impact of NTT and TLT on teacher and student outcomes.

Implementation Fidelity

Mapping to the logic model, the implementation fidelity measures spanned the summer institutes and ongoing professional development sessions for both NTT and TLT and also tracked coaching for NTT. On the basis of guidance from the national evaluation of i3, as well as salient literature (see Dane & Schneider, 1998; Dusenbury, Brannigan, Falco, & Hansen, 2003), we included implementation fidelity dimensions such as adherence to the model, attendance, and quality of program delivery. The Center directors defined the specific fidelity indicators and threshold for high fidelity for each indicator based on their expectations for Center staff and participants. As required for the national evaluation of i3, fidelity indicators were rolled up to an aggregate score for each key component. For NTT, the two key components were teacher recruitment and selection, and New Teacher Training. For TLT, the two key components were teacher leader selection and Teacher Leader Training. The implementation fidelity indicators and scores are presented in the NTT and TLT chapters.

Data for implementation fidelity measures came from:

- Annual surveys of NTT participants and comparison teachers; TLT participants and comparison teachers (in PSJA ISD); and school leader training participants

- Attendance lists for each new teacher and teacher leader summer institute and ongoing professional development session, and for new teacher coaching each month

- Participant evaluation forms for each new teacher and teacher leader summer institute and ongoing professional development session

- Observations of new teacher and teacher leader summer institutes, ongoing professional development, and cross-district coaching summits (see Appendix B for observation rubric)

Impact Analyses

To examine the impact of NTT and TLT, we used two randomized controlled trials. For NTT, PSJA ISD students were randomly assigned to NTT participants and their colleagues in the same grades, subjects, and schools for grades 4 through 8. We verified that students across randomly assigned classes were similar at baseline on math and reading pre-tests. Student outcomes were achievement scores on state tests in reading and math from grades 4 through 8, with scores from the previous grade as pre-test measures, and in science and social studies in grade 8, with grade 7 math and grade 7 reading, respectively, as pre-test scores.

IDEA Public Schools served secondary teachers only in NTT and because their secondary schools typically are organized with one teacher per grade per school, students could not be randomly assigned between NTT and comparison teachers teaching the same grade and subject in the same school. We completed a descriptive analysis of IDEA student outcomes for NTT participants' students and that of non-NTT participants teaching the same grade and subject at other IDEA campuses.

Student and teacher demographic data and student achievement scores for the student outcomes analyses came from administrative files from IDEA Public Schools and PSJA ISD.

We also analyzed the impact of NTT on teacher outcomes for all NTT participants (not limited to those in tested grades and subjects), compared with the teachers of the same grades and subjects in the same schools in PJA ISD and with teachers who did not participate in NTT or in TLT at IDEA. Teacher outcomes were self-reported efficacy and job satisfaction, obtained from annual teacher surveys, and one-year teacher retention rates.

To examine the impact of TLT, we randomly assigned teacher leader candidates selected according to district-specific criteria to different TLT conditions. PSJA ISD teacher leader candidates were matched in triplets based on years of teaching experience and individuals in each triplet were randomly assigned to LST, STT, or the delayed treatment group. LST participants attended the LST training in the first year as a teacher leader and then attended STT the second year; vice versa for STT participants. Delayed treatment candidates attended either LST or STT the year after they were first identified and assigned to the delayed treatment group. Once the delayed treatment candidates began TLT training, we did not track them for the study. The outcomes analysis for TLT in PSJA ISD compared the outcomes of LST and STT separately to those of the delayed treatment group.

IDEA Public Schools trained all teacher leaders selected by district and school leaders as content or grade-level team leaders. We randomly assigned the content and grade-level team leaders to LST or STT for their first year of TLT participation. They

switched trainings in their second year. Thus the outcomes analysis for IDEA Public Schools compares LST to STT.

Teacher outcomes for TLT included self-reported teacher efficacy, job satisfaction, efficacy in instructional leadership, efficacy in management, and efficacy in problem solving. These outcomes came from annual teacher leader surveys. In addition, because TLT participants from IDEA Public Schools held specific roles with assigned teaching teams, we have two other outcomes for IDEA—quality of teacher leader instructional support and quality of teacher leader management—as reported by the TLT participants' team members in the annual teacher survey used for NTT teacher outcomes. We also examined the one-year retention rate for TLT participants.

All impact analyses were conducted with hierarchical models. For student outcomes, we used a three-level model with students nested within teachers and teachers nested within schools. A two-level model, with teachers nested within schools, applied to teacher outcomes. Appendix A provides further details of the evaluation methods.

This report presents findings organized around the key training programs. We first discuss NTT implementation and outcomes, followed by TLT implementation and outcomes. We then overview the school leader trainings in both districts and the results from a comparative interrupted time series designed to capture the overall impact of the Center on student outcomes. The report ends with conclusions and implications for the field.

New Teacher Training (NTT) provided new teachers with less than five years of experience in IDEA Public Schools and PSJA ISD with preparation and professional development in instruction. Key topics included classroom management, lesson planning, data-driven decision-making, and assessment. The training consisted of a four-day joint summer institute (with a fifth district-specific day), three ongoing professional development sessions during the school year, and one-on-one instructional coaching during the school year. Each district provided its own ongoing professional development and instructional coaching to new teachers.

This chapter presents findings on implementation, implementation fidelity scores, and NTT effects on teacher and student outcomes.

Implementation

Exhibits 2 and 3 detail the implementation fidelity measures for NTT in IDEA Public Schools and PSJA ISD, respectively. These exhibits list the fidelity indicator for each component of NTT—summer institute, ongoing coaching, and ongoing professional development—and for overall NTT implementation. For each indicator, we list the fidelity scale and indicator threshold (i.e., the minimum requirement for meeting fidelity). In addition, we provide the indicator score—the actual score received on that indicator—and a fidelity score between 0 and 1, representing the proportion of the indicator that was met. In this section, we use the fidelity data to highlight key NTT implementation findings.

Exhibit 2. Implementation Fidelity Indicators for New Teacher Training, IDEA Public Schools, 2011–12, 2012–13, and 2013–14

Indicator	Fidelity Scale	Indicator Threshold	2011–12		2012–13		2013–14	
			Indicator Score	Fidelity Score	Indicator Score	Fidelity Score	Indicator Score	Fidelity Score
New Teacher Summer Institute								
Adherence	Intended topics covered: 1=Yes, 0=No	≥ 95% of sessions scoring 1 across 4 shared training days	100% of sessions observed	1	100% of sessions observed	1	89% of sessions observed	89/95 = 0.94
Attendance	1=Present, 0=Absent	≥ 90% of intended participants present across 4 shared training days	64%	64/90= 0.71	86%	86/90= 0.96	76%	76/90= 0.84
Quality of delivery	Practice-based 1=Poor, 3=Acceptable 5=Excellent	An average of 3 or greater across observed sessions	4.4	1	4.2	1	4.3	1
	Interactive 1=Poor, 3=Acceptable 5=Excellent	An average of 3 or greater across observed sessions	4.0	1	4.2	1	4.7	1
	Check for understanding: 1=Yes, 0=No	≥90% of sessions score 1	64%	64/90= 0.71	95%	1	93%	1
Participant engagement	1=Poor, 3=Acceptable 5=Excellent	An average of 3 or greater across observed sessions	4.3	1	4.3	1	3.9	1
Usefulness of training	1=Strongly disagree 2=Disagree, 3=Agree 4=Strongly agree	An average of 3 or greater across participants	3.5	1	3.7	1	3.7	1

Exhibit 2. Implementation Fidelity Indicators for New Teacher Training, IDEA Public Schools, 2011–12, 2012–13, and 2013–14 (continued)

Indicator	Fidelity Scale	Indicator Threshold	2011–12		2012–13		2013–14	
			Indicator Score	Fidelity Score	Indicator Score	Fidelity Score	Indicator Score	Fidelity Score
Ongoing Coaching								
Level of coaching	1=Present, 0=Absent	≥ 90% of intended participants	Coached at least once: 96%	1	Coached at least once: 99%	1	Coached at least once: 94%	1
			Coached at least 6 times: 71%	71/90 = 0.79	Coached at least 6 times: 97%	1	Coached at least 6 times: 90%	1
Ongoing Professional Development								
Attendance	1=Present, 0=Absent	≥ 90% of intended participants	Attended at least 1 follow-up: 64%	64/90= 0.71	Attended at least 1 follow-up: 83%	83/90= 0.92	Attended at least 1 follow-up: 83%	83/90= 0.92
			Attended at least 3 follow-ups: 42%	42/90= 0.47	Attended at least 3 follow-ups: 54%	54/90= 0.60	Attended at least 3 follow-ups: 25%	25/90= 0.28
Usefulness of the ongoing PD	1=Strongly disagree 2=Disagree, 3=Agree 4=Strongly agree	An average of 3 or greater	3.8	1	3.7	1	3.5	1

Exhibit 2. Implementation Fidelity Indicators for New Teacher Training, IDEA Public Schools, 2011–12, 2012–13, and 2013–14 (concluded)

Indicator	Fidelity Scale	Indicator Threshold	2011–12		2012–13		2013–14	
			Indicator Score	Fidelity Score	Indicator Score	Fidelity Score	Indicator Score	Fidelity Score
Overall New Teacher Training								
Attendance	**High** 4 days summer institute, at least 2 days ongoing PD, coached at least once	≥ 80% of intended participants	High: 45%	45/80= 0.56	High: 55%	55/80= 0.69	High: 43%	43/80= 0.54
	Medium 4 days summer institute, 1 day ongoing PD, coached at least once		Medium: 7%		Medium: 10%		Medium: 23%	
	Low All others		Low: 48%		Low: 35%		Low: 35%	
Influence of the overall New Teacher Training (summer institute, ongoing PD, coaching) on participants' instruction[a]	1=Not at all 2=Somewhat 3=Moderately 4=Greatly	An average of 3 or greater	High: 3.2	1	High: 3.2	1	High: 3.3	1
			Medium: 3.8	1	Medium: 3.4	1	Medium: 2.8	2.8/3.0= 0.93
			Low: 3.0	1	Low: 3.1	1	Low: 2.9	2.9/3.0= 0.97

[a] The high, medium, and low categories are based on the definitions of the overall attendance categories.

Source: Evaluation of the RGV Center for Teaching and Leading Excellence, summer institute observations 2011, 2012, 2013; IDEA Public Schools and PSJA ISD attendance lists; participant evaluation forms for summer institute and ongoing professional development sessions; IDEA Public Schools and PSJA ISD coaching logs; teacher survey, spring 2012, 2013, and 2014.

Exhibit 3. Implementation Fidelity Indicators for New Teacher Training, PSJA ISD, 2011–12, 2012–13, and 2013–14

Indicator	Fidelity Scale	Indicator Threshold	2011–12		2012–13		2013–14	
			Indicator Score	Fidelity Score	Indicator Score	Fidelity Score	Indicator Score	Fidelity Score
New Teacher Summer Institute								
Adherence	Intended topics covered: 1=Yes, 0=No	≥ 95% of sessions scoring 1	100% of sessions observed	1	100% of sessions observed	1	89% of sessions observed	89/95= 0.94
Attendance	1=Present, 0=Absent	≥ 90% of intended participants attended 4 days	73%[a]	73/90= 0.81	58%	58/90= 0.64	42%	42/90= 0.47
Quality of delivery	Practice-based 1=Poor, 3=Acceptable 5=Excellent	An average of 3 or greater across observed sessions	4.4	1	4.2	1	4.3	1
	Interactive 1=Poor, 3=Acceptable 5=Excellent	An average of 3 or greater across observed sessions	4.0	1	4.2	1	4.7	1
	Check for understanding: 1=Yes, 0=No	≥90% of sessions score 1	64%	64/90= 0.71	95%	1	93%	1
Participant engagement	1=Poor, 3=Acceptable 5=Excellent	An average of 3 or greater across observed sessions	4.3	1	4.3	1	3.9	1
Usefulness of training	1=Strongly disagree 2=Disagree, 3=Agree 4=Strongly agree	An average of 3 or greater across participants	3.5	1	3.7	1	3.7	1

Exhibit 3. Implementation Fidelity Indicators for New Teacher Training, PSJA ISD, 2011–12, 2012–13, and 2013–14 (continued)

Indicator	Fidelity Scale	Indicator Threshold	2011–12		2012–13		2013–14	
			Indicator Score	Fidelity Score	Indicator Score	Fidelity Score	Indicator Score	Fidelity Score
Ongoing Coaching								
Level of coaching[c]	1=Present, 0=Absent	≥ 90% of intended participants	Coached at least once[b]: 54% (71% for those with no prior experience)	54/90= 0.60	Coached at least once[b]: 80% (70% for those with no prior experience)	80/90= 0.89	Coached at least once[b]: 83% (91% for those with no prior experience)	83/90= 0.92
			Coached at least 6 times[b]: 21% (25% for those with no prior experience)	21/90= 0.23	Coached at least 6 times[b]: 65% (65% for those with no prior experience)	65/90= 0.72	Coached at least 6 times[b]: 73% (78% for those with no prior experience)	73/90= 0.81
Ongoing Professional Development								
Attendance[d]	1=Present, 0=Absent	≥ 90% of intended participants	Attended at least 1 follow-up: 40%	40/90= 0.44	Attended at least 1 follow-up: 64%	64/90= 0.71	Attended at least 1 follow-up: 67%	67/90= 0.74
			Attended at least 3 follow-ups: 11%	11/90= 0.12	Attended at least 3 follow-ups: 4%	4/90= 0.04	Attended at least 3 follow-ups: 15%	15/90= 0.16
Usefulness of the ongoing PD	1=Strongly disagree 2=Disagree, 3=Agree 4=Strongly agree	An average of 3 or greater	3.8	1	3.6	1	3.7	1

Exhibit 3. Implementation Fidelity Indicators for New Teacher Training, PSJA ISD, 2011–12, 2012–13, and 2013–14 (concluded)

Indicator	Fidelity Scale	Indicator Threshold	2011–12		2012–13		2013–14	
			Indicator Score	Fidelity Score	Indicator Score	Fidelity Score	Indicator Score	Fidelity Score
Overall New Teacher Training								
Attendance	**High** 4 days summer institute, at least 2 days ongoing PD, coached at least once	≥ 80% of intended participants	High: 14%	14/80= 0.18	High: 24%	24/80= 0.30	High: 26%	26/80= 0.33
	Medium 4 days summer institute, 1 day ongoing PD, coached at least once		Medium: 10%		Medium: 27%		Medium: 16%	
	Low All others		Low: 76%		Low: 49%		Low: 58%	
Influence of the overall New Teacher Training (summer institute, ongoing PD, coaching) on participants' instruction [e]	1=Not at all 2=Somewhat 3=Moderately 4=Greatly	An average of 3 or greater	High: 3.5	1	High: 3.5	1	High: 3.5	1
			Medium: 3.5	1	Medium: 3.7	1	Medium: 3.5	1
			Low: 3.6	1	Low: 3.3	1	Low: 3.3	1

[a] Combined overall attendance number for PSJA ISD summer 2011 and fall 2011 New Teacher Institute participants. In 2011, state budget cutbacks delayed district hiring. Therefore a significant number of new teachers were not hired in time for the summer institute held at the beginning of August. PSJA ISD held a second institute in early fall 2011 for those who were hired after the August institute.

[b] The percentage of PSJA ISD NTT participants coached excluded those who were enrolled in an alternative certification program. Additionally, four middle schools in PSJA ISD received Common Instructional Framework (CIF) coaching support in 2012-13, and NTT participants on staff at those schools were excluded from NTT coaching for that year only.

[c] In fall 2012, PSJA ISD developed a coaching model in which school-based instructional coaches in addition to Center coaches support new teachers (similar to that at IDEA Public Schools). However, coaching data for the school-based coaches were unavailable; therefore, the percentage of PSJA ISD new teachers coached in 2012–13 includes only the support from the Center coaches. In 2013-14, Center coaches provided the vast majority of coaching for new teachers.

[d] Attendance rates for ongoing professional development and coaching at PSJA ISD exclude alternative certification teachers, who were included in the summer institute but exempted from attending the professional development sessions and coaching due to their continued coursework and supports from their alternative certification programs.

[e] The high, medium, and low categories are based on the definitions of the overall attendance categories.

Source: Evaluation of the RGV Center for Teaching and Leading Excellence, summer institute observations 2011, 2012, 2013; IDEA Public Schools and PSJA ISD attendance lists; participant evaluation forms for summer institute and ongoing professional development sessions; IDEA Public Schools and PSJA ISD coaching logs; teacher survey, spring 2012, 2013, and 2014.

School leaders in both districts reported that the new teacher recruitment and selection processes developed under the Center were an improvement over previous practices.

- *Both districts met fidelity indicators for new teacher recruitment and selection across all three years.*

Under the auspices of the Center, both districts refined their initial teacher screening processes. PSJA ISD implemented a job recruiter tool and worked with Teach For America to develop a rigorous selection process. One school leader reported the new recruitment as being the "best thing ever…. [There is] no way [a teacher] can say he is very good without proving it…. They really need to know the material…you can't fake it." New teachers were also positive about PSJA ISD recruitment and selection processes. One teacher said he would "much rather work for PSJA ISD with a rigorous process" because he believed the administrators knew what they wanted, and if they wanted him, then it must be the right place for him.

In IDEA Public Schools, the human resources department refined the questions they ask potential candidates, focusing on the mission of the organization, as well as questions that identify candidates' competencies. On IDEA Public Schools' online application system, prospective candidates write a series of essays from which talent recruiters select applicants for phone interviews before passing their applications to school leaders. Talent recruiters work with specific campuses to develop a deep understanding of the campuses. As a result, they can send school leaders the applicants who best align with campus culture and need. One school leader said this new process ensured that "we're looking for certain individuals that are, obviously, very knowledgeable in their content, but have the right mindset." Overall, school leaders in both districts were satisfied that the refinements to recruitment and selection made the hiring process more efficient while increasing the recruitment of high-caliber teachers.

Overall, NTT summer institute sessions met implementation fidelity indicators for delivering quality sessions across all three summer institutes. In areas where NTT did not meet fidelity or received participant feedback suggesting improvements, program developers made efforts to improve.

- *NTT met fidelity indicators for delivering sessions that were practice-based, interactive, and engaging for participants across the summer institutes.*

- *NTT did not meet the check-for-understanding indicator in the first year (2011) and the adherence indicator in the third year (2013).*

After the first summer institute, program developers made programmatic adjustments based on fidelity indicators and formative feedback. For example, when NTT did not meet the check-for-understanding indicator in the first year (2011), NTT program developers emphasized to presenters the importance of consistently checking participant understanding. In subsequent summer institutes, NTT met the check-for-understanding indicator. In addition, feedback after the first summer institute indicated

that the sessions should be adjusted during the institute to meet the participants' needs (making adjustments to respond to participants' progress was an implementation fidelity indicator for the summer institute). As a result, program providers implemented daily debriefings with presenters and facilitators to modify the next day's sessions in response to participants' cumulative progress.

Attendance at the NTT summer institute and ongoing training remained a key challenge across all three years despite both districts' efforts to improve attendance.

- *Across all three years, both IDEA Public Schools and PSJA ISD missed the fidelity threshold of at least 90% of participants attending the four shared summer institute training days.*

- *Also in each of the three years, both IDEA Public Schools and PSJA ISD missed the fidelity threshold of 90% of participants attending at least three ongoing professional development sessions.*

Attendance at both the summer institute and ongoing professional development was lower than Center directors desired. During the summer institutes, program developers and school leaders called absent participants each day to request their attendance. The most frequent response participants gave for not attending summer institute or ongoing professional development was that they did not know the sessions were required, the stipulation was typically communicated through e-mail. In some cases, particularly in PSJA ISD during the first summer institute, teachers reported that principals scheduled staff trainings and meetings on days that conflicted with the summer institute. For ongoing professional development, some participants reported that competing afterschool obligations and long distances to the training sites prevented their attendance.

Because they offered district-specific ongoing professional development, the districts responded differently to the attendance challenges. IDEA Public Schools provided ongoing training through webinars at campuses far from the district's headquarters in the second year, and assistant principals of instruction provided ongoing training at each campus in the third year. PSJA ISD offered additional ongoing support through monthly check-in meetings that became more closely aligned with NTT content in the second and third years.[1] Despite these changes, attendance at ongoing professional development remained low in the second and third years.

Some participants, particularly those who attended teacher preparation programs, reported that some of the sessions were repetitive of their programs. Participants also

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[1] The check-in meetings PSJA ISD offered were not originally part of NTT since the intention was not to cover NTT content. Although the check-in meetings became more closely tied to NTT curriculum by the third year, we did not collect attendance data from these meetings. Therefore, any reference to NTT ongoing professional development in PSJA ISD does not include monthly check-ins.

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shared that the ongoing professional development often repeated summer institute curriculum rather than building on it, which could also account for low attendance at the ongoing professional development.

Coaching was central to NTT support, and the frequency with which participants received coaching improved over time.

- *IDEA Public Schools missed the fidelity indicator of at least 90% of participants receiving six days of coaching in the first year but met the coaching indicator in the second and third years.*

- *PSJA ISD missed the indicator in all three years but, over the three years, greatly improved the frequency with which participants received coaching.*

The fact that both districts offered their own ongoing coaching could explain differences between the districts in coaching frequency. IDEA Public Schools had an existing model in which district coaches supported school-based instructional coaches who, in turn, provided coaching to NTT participants on campus. In comparison, PSJA ISD had two NTT-specific instructional coaches in the first year and four in the second and third years, resulting in a larger coach-to-participant ratio than in IDEA Public Schools. The difference in coaching models could explain why PSJA ISD missed meeting the fidelity indicator for coaching frequency while IDEA Public Schools was more easily able to improve and meet the indicator in the second and third years.

Despite these differences in structure and coaching capacity, instructional coaching around NTT strategies and curriculum was central to the training in both districts. Over the three years, 92% and 66% of NTT participants in IDEA Public Schools and PSJA ISD, respectively, reported receiving coaching from an instructional coach. In both districts, the most frequent types of coaching support reported by participants were written or oral feedback after a classroom observation and guidance in developing their professional growth plans. Less frequent supports included guiding teachers in analyzing student work, providing teaching materials, and demonstrating lessons. The areas of coaching focus reported by NTT recipients also differed in the two districts. In IDEA Public Schools, the coaching centered more on interpreting and using assessment data to plan instruction, as well as creating a classroom culture of high expectations. Coaching in PSJA ISD focused on lesson design and delivery (e.g., using a variety of instructional methods, checking for student understanding during the lesson, designing an objective-driven lesson, and prompting students to think more critically), in addition to creating a culture of high expectations (Exhibits 4 and 5).

Exhibit 4. NTT Participants' Reports of Coaching Focus, IDEA Public Schools, 2011-12 Through 2013-14 Combined

Coaching Focus	Percent
Discussing student assessment data to make decisions about instruction	81%
Creating a culture of high expectations	80%
Assessing students and interpreting assessment data	79%
Inserting "check-for-understanding" questions into a lesson to assess learning	69%
Using or incorporating a variety of instruction methods	64%
Adapting instruction to meet equally well the needs of students at varying academic levels	62%
Building effective, objective-driven lesson plans	62%
Crafting questions to prompt students to think more critically	61%
Handling challenging classroom management and discipline situations	61%
Teaching my subject matter or grade level	61%
Planning a unit by identifying a series of linked objectives that lead to a larger goal	59%

Percent of Those Receiving Coaching

Source: Evaluation of the RGV Center for Teaching and Leading Excellence, teacher survey, spring 2012, 2013, and 2014.

Exhibit 5. NTT Participants' Reports of Coaching Focus, PSJA ISD, 2011-12 Through 2013-14 Combined

Coaching Focus	Percent
Creating a culture of high expectations	80%
Using or incorporating a variety of instruction methods	79%
Inserting "check-for-understanding" questions into a lesson to assess learning	77%
Building effective, objective-driven lesson plans	77%
Crafting questions to prompt students to think more critically	75%
Handling challenging classroom management and discipline situations	72%
Adapting instruction to meet equally well the needs of students at varying academic levels	71%
Planning a unit by identifying a series of linked objectives that lead to a larger goal	69%
Teaching my subject matter or grade level	64%
Discussing student assessment data with me to make decisions about instruction	64%
Assessing students and interpreting assessment data	63%

Percent of Those Receiving Coaching

Source: Evaluation of the RGV Center for Teaching and Leading Excellence, teacher survey, spring 2012, 2013, and 2014.

Despite challenges with coaching capacity and differences in structure across both districts, coaching remains an integral component of new teacher support. When asked about the classroom-based supports, about one-third of IDEA Public Schools and PSJA ISD participants agreed that they had not received enough classroom-based supports to implement what they learned across all three years, suggesting the need for more coaching.

Although attendance was inconsistent, participants generally reported NTT as useful and valuable for improving instruction.

- *Both districts met the fidelity indicator for usefulness of summer institute and ongoing professional development across all three years, as measured by participant evaluation forms.*

- *During the first and second years, both districts met the fidelity indicator on participants' reports of NTT's influence on instructional practice. In the third year, IDEA Public Schools slightly missed the fidelity indicator for participants in the "medium" and "low" attendance categories.*

Participants who completed evaluation forms from the summer institute and ongoing professional development sessions agreed that session goals were clear, content and structure were appropriate, and presenters understood participants' learning needs. However, because attendance was low for ongoing professional development, these results may reflect the perspectives of only those with the greatest persistence in the training.

When asked to what extent the NTT summer institute, ongoing professional development, and coaching influenced instructional practices, a majority of NTT participants surveyed reported that the training moderately or greatly influenced a wide range of skills, including planning lessons and units, engaging students, assessing student learning, and creating a positive classroom culture. Noteworthy is the strong alignment between the top five skills reported by participants in both districts and NTT's core areas of focus. These areas include developing objective-driven lessons, planning units using backwards design, creating a classroom culture of achievement, motivating and engaging students, and embedding check-for-understanding questions into lessons, all key components of the NTT summer institute and ongoing training (see Exhibits 6 and 7). Participants, coaches, and school leaders in both districts reported the lesson planning and backwards planning sessions to be useful, and suggested decreasing time on classroom culture in favor of more time on instructional planning.

Exhibit 6. Participant Reports of NTT Influence on Instructional Practices, IDEA Public Schools, 2011-12 Through 2013-14 Combined

Practice	Percentage
Motivating and engaging students in lessons	80%
Inserting "check-for-understanding" questions into a lesson to assess student learning	79%
Building effective, objective-driven lesson plans	77%
Planning a unit of study by backwards planning	76%
Adapting my instruction so I meet equally well the needs of students at varying academic levels	76%
Creating a culture of achievement that invests students in their own learning	75%
Developing lesson plans to help students reach state standards	73%
Embedding and implementing a variety of student assessment strategies into lessons	72%
Developing instructional plans based on student test data	70%
Developing a classroom management plan	70%
Using teaching methods specifically tailored to my subject field(s)	69%
Interpreting student test results	69%
Finding appropriate, quality instructional materials	66%
Handling challenging classroom management and discipline situations	63%
Communicating with parents	56%

Source: Evaluation of the RGV Center for Teaching and Leading Excellence, teacher survey, spring 2012, 2013, and 2014.

Exhibit 7. Participant Reports of NTT Influence on Instructional Practices, PSJA ISD, 2011-12 Through 2013-14 Combined

Practice	Percentage
Creating a culture of achievement that invests students in their own learning	89%
Embedding and implementing a variety of student assessment strategies into lessons	88%
Planning a unit of study by backwards planning	87%
Building effective, objective-driven lesson plans	86%
Inserting "check-for-understanding" questions into a lesson to assess student learning	86%
Motivating and engaging students in lessons	84%
Developing a classroom management plan	84%
Adapting my instruction so I meet equally well the needs of students at varying academic levels	83%
Developing lesson plans to help students reach state standards	83%
Developing instructional plans based on student test data	78%
Finding appropriate, quality instructional materials	77%
Handling challenging classroom management and discipline situations	77%
Using teaching methods specifically tailored to my subject field(s)	77%
Communicating with parents	73%
Interpreting student test results	73%

Source: Evaluation of the RGV Center for Teaching and Leading Excellence, teacher survey, spring 2012, 2013, and 2014.

In both districts, lower proportions of participants reported moderate or great training influence on interpreting test results, communicating with parents, handling difficult classroom management situations, using teaching methods tailored to their subject, and finding appropriate, quality instructional materials. NTT curriculum focused most closely on instructional planning and developing classroom culture, so it is perhaps not surprising that fewer participants reported effects on direct instructional practices. In addition, participants criticized the absence of a subject matter focus in the NTT curriculum, particularly for lesson planning sessions, reflected by the lower proportion of participants who reported training effects on using teaching methods tailored to their subject.

Fewer PSJA NTT participants in the second year than in the first year reported moderate to great training influences across instruction-related skills. Similarly, the proportion of IDEA Public Schools NTT participants reporting moderate or great training influences decreased steadily from the first year to the third year, with the largest differences in reports of handling challenging classroom management issues and communicating with parents. A possible explanation for this difference is hiring restrictions in the first year, which may have limited the pool of applicants to those with more teaching experience. In the first year, 8% of PSJA ISD NTT participants had no prior experience, compared with 42% in the second year. In IDEA Public Schools, 43% of participants had less than three years of teaching experience in the first year compared to 59% in the second year and 73% in the third year. It may be that teachers with less teaching experience had greater needs and therefore required even more intense support to perceive moderate to great training effects.

A good indicator of training usefulness is alignment of the training curriculum with school curriculum and expectations. Across all three years, 86% of IDEA Public Schools and 85% of PSJA ISD participants reported strong alignment between what they learned through NTT and what their school leaders expected.

Overall, participant reports of NTT usefulness in supporting teacher practice were high. When examining teacher reports of usefulness of the summer institute, ongoing training, and ongoing coaching by levels of participation, we found that, regardless of the amount of training received, participants reported at least moderate influence of the training on their instruction.

Exhibit 8 summarizes implementation fidelity across both districts (the "sample") for the two key components, teacher recruitment and selection and New Teacher Training. The New Teacher Training component score is a composite of the indicators in Exhibits 2 and 3. The teacher recruitment and selection component is defined as whether each district followed and completed a consistent recruitment and selection process each year. The overall sample achieved a high implementation rating for teacher recruitment and selection if both districts achieved a score of 1 for following their defined process.

To calculate the implementation fidelity scores for the sample overall, the district scores for the New Teacher Training component are the average of the indicator fidelity scores for adherence, quality of delivery, participant responsiveness, and usefulness of training for the summer institute; usefulness of ongoing professional development; summary score for attendance and influence of the overall New Teacher Training (see indicators listed in Exhibits 2 and 3). The district achieves a high fidelity rating if the average is at least 80%, medium if the average is greater than 60% and below 80%, and low if the average is 60% or lower. The overall *sample* achieves a high implementation rating for the New Teacher Training component if both districts score at least 80% (i.e., both districts achieve a high implementation rating).

Across all years, implementation fidelity at the sample level was high for both key components, teacher recruitment and selection and New Teacher Training.

Exhibit 8. NTT Sample-Level Implementation Fidelity

Key component	Threshold for sample implementation fidelity	2011-12		2012-13		2013-14	
		Actual Score	Component implemented with fidelity? 1=Yes 0=No	Actual Score	Component implemented with fidelity? 1=Yes 0=No	Actual Score	Component implemented with fidelity? 1=Yes 0=No
Teacher recruitment & selection	Both IDEA and PSJA must score 1	IDEA = 1 PSJA = 1	1	IDEA = 1 PSJA = 1	1	IDEA = 1 PSJA = 1	1
New Teacher Training	Both IDEA and PSJA must score >= 80%	IDEA = 93% PSJA = 90%	1	IDEA = 97% PSJA = 94%	1	IDEA = 94% PSJA = 93%	1

New Teacher Training Outcomes

The NTT outcome analyses address the following questions. Across the three cohorts of New Teacher Training participants:

- Do levels of job satisfaction and sense of efficacy differ between PSJA ISD NTT participants and other PSJA ISD teachers in the same subject, grade, and school?

- Do levels of job satisfaction and sense of efficacy differ between IDEA Public Schools NTT participants and other IDEA Public Schools teachers?

- Do reading and math scores differ between elementary students of PSJA ISD NTT participants and their peers taught by other teachers in the same subject, grade, and school?

- Do the reading, math, and social studies scores differ between secondary students of PSJA ISD NTT participants and their peers taught by other teachers in the same subject, grade, and school?

Methods

In addition to understanding the level of implementation fidelity, the evaluation studies the impact of NTT on teacher and student outcomes. The NTT impact study design differs across the two districts, for two reasons. First, middle and high schools at IDEA Public Schools are small and typically have only one teacher per subject per grade, which means no other teachers in the same school, subject, and grade are available to serve as comparisons. In contrast, PSJA ISD has relatively large primary and secondary schools, in which multiple teachers teach the same subject at each grade level within the same school, providing a comparison group. Therefore, random assignment of students to different classes in a grade within each school was feasible and available only at PSJA ISD. Second, IDEA Public Schools implemented direct instruction training for all its elementary teachers beginning in 2011–12. Therefore, elementary teachers did not participate in NTT and were not included in the NTT impact analysis for IDEA Public Schools. We explain the NTT study research questions, study design, and methods separately for the two districts.

Sample

For teacher outcomes, the PSJA ISD sample includes the PSJA ISD NTT participants identified as those who had not been trained by Teach For America (TFA) or did not have significant prior teaching experience (approximately five years or more). The PSJA ISD comparison teachers were their peers who taught the same subject in the same grade level in the same school. TFA teachers, newly hired highly experienced teachers, and teacher leaders trained by the Center were excluded from the comparison group. In IDEA Public Schools, the sample includes NTT participants, who

were all secondary teachers, and non-NTT and non-TLT secondary teachers in the district.

For the student outcome analysis, the PSJA ISD NTT teacher sample for grades 4-5 reading and math achievement were new teachers in grade 4 or 5 trained by the Center, and their comparison teachers were their peers teaching in the same grade in the same school in the same year. For middle schools, treatment teachers are new teachers trained by the Center, and their comparison teachers are their peers teaching the same grade and subject in the same school in the same year.[2] Teachers who had one or more students with complete pretests from the prior spring and posttests from the spring of the new teachers' first year in the district were included in the analysis.[3]

The PSJA ISD student sample for the student outcome analysis was all students taught by either NTT participants or comparison teachers, pooled across grades 4 and 5 or grades 6 through 8. Students with missing pretest or posttest scores on the core subjects were excluded from the analysis.[4]

Both teacher and student outcome analyses use a pooled sample across the three cohorts of NTT participants and comparison teachers to maximize statistical power to detect effects.

Student Assignment Procedures

Random assignment is intended to ensure that any difference in outcomes between the NTT and comparison teachers would not be due to preexisting differences between the two groups related to the outcomes (e.g., new teachers having more lower-performing students in their classes). PSJA ISD district staff randomly assigned students in the same grade in the same school to classrooms and to teams within middle schools.[5] Random assignment was conducted with each grade within each school with NTT treatment teachers in grades 4 and 5 and grades 6 through 8. The district used the same procedures in summers 2011, 2012, and 2013.

Through random assignment, classes in the same grade level should comprise students of equal performance levels at the beginning of the study. SRI verified the random assignment each year by testing the baseline test score differences of students

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[2] No common student outcomes (e.g., TAKS scores) were available for analysis in kindergarten through grade 2, so NTT participants teaching kindergarten through grade 2 and their students were not included in the analyses.

[3] For cohort 1, the pretests and posttests were spring 2011 TAKS scores and spring 2012 STAAR scores, respectively; for cohort 2, pretests and posttests were spring 2012 and spring 2013 STAAR scores, respectively; for cohort 3, pretests and posttests were spring 2013 and spring 2014 STAAR scores, respectively.

[4] Students with severe disabilities or students whose English language proficiency exempted them from taking the state tests in the four core subject areas are therefore also excluded from the analysis.

[5] In middle schools, students on the same team have the same subject matter teachers.

across classes in the same subject and grade in the same school. If the average test score difference was more than 0.25 standard deviation between any two classes in a grade level within a school, the schools were notified to rerandomize their classes in that grade level until they met the smaller than 0.25 standard deviation criterion (Morgan & Rubin, 2012; Lock, 2011).

Outcome Measures

NTT teacher outcome measures include survey scales on job satisfaction and efficacy and one-year retention in the district. Student outcomes are the spring 2012, 2013, and 2014 STAAR results for grades 4 and 5 and grades 6 through 8 in reading and math and grade 8 science and social studies. (See Appendix A for detailed descriptions of the teacher survey measures.)

Teacher Outcome Results for PSJA ISD and IDEA Public Schools, 2011–12 Through 2013-14 Combined

We examined the NTT effect on three teacher outcomes: job satisfaction and teacher efficacy as teachers reported in annual surveys, and one-year retention. As depicted in the logic model, NTT training is intended to result in improved new teachers' job satisfaction, efficacy, and retention rates. Job satisfaction relates to teacher turnover and derives from different aspects of working conditions including instructional supports. Job satisfaction and teacher efficacy are related to teaching, teacher retention, and student achievement (Klassen & Chiu, 2010; Skaalvik & Skaalvik, 2007; Tschannen-Moran & Hoy, 2001).

Job Satisfaction and Teacher Efficacy

The effects of NTT on job satisfaction and efficacy differ between PSJA ISD and IDEA Public Schools. In PSJA ISD, NTT participants reported slightly higher average job satisfaction (3.30 versus 3.21, $p < 0.05$, effect size[6] = 0.20) but a lower sense of efficacy (3.35 versus 3.52, $p < 0.05$, effect size = -0.39) (Exhibit 9). These results suggest that NTT participants feel sanguine about their job overall, including working conditions and support. Nevertheless, their lower efficacy ratings may reflect that they understand the complexity of teaching and recognize their need to develop as teachers. In IDEA Public Schools, NTT participants and their comparison teachers did not differ on job satisfaction and teacher efficacy (Exhibit 10).[7] Given the relationship between job

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[6] Effect size indicates the strength of the intervention effect and takes into account the differences in variability across measures. Hedges' g effect size was calculated for continuous outcomes, which is the estimated impact from the hierarchical linear model (HLM) divided by the pooled standard deviation (SD) of the treatment and control groups.

[7] All teacher outcome analyses were conducted by using two-level hierarchical models with HLM. The analyses were conducted separately for PSJA ISD and for IDEA Public Schools.

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satisfaction and teacher turnover, and given that novice teachers typically have higher turnover than veteran teachers, the similarities in job satisfaction between NTT participants and the comparison group indicate that the additional supports provided by the summer institute, coaching, and ongoing professional development may be helping novices feel capable in the classroom.

**Exhibit 9. Job Satisfaction and Teacher Efficacy Results, PSJA ISD,
2011-12 Through 2013-14 Combined**

Teacher Outcome	NTT			Comparison			HLM Results (NTT vs. Comparison)	
	Mean [a]	SD [b]	N [c]	Mean	SD	N	β [d]	p [e]
Job satisfaction	3.30	0.55	192	3.21	0.61	644	0.12	0.02
Teacher efficacy	3.35	0.46	192	3.52	0.43	644	-0.17	<.0001

[a] Teacher survey outcomes are on a 4-point scale with 1 = strongly disagree to 4 = strongly agree.

[b] SD = standard deviation, a measure of variation from the average.

[c] N represents the number of participants in this analysis.

[d] β indicates the difference between the two groups under comparison.

[e] p values indicate the significance of the relationship measured by β.

**Exhibit 10. Job Satisfaction and Teacher Efficacy Results, IDEA Public Schools,
2011-12 Through 2013-14 Combined**

Teacher Outcome	NTT			Comparison			HLM Results (NTT vs. Comparison)	
	Mean [a]	SD [b]	N [c]	Mean	SD	N	β [d]	p [e]
Job satisfaction	3.14	0.57	204	3.14	0.62	423	-0.03	0.59
Teacher efficacy	3.32	0.44	205	3.36	0.47	423	-0.03	0.45

[a] Teacher survey outcomes are on a 4-point scale with 1 = strongly disagree to 4 = strongly agree.

[b] SD = standard deviation, a measure of variation from the average.

[c] N represents the number of participants in this analysis.

[d] β indicates the difference between the two groups under comparison.

[e] p values indicate the significance of the relationship measured by β.
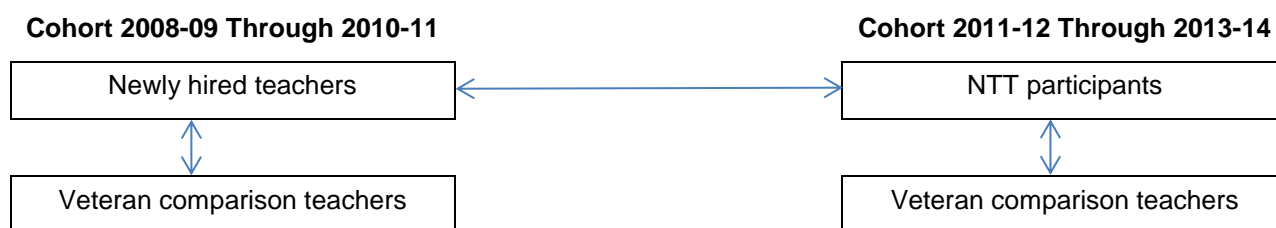
NTT Participant Retention

Turnover among novice teachers has been attributed to a lack of preparation for the rigors of the classroom and to a lack of support in the early years of teaching

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(Darling-Hammond, 2001, 2003; Gold, 1996; Smith & Ingersoll, 2004). Thus, both IDEA Public Schools and PSJA ISD expected the investment in training new teachers to pay off in improved retention.

PSJA ISD. To understand the full picture of the impact of NTT on teacher retention rates in PSJA ISD, we compared PSJA NTT participants with two different comparison groups (Exhibit 11). First, NTT participants in 2011-12 through 2013-14 were compared with veteran teachers in the same three cohorts.[8] Second, NTT participants in 2011-12 through 2013-2014 were compared with new teachers who were hired in 2008-09 through 2010-2011, before the RGV Center was established. In addition, we compared new teachers who were hired in 2008-09 to 2010-2011 with veteran teachers in the same three cohorts. Comparisons with the earlier cohorts of new teachers and between the new teachers and veteran teachers before NTT began provide benchmarks by which to interpret the relative retention rates of NTT participants compared with veteran teachers in the post-RGV Center period.

Exhibit 11. NTT Retention Analysis Comparisons

Cohort 2008-09 Through 2010-11

Newly hired teachers

Veteran comparison teachers

Cohort 2011-12 Through 2013-14

NTT participants

Veteran comparison teachers

Comparison 1: NTT Participants vs. Veteran Teachers in 2011–12 Through 2013-14 Combined. New teachers in PSJA ISD participating in NTT had a lower one-year retention rate than that of the comparison group of veteran teachers teaching the same grades and subjects in the same schools (Exhibit 12). After controlling for teacher background characteristics (cohort, race, gender, and teaching assignment), PSJA NTT participants were 72% less likely to remain in the district after one year, compared with the comparison group.

Because all novice teachers hired before the school year each year were included in the training, all comparison teachers were veteran teachers. Among treatment teachers, 59% had one or fewer years of experience, 20% had two years of experience, 18% had three or four years of experience. Lower retention rates for new teachers compared to veteran teachers are generally expected, since the first few years are the most difficult in learning to teach and facing the everyday rigors of the classroom. Adequate preservice training, strong induction support, and a supportive professional community are commonly considered critical strategies to stem new teacher attrition.

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[8] All teachers with less than five years of experience participated in the NTT; therefore, there were no eligible comparison teachers with similar levels of experience who were not part of NTT.

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Although NTT offered a range of supports, attendance at the ongoing PD seminars and monthly coaching on average may not have been sufficiently intense support once teachers started working in the classroom.

Exhibit 12. One-Year Teacher Retention, NTT Participants Compared with Veteran Teachers, PSJA ISD, 2011–12 Through 2013-14 Combined

Predictor	Estimate	SE	P	Odds Ratio[a]
NTT participation	-1.28	0.45	0.004	0.278
Cohort 2	0.87	0.64	0.18	2.378
Cohort 3	-0.48	0.36	0.18	0.618
Hispanic	0.74	0.43	0.08	2.106
Male teacher	-0.43	0.33	0.20	0.650
Math teacher	-0.69	0.40	0.08	0.503
Science teacher	0.21	0.53	0.70	1.229
Social science teacher	-0.31	0.54	0.56	0.732

[a] An odds ratio is a measure of association between a predictor and whether or not a teacher stayed in the district one year after the training. The odds ratio for NTT participation represents the odds that NTT participants stayed in the district one year after the training, compared to the odds that veteran teachers stayed in the district one year later. An odds ratio of 0.278 indicates that NTT participants were 72% less likely to stay in the district one year after the training than the veteran teachers.

Comparison 2: NTT Participants in 2011–12 Through 2013-14 vs. Newly Hired Teachers in 2008-09 Through 2010-11. Comparing new teachers and veteran teachers alone may not be able to tell us the effect of NTT on teacher retention because less experienced teachers typically have higher turnover rates than more experienced teachers (Stuit & Smith, 2012). A better comparison group may be the new teachers who were hired before the Center started but who would have been eligible for NTT had it been available. Using historical human resources data, we identified teachers with less than 5 years of experience who were hired in 2008-09, 2009-10, or 2010-11 and noted whether they stayed in the district one year after they were hired. We compared the NTT participants in 2011–12 through 2013-14 with new teachers who were hired in 2008-09 through 2010-11 (Exhibit 13). The results show that NTT participants had significantly higher retention rates than new teachers who were hired before NTT. NTT participants were 3.9 times as likely to stay in the district one year after they were hired, compared with new teachers with similar years of experience in 2008-09 through 2010-11.[9]

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[9] We also examined the one-year retention rate of new teachers compared with veteran teachers in 2008-09 through 2010-11 to parallel the retention analysis in the post-RGV Center period. New teachers in that previous period were 64% as likely as veteran teachers to stay in the district one year after being hired. Although this retention rate relative to veteran teachers is higher than that for NTT participants,

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Exhibit 13. One-Year Teacher Retention, NTT Participants in 2011–12 Through 2013-14 Compared with New Teachers in 2008-09 Through 2010-11, PSJA ISD

Predictor	Estimate	SE	p	Odds Ratio [a]
NTT participation	1.36	0.26	<.0001	3.908
Hispanic	1.08	0.27	<.0001	2.945
Male teacher	0.02	0.24	0.93	1.021
Years of teaching experience	1.23	0.12	<.0001	3.418

Note: Subject taught was not included in the model because it was not available in the historical data.

[a] An odds ratio is a measure of association between a predictor and whether or not a teacher stayed in the district one year after the training. The odds ratio for NTT participation represents the odds that NTT participants stayed in the district one year after the training, compared to the odds that new teachers in 2008-09 through 2010-11 stayed in the district one year after they were hired. An odds ratio of 3.908 indicates that NTT participants were 291% or 3.9 times more likely to stay in the district one year after the training than the new teachers in 2008-09 through 2010-11.

IDEA Public Schools. We conducted similar retention analyses for IDEA Public Schools, using human resources data from 2008-09 through 2014-15.

Comparison 1: NTT Participants vs. Veteran Teachers in 2011–12 Through 2013-14. NTT participants at IDEA Public Schools had a 52% lower one-year retention rate, compared with all other IDEA teachers (Exhibit 14). NTT participants generally have less teaching experience than other IDEA teachers, but because IDEA is growing rapidly and hires each year for both growth and attrition, the difference is not as pronounced as in traditional school districts. Eighty percent of NTT participants had fewer than five years of teaching experience, compared with 66% of all other IDEA teachers. The average years of teaching experience probably does not account for the difference in retention, again as one might expect in traditional school districts. Rather, IDEA actively evaluates its teachers, and teachers who remain at IDEA are those who have been successful in the system. Thus, the difference in retention between NTT participants and other IDEA teachers likely reflects the self-selection of those who thrived in the IDEA environment, compared with those who were just beginning to test themselves there.

2009 through 2011 were years of economic downturn. New teachers fortunate enough to retain their jobs probably had little incentive to look elsewhere.

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Exhibit 14. One-Year Teacher Retention, NTT Participants Compared with All Other Teachers, IDEA Public Schools, 2011–12 Through 2013-14 Combined

	Estimate	SE	*p*	Odds Ratio[a]
NTT participation	-0.73	0.27	0.0008	0.484
Cohort 2	-0.70	0.25	0.0054	0.496
Cohort 3	-0.52	0.25	0.04	0.596
Hispanic	4.32	0.52	<.0001	74.862
Male teacher	0.48	0.22	0.03	1.609
Total years experience	0.04	0.02	0.04	1.046

Note: Subject taught was not included in the model because it was not available in the historical data.

[a] An odds ratio is a measure of association between a predictor and whether or not a teacher stayed in the district one year after the training. The odds ratio for NTT participation represents the odds that NTT participants stayed in the district one year after the training, compared to the odds that other teachers in IDEA stayed in the district one year later. An odds ratio of 0.484 indicates that NTT participants were 52% less likely to stay in the district one year after the training than other teachers in IDEA.

Comparison 2: NTT Participants in 2011–12 Through 2013-14 vs. Newly Hired Teachers in 2008-09 Through 2010-11. NTT participants in 2011-12 through 2013-14 were 32% more likely to stay in IDEA one year after they were hired than newly hired teachers in 2008-09 through 2010-11 (Exhibit 15). The difference shows a considerable trend toward significance (*p* = 0.07).

Exhibit 15. One-Year Teacher Retention, NTT Participants in 2011–12 Through 2013-14 Compared with New Teachers in 2008-09 Through 2010-11, IDEA Public Schools

	Estimate	SE	*p*	Odds Ratio[a]
NTT participation	0.28	0.15	0.07	1.32
Hispanic	1.29	0.13	<.0001	3.62
Male teacher	0.15	0.15	0.30	1.16

Note: Subject taught and years of teaching experience were not included in the model because they were not available in the historical data.

[a] An odds ratio is a measure of association between a predictor and whether or not a teacher stayed in the district one year after the training. The odds ratio for NTT participation represents the odds that NTT participants stayed in the district one year after the training, compared to the odds that new teachers in 2008-09 through 2010-11 stayed in the district one year after they were hired. An odds ratio of 1.32 indicates that NTT participants were 32% more likely to stay in the district one year after the training than the new teachers in 2008-09 through 2010-11.

Student Outcome Results, 2011–12 Through 2013-14 Combined

Overall, no differences in outcomes among students of treatment and control teachers were evident for STAAR reading and math in grades 4-5 and grades 6-8. However, where the sample sizes were large enough, these results suggest potentially good news. Students of new teachers tend to have lower results than students of veteran teachers even after controlling for how students are assigned to teachers locally (Croninger, Rice, Rathbun, & Nishio, 2005; Harris & Sass, 2008; Rice, 2003; Vanderhaar,

Munoz, & Rodosky, 2007). Thus, to find that New Teacher Training participants at PSJA ISD have student outcomes similar to those of the more experienced comparison teachers may be cause for cautious optimism.

PSJA ISD. Combining the three cohorts from 2011-12 through 2013-14, the analysis of NTT impacts on student outcomes indicates no statistically significant difference between NTT participants and their comparison teachers in reading and math at grades 4-5 and at grades 6-8.[10]

Exhibit 16 indicates the impacts of NTT on student outcomes[11] after controlling for pretest scores and cohort. The results show that the achievement of students in NTT participants' classes and those in comparison teachers' classes were not statistically different.

Although not statistically significant, the results in math for NTT teachers and for English teachers at the middle school tend to be lower than those for comparison teachers after controlling for baseline math scores (and are approaching marginal statistical significance). NTT was designed to provide teachers with high-leverage instructional strategies relevant to any content area; it was not designed to reinforce teacher content knowledge. Some training activities differentiated among the content areas—for example, using content-specific standards to help teachers learn to map content standards to lesson objectives, assessments, and learning activities. The results suggest that examining the role of pedagogical content knowledge—that intersection of instructional strategies with the specific content and grade contexts (Ball & Bass, 2000; Boaler, 2000; Shulman, 1987)—in novice teachers' development and the implications for refining NTT may help address content-specific needs.

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[10] NTT impacts on student outcomes were derived from an intent-to-treat (ITT) analysis (see details in Appendix A). Regardless of the level of NTT implementation, an ITT analysis compares all classes taught by NTT participants in 2011–12, 2012-13 and 2013-14 with those taught by comparison teachers (those teaching the same grades and subjects in the same schools as the NTT participants). All analyses were conducted by using a three-level hierarchical model (students nested in teachers and teachers nested in schools).
See Appendix A for attrition data. The treatment and comparison groups for reading and math in grades 4-5 and in grades 6-8 had attrition rates within What Works Clearinghouse (WWC) standards (IES, 2014). Differential attrition rates were also acceptable according to WWC standards, except for math and social studies in grades 6-8. The treatment and comparison groups for social studies were equivalent at baseline. Treatment and comparison groups were not equivalent at baseline for math, and student demographics were included in the model to control for those differences at baseline. Pretest scores were included in all models regardless of baseline equivalence.

[11] Although STAAR results are available for grade 8 science, no NTT participants across the three years had matching STAAR grade 8 science student outcomes.

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Exhibit 16. Student Outcome Results, NTT and Comparison Teachers, PSJA ISD, 2011-12 Through 2013-14 Combined

Student Outcomes	NTT			Comparison			HLM Results [a] (NTT vs. Comparison)	
	Mean	SD [b]	N [c]	Mean	SD	N	β [d]	p [e]
Elementary reading	1529.13	294.84	358	1569.86	313.61	1522	-12.03	0.48
Elementary math	1570.41	273.94	321	1624.66	328.03	1481	-24.68	0.11
Middle school English	1590.57	160.16	592	1580.63	218.92	5273	-27.26	0.13
Middle school math	1752.35	690.65	938	2095.77	1015.25	3563	-284.98	0.14
Middle school social studies	3246.76	348.05	149	3282.13	296.43	182	-38.49	0.33

[a] HLM models controlled for student demographic characteristics and pretest scores.

[b] SD = standard deviation, a measure of variation from the average.

[c] N represents the number of participants in this analysis.

[d] β indicates the estimated difference between the two groups under comparison.

[e] p values indicate the significance of the relationship measured by β.

IDEA Public Schools. The student outcome analysis for IDEA Public School NTT participants is descriptive only. Because IDEA secondary campuses typically have only one teacher per grade per subject, it was not possible to randomly assign students among NTT participants and their peers in the same grade, subject, and school as was the design for PSJA ISD. Moreover, with relatively few teachers teaching the same subject and grade in the system, propensity score matching to identify very similar teachers as comparisons was not feasible. Thus, the descriptive analysis is suggestive but indicate the impact of NTT on IDEA student outcomes.

Combining three cohorts, the grades 6-8 reading and math outcomes of NTT participants are similar to those of non-NTT participants teaching the same grades and subjects at other IDEA campuses. The descriptive analysis also indicated no statistically significant differences between NTT participants and non-NTT teachers in grade 8 science and social studies achievement. [12]

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[12] Middle school ELA NTT mean 1,680 (223 SD) and nonNTT mean 1,685 (240 SD), not statistically significant. Middle school math NTT mean 1,899 (672 SD) and nonNTT mean 2,094 (899 SD), not statistically significant. Grade 8 science NTT mean 4,126 (554 SD) and nonNTT mean 4,173 (557 SD), not statistically significant. Grade 8 social studies NTT mean 3,966 (491 SD) and nonNTT mean 4,034

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Discussion

IDEA NTT participants did not differ on self-reported job satisfaction and self-reported efficacy from other teachers in the IDEA system. In contrast, PSJA ISD NTT participants reported higher job satisfaction and lower efficacy compared to veteran teachers of the same grades and subjects. Because novice teachers generally have higher rates of turnover than veteran teachers, the similar and higher levels of job satisfaction in the two districts suggest that NTT may provide enough support to novice teachers to weather the difficulties of being a new teacher.

A possible contributing factor to similar and higher levels of NTT participants' job satisfaction is the districts' new teacher recruitment and selection processes. In both districts, school leaders acknowledged more consistent selection criteria and recruitment processes in both districts, resulting in higher quality candidates who better matched district and school culture. In addition, NTT provided participants with high-quality sessions that were practice-based, interactive, and engaging for participants. The key exception to strong implementation—coaching in one district and attendance at ongoing professional development in both districts—may have hampered NTT participants' opportunities to apply the key principles promulgated in the NTT summer institute. However, participants who did attend ongoing professional development and who received coaching found the supports useful and reported moderate to great effects of coaching on their instructional practices.

Lower levels of reported teacher efficacy among PSJA NTT participants as compared to veteran teachers is unsurprising given the high proportion of teachers with zero years of experience in the second and third cohorts. Teachers with no teaching experience likely required even more support and guidance than NTT offered to feel effective in the classroom. In addition, the lower levels of reported efficacy underscore the importance of teacher attendance at ongoing professional development and participation in coaching, suggesting districts need to better communicate expectations of participation and address the barriers to attendance such as distance to training sites and competing school obligations.

Student outcomes were similar between NTT participants and comparison teachers in PSJA ISD. Because students were randomly assigned between NTT participants' and comparison teachers' classrooms and because attrition and differential attrition between the two groups were low, with one exception, the results suggest that the similarities result from NTT participation rather than systematic bias in the way students are assigned between NTT and comparison teacher classrooms. With generally one teacher per subject per grade at the secondary level, the structure of IDEA Public Schools did not permit student random assignment. In a descriptive comparison,

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(490 SD), not statistically significant. Test scores for students in the NTT and comparison groups were equivalent at baseline for reading, math, science, and social studies.

student outcomes between NTT participants and teachers teaching the same subject and grade in the IDEA system did not differ in grades 6-8 reading and math or in grade 8 science and social studies.

Whereas novice teachers typically have lower student outcomes than more experienced colleagues, the results from this analysis may provide cautious optimism. This finding is particularly promising because the PSJA ISD NTT cohorts in the second and third years had large numbers of teachers with zero years of experience who typically require more support and instructional guidance than veteran teachers to affect student outcomes. Similarly, over 50% of IDEA Public Schools' cohorts across all three years were teachers with 0-3 years of experience. Despite these promising results, one identified area of improvement is more content-specific professional development. Participants reported wanting more training to address subject-specific needs, particularly around lesson planning. Thus examining whether including more content-specific pedagogy in NTT might increase the effectiveness of the program would be worthwhile.

Overall, then, the Center's implementation of NTT was strong and resulted in promising findings on teacher job satisfaction and efficacy, and potentially on student outcomes.

Teacher Leader Training (TLT) was composed of Skillful Teacher Training (STT) and Leadership Skills Training (LST). STT provided instructional leadership training, and LST focused on management and team facilitation skills. Before each summer institute, school leaders selected teachers in leadership positions (e.g., content team leaders, grade team leaders, or department heads) to participate in the leadership trainings. Each TLT participant had the opportunity to attend both STT and LST over two years, starting with one the first year and switching to the other the following year. Research for Better Teaching (RBT) facilitated STT separately to each district, offering a three-day summer institute followed by three ongoing professional development days and coaching during the academic year. The Center developed LST, which included a two-day summer institute delivered jointly in the first year, followed by three district-specific ongoing professional development days during the school year. Both districts delivered LST separately in the second and third years to better meet the district-specific needs of teacher leaders. In the third summer (2013), RBT could not accommodate PSJA ISD; as a result, the last cohort of PSJA ISD teacher leaders participated only in LST.

This chapter presents findings on implementation, implementation fidelity scores, and the TLT effects on teacher outcomes.

Implementation

Exhibits 17 and 18 detail the implementation fidelity measures for Teacher Leader Training for IDEA Public Schools and PSJA ISD, respectively. Implementation fidelity for TLT includes separate measures for STT and LST. Similar to those displayed for New Teacher Training, the measures are for the summer institute and ongoing professional development for 2011–12, 2012–13, and 2013-14. (See Appendix B for observation rubrics.)

Exhibit 17. Implementation Fidelity Measures for Teacher Leader Training, IDEA Public Schools, 2011–12, 2012–13, and 2013–14

Indicator	Fidelity Scale	Indicator Threshold	2011–12		2012–13		2013–14	
			Indicator Score	Fidelity Score	Indicator Score	Fidelity Score	Indicator Score	Fidelity Score
Skillful Teacher Summer Institute								
Adherence	Intended topics covered: 1=Yes, 0=No	≥ 95% of sessions scoring 1	100%	1	100%	1	100%	1
Attendance	1=Present, 0=Absent	≥ 90% of intended participants attended 3 days	71%	71/90= 0.79	61%	61/90= 0.67	66%	66/90= 0.73
Quality of delivery	Practice-based 1=Poor, 3=Acceptable 5=Excellent	An average of 3 or greater across observed sessions	4.0	1	4.4	1	4.4	1
	Interactive 1=Poor, 3=Acceptable 5=Excellent	An average of 3 or greater across observed sessions	4.0	1	4.1	1	4.4	1
	Check for understanding: 1=Yes, 0=No	≥ 90% of sessions score 1	74%	74/90= 0.82	92%	1	100%	1
Participant engagement	1=Poor, 3=Acceptable 5=Excellent	An average of 3 or greater across observed sessions	4.2	1	4.1	1	3.9	1
Usefulness of training	1=Strongly disagree 2=Disagree, 3=Agree 4=Strongly agree	An average of 3 or greater across participants	3.5	1	3.5	1	3.7	1

Exhibit 17. Implementation Fidelity Measures for Teacher Leader Training, IDEA Public Schools, 2011–12, 2012–13, and 2013–14 (continued)

Indicator	Fidelity Scale	Indicator Threshold	2011–12		2012–13		2013–14	
			Indicator Score	Fidelity Score	Indicator Score	Fidelity Score	Indicator Score	Fidelity Score
Ongoing PD								
Attendance	1=Present, 0=Absent	≥ 90% of intended participants	Attended at least one follow-up: 76%	76/90= 0.84	Attended at least one follow-up: 57%	57/90= 0.63	Attended at least one follow-up: 43%	43/90= 0.48
			Attended three follow-ups: 42%	42/90= 0.47	Attended three follow-ups: 21%	21/90= 0.24	Attended three follow-ups: 13%	13/90= 0.14
Usefulness of ongoing PD	1=Strongly disagree 2=Disagree 3=Agree, 4=Strongly agree	An average of 3 or greater	3.4	1	3.6	1	3.9	1
Overall Skillful Teacher								
Attendance	**High** All summer institute days and 2 ongoing PD days	≥ 80% of intended participants	High: 71%	71/80= 0.89	High: 32%	32/80= 0.40	High: 17%	17/80= 0.22
	Medium All summer institute days and 1 ongoing PD day		Medium: 0%		Medium: 14%		Medium: 22%	
	Low All others		Low: 29%		Low: 54%		Low: 61%	
Influence of the overall training (summer institute and ongoing PD) on participants' instructional leadership [c]	1=Not at all 2=Somewhat 3=Moderately 4=Greatly	An average of 3 or greater	High: 3.3	1	High: 3.7	1	High: 3.6	1
			Medium: N/A	-	Medium: 3.3	1		
			Low: 3.5	1	Low: 3.2	1		

Exhibit 17. Implementation Fidelity Measures for Teacher Leader Training, IDEA Public Schools, 2011–12, 2012–13, and 2013–14 (continued)

Indicator	Fidelity Scale	Indicator Threshold	2011–12		2012–13		2013–14	
			Indicator Score	Fidelity Score	Indicator Score	Fidelity Score	Indicator Score	Fidelity Score
Leadership Skills Summer Institute								
Adherence	Intended topics covered: 1=Yes, 0=No	≥ 95% of sessions scoring 1	100%	1	100%	1	100%	1
Attendance	1=Present, 0=Absent	≥ 90% of intended participants attended 2 days*	95%	1	73%	73/90= 0.81	65%	65/90= 0.72
Quality of delivery	Practice-based 1=Poor, 3=Acceptable 5=Excellent	An average of 3 or greater across observed sessions	4.7	1	4.6	1	4.6	1
	Interactive 1=Poor, 3=Acceptable 5=Excellent	An average of 3 or greater across observed sessions	4.8	1	4.0	1	4.8	1
	Check for understanding: 1=Yes, 0=No	≥ 90% of sessions score 1	72%	72/90= 0.80	53%	53/90= 0.59	90%	1
Participant engagement	1=Poor, 3=Acceptable 5=Excellent	An average of 3 or greater	4.5	1	4.5	1	4.6	1
Usefulness of training	1=Strongly disagree 2=Disagree, 3=Agree 4=Strongly agree	An average of 3 or greater	3.7	1	3.6	1	3.7	1

Exhibit 17. Implementation Fidelity Measures for Teacher Leader Training, IDEA Public Schools, 2011–12, 2012–13, and 2013–14 (concluded)

Indicator	Fidelity Scale	Indicator Threshold	2011–12		2012–13		2013–14	
			Indicator Score	Fidelity Score	Indicator Score	Fidelity Score	Indicator Score	Fidelity Score
Ongoing PD								
Attendance	1=Present, 0=Absent	≥ 90% of intended participants	At least 1 follow-up: 82%	82/90= 0.91	At least 1 follow-up: 60%	60/90= 0.67	At least 1 follow-up: 57%	57/90= 0.63
			All follow-ups: 63%	63/90= 0.70	All follow-ups: 20%	20/90= 0.22	All follow-ups: 17%	17/90= 0.19
Usefulness of ongoing PD	1=Strongly disagree 2=Disagree, 3=Agree 4=Strongly agree	An average of 3 or greater across observed sessions	3.7	1	3.8	1	3.8	1
Overall Leadership Skills								
Attendance	**High** All summer institute days and 2 ongoing PD days	≥ 80% of intended participants	High: 65%	65/80= 0.81	High: 43%	43/80= 0.54	High: 48%	48/80= 0.60
	Medium All summer institute days and 1 ongoing PD day		Medium: 19%		Medium: 13%		Medium: 9%	
	Low All others		Low: 16%		Low: 43%		Low: 44%	
Influence of the overall training (summer institute and ongoing PD) on participants' leadership skills [a]	1=Not at all 2=Somewhat 3=Moderately 4=Greatly	An average of 3 or greater	High : 3.4	1	High: 3.4	1	High: 3.4	1
			Medium: 3.5	1	Medium: 3.0	1		
			Low: 3.4	1	Low: 3.5	1		

[a] The high, medium, and low categories are based on the definitions of the overall attendance categories.

Source: Evaluation of the RGV Center for Teaching and Leading Excellence, summer institute observations 2011, 2012, 2013; IDEA Public Schools and PSJA ISD attendance lists; participant evaluation forms for summer institute and ongoing professional development sessions; teacher leader survey, spring 2012, 2013, and 2014.

Exhibit 18. Implementation Fidelity Measures for Teacher Leader Training, PSJA ISD, 2011–12, 2012–13, and 2013–14

Indicator	Fidelity Scale	Indicator Threshold	2011–12		2012–13		2013–14	
			Indicator Score	Fidelity Score	Indicator Score	Fidelity Score	Indicator Score	Fidelity Score
Skillful Teacher Summer Institute								
Adherence	Intended topics covered: 1=Yes, 0=No	≥ 95% of sessions scoring 1	100%	1	100%	1	N/A	N/A
Attendance	1=Present, 0=Absent	≥ 90% of intended participants attended 3 days[b]	74%	74/90= 0.82	81%	81/90= 0.90	N/A	N/A
Quality of delivery	Practice-based 1=Poor, 3=Acceptable 5=Excellent	An average of 3 or greater across observed sessions	4.0	1	3.0 (July) 4.4 (August)	1	N/A	N/A
	Interactive 1=Poor, 3=Acceptable 5=Excellent	An average of 3 or greater across observed sessions	4.0	1	3.9 (July) 4.1 (August)	1	N/A	N/A
	Check for understanding: 1=Yes, 0=No	Check for understanding: ≥ 90% of sessions score 1	74%	74/90= 0.82	100% (July) 92% (August)	1	N/A	N/A
Participant engagement	1=Poor, 3=Acceptable 5=Excellent	An average of 3 or greater across observed sessions	4.2	1	4.4 (July) 4.1. (August)	1	N/A	N/A
Usefulness of training	1=Strongly disagree 2=Disagree, 3=Agree 4=Strongly agree	An average of 3 or greater across participants	3.5	1	3.9 (July) 3.8 (August)	1	N/A	N/A

Exhibit 18. Implementation Fidelity Measures for Teacher Leader Training, PSJA ISD, 2011–12, 2012–13, and 2013–14 (continued)

Indicator	Fidelity Scale	Indicator Threshold	2011–12		2012–13		2013–14	
			Indicator Score	Fidelity Score	Indicator Score	Fidelity Score	Indicator Score	Fidelity Score
Ongoing PD								
Attendance	1=Present, 0=Absent	≥ 90% of intended participants	Attended at least one follow-up: 87%	87/90= 0.97	Attended at least one follow-up: 79%	79/90= 0.88	N/A	N/A
			Attended three follow-ups: 31%	31/90= 0.34	Attended three follow-ups: 30%	30/90= 0.33	N/A	N/A
Usefulness of ongoing PD	1=Strongly disagree 2=Disagree 3=Agree, 4=Strongly agree	An average of 3 or greater	3.9	1	3.6	1	N/A	N/A
Overall Skillful Teacher								
Attendance	**High** All summer institute days and 2 ongoing PD days	≥ 80% of intended participants	High: 62%	62/80= 0.78	High: 51%	51/80= 0.64	N/A	N/A
	Medium All summer institute days and 1 ongoing PD day		Medium: 18%		Medium: 18%		N/A	
	Low All others		Low: 21%		Low: 31%		N/A	
Influence of the overall training (summer institute and ongoing PD) on participants' instructional leadership [c]	1=Not at all 2=Somewhat 3=Moderately 4=Greatly	An average of 3 or greater	High: 3.6	1	High: 3.5	1	N/A	N/A
			Medium: 3.5	1	Medium: 3.5	1		
			Low: 3.7	1	Low: 3.6	1		

Exhibit 18. Implementation Fidelity Measures for Teacher Leader Training, PSJA ISD, 2011–12, 2012–13, and 2013–14 (continued)

Indicator	Fidelity Scale	Indicator Threshold	2011–12		2012–13		2013–14	
			Indicator Score	Fidelity Score	Indicator Score	Fidelity Score	Indicator Score	Fidelity Score
Leadership Skills Summer Institute								
Adherence	Intended topics covered: 1=Yes, 0=No	≥ 95% of sessions scoring 1	100%	1	100%	1	100%	1
Attendance	1=Present, 0=Absent	≥ 90% of intended participants attended 2 days [b]	68%	68/90= 0.76	89%	89/90= 0.99	58%	58/90= 0.65
Quality of delivery	Practice-based 1=Poor, 3=Acceptable 5=Excellent	An average of 3 or greater across observed sessions	Practice-based: 4.7	1	Practice-based: 4.6	1	Practice-based: 5.0	1
	Interactive 1=Poor, 3=Acceptable 5=Excellent	An average of 3 or greater across observed sessions	4.8	1	4.0	1	5.0	1
	Check for understanding: 1=Yes, 0=No	≥90% of sessions score 1	72%	72/90= 0.80	53%	53/90= 0.59	100%	1
Participant engagement	1=Poor, 3=Acceptable 5=Excellent	An average of 3 or greater across observed sessions	4.5	1	4.5	1	5.0	1
Usefulness of training	1=Strongly disagree 2=Disagree, 3=Agree 4=Strongly agree	An average of 3 or greater across participants	3.7	1	3.7	1	3.7	1

Exhibit 18. Implementation Fidelity Measures for Teacher Leader Training, PSJA ISD, 2011–12, 2012–13, and 2013–14 (continued)

Indicator	Fidelity Scale	Indicator Threshold	2011–12		2012–13		2013–14	
			Indicator Score	Fidelity Score	Indicator Score	Fidelity Score	Indicator Score	Fidelity Score
Ongoing PD								
Attendance	1=Present, 0=Absent	≥ 90% of intended participants	At least 1 follow-up: 60%	60/90= 0.67	At least 1 follow-up: 89%	89/90= 0.99	At least 1 follow-up: 50%	50/90= 0.56
			All follow-ups: 18%	18/90= 0.20	All follow-ups: 48%	48/90= 0.53	All follow-ups: 42%	42/90= 0.46
Usefulness of ongoing PD	1=Strongly disagree 2=Disagree, 3=Agree 4=Strongly agree	An average of 3 or greater	3.7	1	3.8	1	3.8	1

Exhibit 18. Implementation Fidelity Measures for Teacher Leader Training, PSJA ISD, 2011–12, 2012–13, and 2013–14 (concluded)

Indicator	Fidelity Scale	Indicator Threshold	2011–12		2012–13		2013–14	
			Indicator Score (Revised)[a]	Fidelity Score	Indicator Score	Fidelity Score	Indicator Score	Fidelity Score
Overall Leadership Skills								
Attendance	**High** All summer institute days and 2 ongoing PD days	≥ 80% of intended participants	High: 40%	40/80= 0.50	High: 72%	72/80= 0.90	High: 42%	42/80= 0.52
	High All summer institute days and 2 ongoing PD days		Medium: 18%		Medium: 15%		Medium: 8%	
	High All summer institute days and 2 ongoing PD days		Low: 42%		Low: 13%		Low: 50%	
Influence of the overall training (summer institute and ongoing PD) on participants' leadership skills[a]	1=Not at all 2=Somewhat 3=Moderately 4=Greatly	An average of 3 or greater	High: 3.2	1	High: 3.7	1	High: 3.7	1
			Medium: 3.2	1	Medium: 3.2	1		
			Low: 3.0	1	Low: 3.4	1		

[a] The high, medium, and low categories are based on the definitions of the overall attendance categories.

Source: Evaluation of the RGV Center for Teaching and Leading Excellence, summer institute observations 2011, 2012, 2013; IDEA Public Schools and PSJA ISD attendance lists; participant evaluation forms for summer institute and ongoing professional development sessions; teacher leader survey, spring 2012, 2013, and 2014.

District processes for selecting teacher leader participants differed.

IDEA Public Schools defined teacher leaders eligible for Teacher Leader Training as content and grade team leaders. District and school leaders selected candidates for these formal positions through a rubric-based assessment and feedback process designed to broadly identify promising teachers. This process was refined during the grant period and involved a day-long assessment of communication, collaboration, problem solving, and critical-feedback skills. All new content and grade team leaders in grades 6 through 12 were eligible for TLT.

In PSJA ISD, the Center director identified TLT participants on the basis of principal recommendations. The Center director asked principals to select participants in leadership roles (e.g., department heads or grade team leaders). Principals also used their discretion in nominating teachers who they thought might benefit from Teacher Leader Training or who aspired to leadership positions. In the second year only, PSJA ISD implemented an application process, which was used as a supplement to principal recommendations.

These two recruitment and selection processes led to some variation in the profile of TLT participants in both districts. In PSJA ISD, the extent to which participants held specific leadership positions varied by year, which is unsurprising since the selection process was based heavily on principal recommendations. In IDEA Public Schools, most participants held grade and content team leader positions, the specific TLT selection criterion for the district. Selection is an integral component of TLT because the participants' background and roles may influence the degree to which they find the training useful, as well as the extent to which the training influences their leadership skills. Because TLT focused on instructional leadership and management, teachers in non-leadership roles may not have had as many opportunities to apply the strategies they learned and develop proficiency as leaders.

Overall, TLT summer institute met implementation fidelity indicators for delivering quality sessions across all three summer institutes, only missing the check-for-understanding indicator.

- *Across the three summer institutes for both STT and LST, the trainings met the fidelity threshold for delivering sessions that were practice-based, interactive, engaging for participants, and adhering to session plans.*

- *STT did not meet the fidelity threshold in the first year for presenters' checking for participant understanding but did in the second and third years.*

- *LST did not meet the check-for-understanding fidelity threshold in the first and second years but did in the third year.*

Across the three summer institutes, both STT and LST delivered sessions that were practice-based and interactive, as well as highly engaging for participants. According to

observers' rubric scores, between 25% and 50% of sessions observed provided opportunities for teachers to connect content to real-world situations and provided the opportunity for teachers to discuss and share their viewpoints. For both STT and LST, 85% to 95% of participants, on average, appeared engaged (e.g., highly participatory; discussions were animated, creative, and on topic) across the three summer institutes. Similar to NTT, both STT and LST did not meet the check-for-understanding threshold in the first year, and, as a result, the Center leaders emphasized to presenters the importance of confirming that participants were learning the material. STT met the check-for-understanding threshold in the second and third years, and LST met the threshold in the third year.

Attendance at LST and STT summer institutes and ongoing trainings remained a key challenge across all three years.

- *Both districts did not meet fidelity thresholds for attendance at the summer institute or at ongoing professional development for STT and LST across all three years, except LST summer institute attendance in the first year for IDEA Public Schools.*

- *Over the three years, the percentage of IDEA Public Schools' teacher leaders attending all summer institute days and at least one ongoing professional development day decreased.*

- *In PSJA ISD, the percentage of participants attending all summer institute days increased from the first year to the second year, but decreased from the second year to the third year.*

Similar to NTT, attendance at both STT and LST was a significant challenge for both districts in all three years. The most frequent response participants gave for not attending summer institute or ongoing professional development was that they did not know the sessions were required. Thus, inadequately communicating expectations to participants when they were selected for the training may be one reason for the relatively low attendance. The Center improved communication to school leaders about TLT selection and expectations by issuing white papers outlining the specifics of each institute, hosting meetings to explain the expectations for principals' support of their teacher leaders' participation in the institutes, and providing opportunities for principals to play an active role at the institutes. Nonetheless, school leader understanding of TLT continued to vary. Since school leaders were the ones selecting participants for TLT, they were also the source for teacher leaders' understanding of training components and expectations and participants continued to express not having a full understanding of TLT's commitments.

School leaders' varied understanding of TLT may have affected participants' interest in and commitment to attending training sessions. One teacher leader shared, "Administrators were so in the dark about [TLT]. We need their support if it's going to work." For teacher leaders to invest the time in attending STT and LST, school leaders

need a clear understanding of the training content so they can communicate why teacher leaders should attend and how the content of the training aligns with school priorities. Another potential reason for low attendance could be the relevance of the training to the teacher leaders' school role. A content team leader attending LST reported, "We do learn a lot of awesome skills—how to run a meeting, etc.—but it's geared more towards grade team and doesn't apply much to [me]." Thus, the alignment of training with teacher leaders' responsibilities could have reinforced or undermined their interest in and commitment to attending training depending on the participant's role.

Although attendance was inconsistent, participants who attended TLT generally reported the training as useful and valuable for improving the intended instructional leadership and management skills.

- *In both districts, LST and STT met the fidelity indicators for the usefulness of training for all three summer institutes and ongoing professional development.*

- *During the first and second years, both districts met the fidelity indicator measuring participants' reported influence of STT and LST on leadership skills. In the third year, IDEA Public Schools did not meet the fidelity threshold for participants in the "low" attendance category.*

Similar to NTT, on average, participants who completed summer institute and ongoing PD evaluation forms agreed that session goals were clear, content and structure were appropriate, and presenters understood participants' learning needs. However, because attendance was low, these results likely reflect the perspectives of only those with the greatest persistence in TLT.

STT and LST participants in both districts across all three years reported, on average, that the training had a moderate to great influence on a range of skills related to instructional leadership or management (see Appendix C for details). For LST, the five most commonly reported practices include building trust among team members, establishing processes for effectively working together, clearly communicating goals and expectations, working with team members to set goals, and leading teams in fulfilling goals. This finding is not surprising given LST's focus on the consultancy protocol, a process developed by the National School Reform Faculty Harmony Education Center to support teams in working through a problem or dilemma. Similarly, the skills STT participants most commonly reported as having been moderately to greatly influenced by STT included understanding the significance of attribution theory (i.e., fixed versus growth mindsets), checking for student understanding, adapting instruction to meet students' varying needs, and creating mastery objectives to guide planning. These skills closely align with the STT curriculum, which focuses on teaching participants about attribution theory and developing and delivering instruction to meet students' needs. In addition, STT participants reported that STT had a moderate to great influence on their ability to build

a culture of professional conversation around teaching and learning, which aligns well with STT's instructional focus.

When asked about proficiency across management-related skills and instructional leadership, IDEA Public Schools STT and LST participants responded differently in several areas. Greater percentages of STT than LST participants (74%–80% versus 62%–64%, respectively) reported proficiency in guiding teachers' implementation of varied assessment strategies, supporting teachers in adapting instruction to meet students' varying needs, guiding teachers through developing objective-driven lesson plans, and guiding teachers in planning a unit of study, all of which align to the STT curriculum. Similarly, when asked about management skills, approximately 10% to 15% more STT than LST participants reported proficiency in inspiring the best job performance in teachers, conducting classroom observations to identify teachers' areas of need, conducting critical feedback discussions with teachers, promoting ongoing professional development, clearly communicating goals and expectations, all of which are tied to instructional leadership, a core focus of STT. The perceived disconnect between the LST curriculum and content team leader role could explain these results showing a smaller proportion of LST than STT participants reporting moderate to great benefits of training on certain management practices. We do not see a similar difference between PSJA ISD LST and STT participants, perhaps because of differences in participant profiles or differences in the structure of the district-specific sessions. PSJA ISD has a more experienced and mature teacher leader staff than does IDEA. It is possible that their teacher experience outweighed any differences in training influence between STT and LST (Exhibits 19 through 22).

Exhibit 19. Teacher Leader-Reported Instructional Leadership Proficiency, IDEA Public Schools, 2011-12 Through 2013-14 Combined
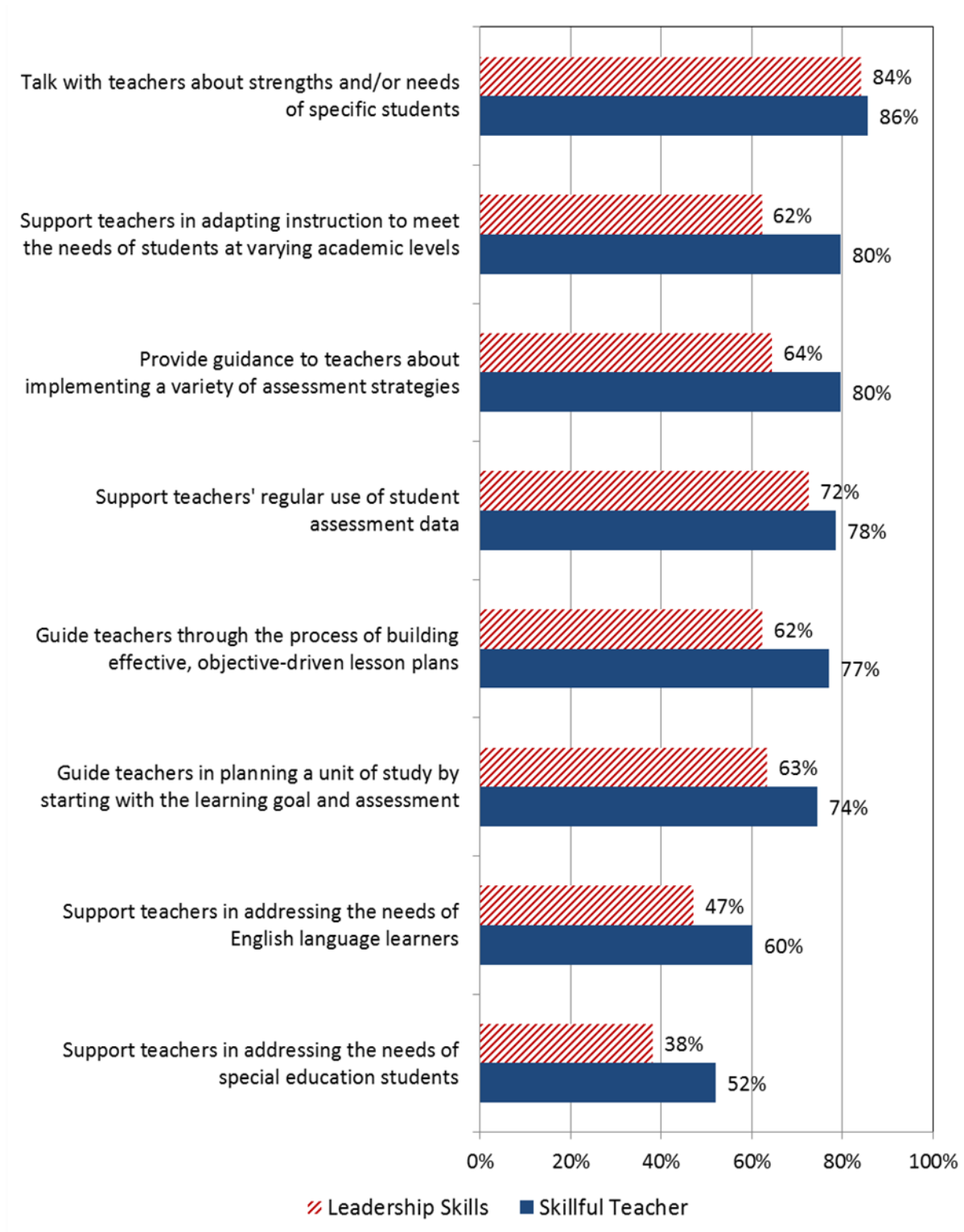
Source: Evaluation of the RGV Center for Teaching and Leading Excellence, teacher leader survey, spring 2012, 2013, and 2014.

Exhibit 20. Teacher Leader-Reported Instructional Leadership Proficiency, PSJA ISD, 2011-12 Through 2013-14 Combined

Talk with teachers about strengths and/or needs of specific students: Leadership Skills 79%, Skillful Teacher 77%

Provide guidance to teachers about implementing a variety of assessment strategies: Leadership Skills 75%, Skillful Teacher 71%

Guide teachers through the process of building effective, objective-driven lesson plans: Leadership Skills 75%, Skillful Teacher 69%

Support teachers' regular use of student assessment data: Leadership Skills 80%, Skillful Teacher 69%

Support teachers in adapting instruction to meet the needs of students at varying academic levels: Leadership Skills 75%, Skillful Teacher 68%

Support teachers in addressing the needs of English language learners: Leadership Skills 74%, Skillful Teacher 67%

Guide teachers in planning a unit of study by starting with the learning goal and assessment: Leadership Skills 72%, Skillful Teacher 65%

Support teachers in addressing the needs of special education students: Leadership Skills 61%, Skillful Teacher 59%

Legend: Leadership Skills, Skillful Teacher

Source: Evaluation of the RGV Center for Teaching and Leading Excellence, teacher leader survey, spring 2012, 2013, and 2014.

Exhibit 21. Teacher Leader-Reported Management Proficiency, IDEA Public Schools, 2011-12 Through 2013-14 Combined
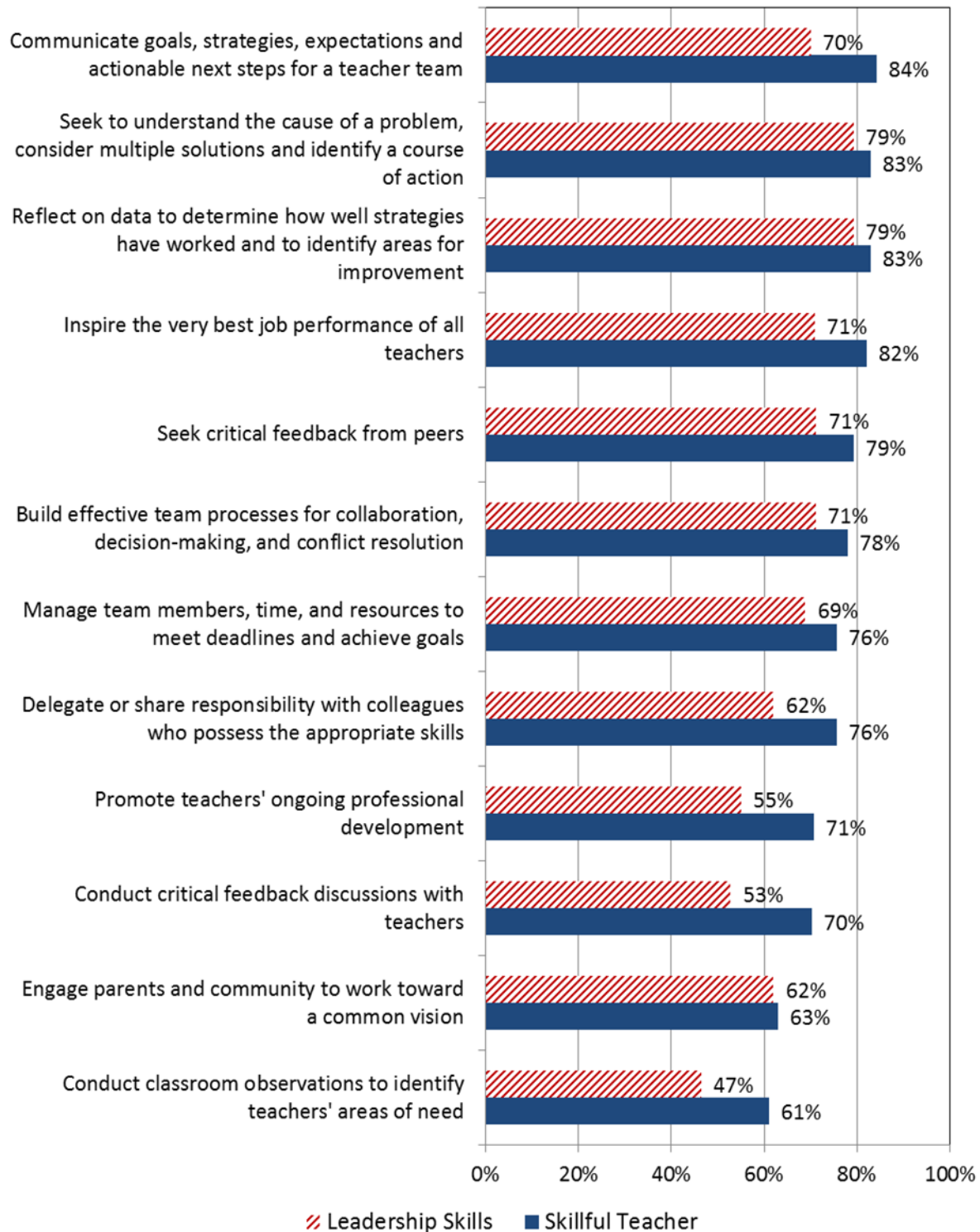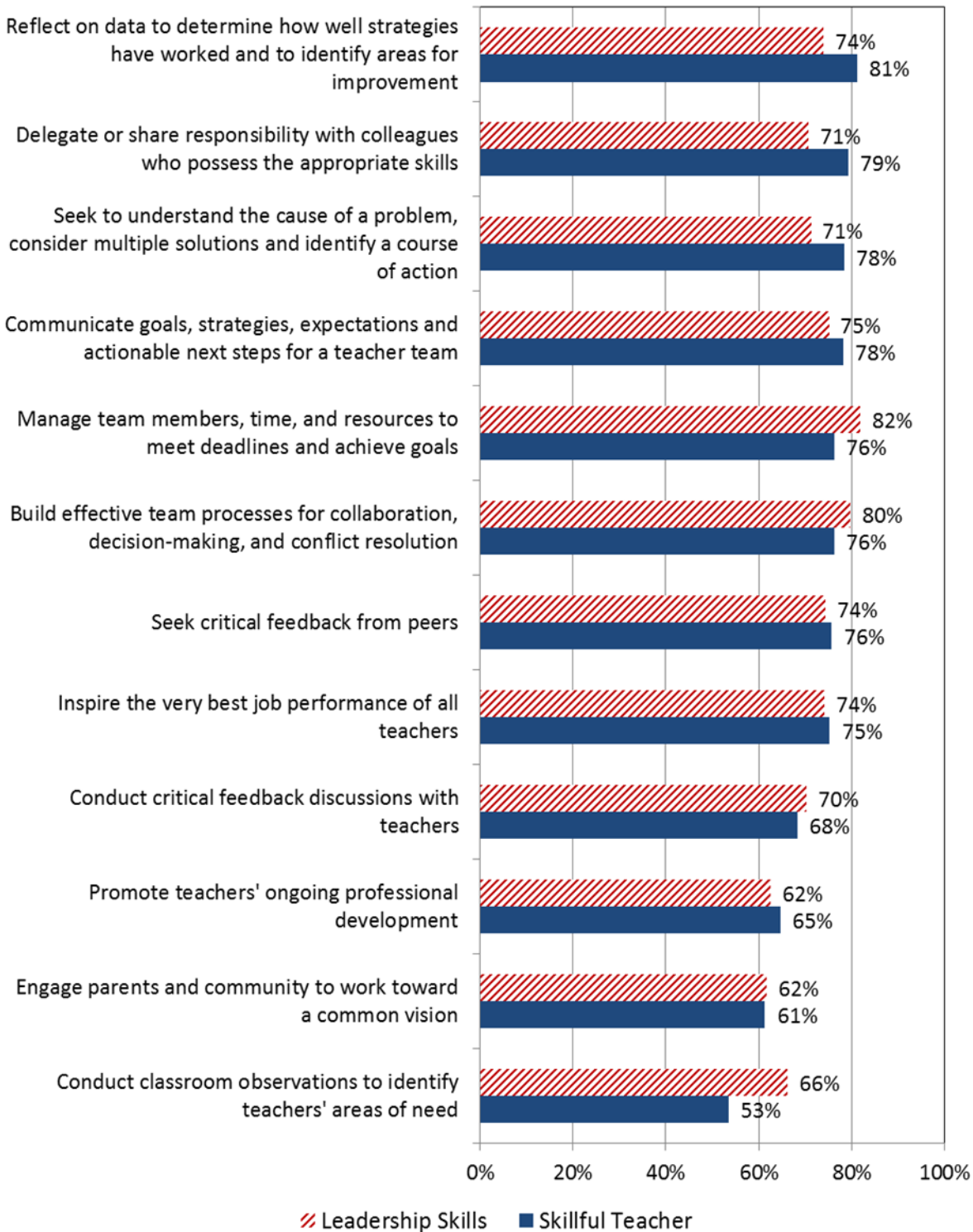

Source: Evaluation of the RGV Center for Teaching and Leading Excellence, teacher leader survey, spring 2012, 2013, and 2014.

Exhibit 22. Teacher Leader-Reported Management Proficiency, PSJA ISD, 2011-12 Through 2013-14 Combined

Source: Evaluation of the RGV Center for Teaching and Leading Excellence, teacher leader survey, spring 2012, 2013, and 2014.

An interesting trend in teacher leader reports of proficiency across the three years is a drop in the proportion of PSJA ISD LST participants' reported proficiency with management-related skills in the second year. The skills obtained through LST are meant to help department heads or grade team leaders better manage their teams. In the second year, fewer PSJA ISD teacher leaders reported having ever served as department heads (10%) or grade team leaders (0%) than in the first year, in which about 50% reported having ever served in these roles. The majority (59%) of PSJA TLT second-year participants served as lead teachers, whose main responsibility was to provide instructional support to their colleagues. Since the content of LST is meant to support teacher leaders in facilitating effective teams, the drop in the proportion of participants reporting proficiency with leadership skills may be due to limited opportunities for participants to apply what they learned in their ongoing roles. Further supporting this explanation was the absence of a similar drop in the proportion of STT participants reporting proficiency around instructional leadership. Since the content learned through STT training is more focused on classroom instruction, it is well aligned with the lead teacher role; and thus STT participants may have had more opportunities to apply what they learned. An important consideration for future trainings is participants' leadership roles to ensure they have opportunities to apply the strategies they learn.

Exhibit 23 summarizes implementation fidelity across both districts (the "sample") for two key components, teacher leader selection and Teacher Leader Training. The Teacher Leader Training component score is a composite of the indicators in Exhibits 17 and 18. The teacher leader selection component is defined as whether each district followed and completed a consistent selection process each year. The overall sample achieved a high implementation rating for teacher leader selection if both districts achieved a score of 1 for following their defined process.

To calculate the implementation fidelity scores for the sample overall (i.e., across both districts), the district scores for the Teacher Leader Training component is the average of the indicator fidelity scores for adherence, quality of delivery, participant responsiveness, and usefulness of training for summer institute; usefulness of ongoing professional development; summary score for attendance and influence of the overall Teacher Leader Training for both Leadership Skills and Skillful Teacher trainings (see Exhibits 17 and 18 for the full list of indicators). The district achieved a high fidelity rating if the average was at least 80%, medium if the average was greater than 60% and below 80%, and low if the average was 60% or lower. The overall *sample* achieved a high implementation rating if both districts scored at least 80% (i.e., both districts achieved a high implementation rating).

Across all years, implementation fidelity at the sample level was high for both key components (teacher leader selection and Teacher Leader Training), with the exception of teacher leader selection in 2012-13 (Year 2). That year, PSJA ISD was not able to recruit the number of teacher leaders meeting the criterion of having held formal

leadership positions, as it was in the first and third years. In part, the target number of recruits was high to meet the evaluation requirements, and PSJA ISD expanded its recruitment to include other teachers with leadership potential, as identified by principals.

Exhibit 23. TLT Sample-Level Implementation Fidelity

Key component	Threshold for sample implementation fidelity	2011-12		2012-13		2013-14	
		Actual Score	Component implemented with fidelity? 1=Yes 0=No	Actual Score	Component implemented with fidelity? 1=Yes 0=No	Actual Score	Component implemented with fidelity? 1=Yes 0=No
Teacher leader selection	Both IDEA and PSJA must score 1	IDEA = 1 PSJA = 1	1	IDEA = 1 PSJA = 0*	0	IDEA = 1 PSJA = 1	1
Teacher Leader Training	Both IDEA and PSJA must score >= 80%	IDEA = 92% PSJA = 95%	1	IDEA = 94% PSJA = 96%	1	IDEA = 93% PSJA = 96%	1

* After recruitment began, PSJA ISD expanded its selection criteria beyond those who had held formal teacher leadership positions to include those with leadership potential as identified by principals in order to meet the high target numbers for the evaluation.

Teacher Leader Training Outcomes

The outcome analysis for TLT is designed mainly to understand whether STT or LST improves job satisfaction, sense of efficacy, and reported leadership skills for the three cohorts of Teacher Leader Training participants. Specifically, the analysis addresses:

- Does the Leadership Skills Training have a positive effect on teacher leader outcomes compared with comparison (delayed-treatment) teacher leaders in PSJA ISD? Does the Skillful Teacher Training have a positive effect on teacher leader outcomes compared with comparison (delayed-treatment) teacher leader participants in PSJA ISD?

- Does the Leadership Skills Training have a positive effect on teacher leaders' outcomes after one year of the Center training compared with Skillful Teacher Training participants in IDEA Public Schools?

Methods

Sample

IDEA Public Schools and PSJA ISD identified a pool of teacher leaders to participate in TLT. Teacher leaders from all schools in PSJA ISD and teacher leaders from secondary schools at IDEA Public Schools were eligible to be selected for TLT. The evaluation used a matched-pair randomized controlled trial design. This design reduces the risk of imbalanced randomization and substantially increases statistical power (McClatchey, Cohen, & Reed, 1992). Teacher leaders were randomly assigned to different conditions, which differed between the two districts.

IDEA Public Schools is the smaller school district, and the number of eligible secondary teacher leaders just met the approximately 40 LST slots and 40 STT slots open each year. Blocking on content area, teacher leaders were first put into best-matched pairs in which two teachers in each pair had very similar years of experience. Then we randomly assigned one of the teachers in each pair to LST and the other to STT for training in their first year of TLT participation. In the second year of participation, the two groups exchanged conditions, with LST teachers receiving STT and STT teachers receiving LST training in the second summer (Exhibit 24).

Exhibit 24. Teacher Leadership Training Evaluation Design for IDEA Public Schools

Cohort	Year 1 (2011–12)	Year 2 (2012–13)	Year 3 (2013–14)
1	LST ⟶	STT	
	STT ⟶	LST	
2		LST ⟶	STT
		STT ⟶	LST
3			LST
			STT

PSJA ISD is the larger district and was able to identify more teacher leaders than the 80 slots available for LST and STT. Therefore, we were able to have a delayed-treatment comparison group. In PSJA ISD, blocking on type of school (elementary or secondary) and content area, teacher leaders were first put into best-matched triplets in which the three teachers in each triplet had very similar years of experience. Then we randomly assigned one of the teachers in each triplet to LST, one to the STT, and the other to the delayed-treatment comparison group. As Exhibit 25 illustrates, in Year 1, LST teachers received LST training; STT teachers received STT training; and comparison teacher leaders did not receive either training. In the second year, LST teachers from the prior year received STT and STT teachers received LST training. Half of the comparison teachers identified in 2011 (Year 1) attended STT and the other half LST in summer 2012. Cohort 2 teacher leaders (newly identified in 2012) were similarly randomly assigned to the three treatment conditions as discussed. In the last year of TLT, the LST trainer did not return to PSJA ISD, a substitute was not available in time, and therefore STT was not offered. Those who received STT in 2012 continued to LST in 2013. Those who were scheduled to have STT in 2013 did not have a second teacher leader institute. Cohort 3 teacher leaders were best matched in pairs based on years of experience, and then each member of a pair was randomly assigned to LST or the comparison group.

Exhibit 25. Teacher Leadership Training Evaluation Design for PSJA ISD

Cohort	2011–12	2012–13	2013–14
1	LST ⟶	STT	
	STT ⟶	LST	
	Comparison ⟶	STT ⟶	LST
		LST	
2		LST	
		STT ⟶	LST
		Comparison ⟶	LST
3			LST
			Comparison
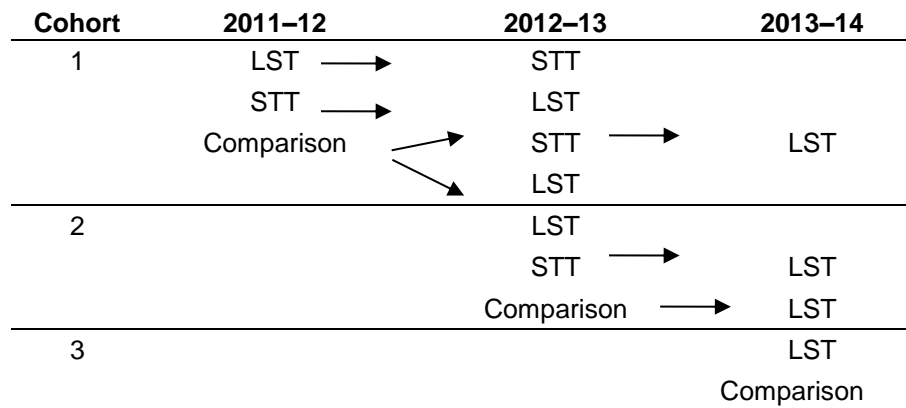
Teacher Leader Outcomes

Teacher leader outcomes were based on robust survey scales collected in the spring after TLT participants' first summer institute. Thus, the results focus on the outcomes one year after the teacher leaders began their training, regardless of whether the first institute they attended was LST or STT.[13] The teacher leader outcomes were collected on annual teacher leader surveys in spring 2012, 2013, and 2014. The outcomes include scales measuring:[14]

- Job satisfaction
- Instructional efficacy
- Leadership efficacy for providing instructional support
- Leadership efficacy for management
- Leadership efficacy for problem solving
- Quality of teacher leader instructional support (IDEA Public Schools only)[15]

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[13] No teacher outcomes were collected in a given cohort's second year of training because of resource constraints.

[14] The majority of teacher leader outcome survey items were replicated from the Consortium on Chicago School Research (2009); Klassen and Chiu (2010); Meyer et al. (2010); Bland et al. (2011); Wechsler, Caspary, Humphrey, and Matsko (2010); and Young et al. (2011). A small number of the items were newly created for this study. All factors were reported to have a minimum reliability alpha of 0.80 by the previous studies. In factor analyses that confirmed the factor patterns using the teacher survey data collected for this study, the reliability ranged from 0.81 to 0.97 across all teacher leader outcomes. (See Appendix A for a detailed description of these measures.)

[15] In IDEA, teacher leaders have defined leadership roles as content or grade team leaders. Therefore, IDEA Public Schools teachers could rate the leadership skills of their specific content and grade team leaders on the annual teacher surveys. Because the teacher leader role was not as specifically defined in PSJA ISD, it was not feasible to link leadership skill ratings to individual TLT participants in PSJA ISD.

- Quality of teacher leader management (IDEA Public Schools only)

PSJA ISD Teacher Leader Training Outcomes, 2011–12 Through 2013-14 Combined

Job Satisfaction and Efficacy

As Exhibit 26 shows, all five of the teacher leader outcomes examined were similar between LST and the comparison group across all cohorts. In other words, LST did not seem to have an effect on PSJA ISD participants' reported efficacy in instruction or on various leadership dimensions, compared with the comparison group. The story is similar for STT compared with the comparison group across all cohorts, with the exception of teacher efficacy (Exhibit 27). STT participants reported a slightly lower sense of efficacy than comparison teachers (mean of 3.42 versus 3.58 on a 4-point scale, $p < 0.05$). A couple of reasons might explain these results. First, STT may have provided participants with a more nuanced understanding of teaching that underscored a need to improve, thereby leading to lower teacher efficacy scores. For example, one PSJA ISD STT participant shared, "I used to confuse objective with activity. Like this is what we are going to do today—A, B, C, D. But that wasn't the objective, those were the activities and now I have both." STT training provided participants with a clearer understanding of best practices in planning and instructing, possibly highlighting teachers' own areas for improvement. A second potential explanation is that over time the STT trainer and participants did not relate well with each other, according to interviews with participants, and participants might have felt a lack of affinity with STT.

The lack of differences between the two teacher leader trainings and the comparison group in job satisfaction and the various efficacy outcomes may reflect the general confusion around participants' roles at school and their lack of opportunity to apply what they learned to activities at school. For example, the participants were not necessarily department or grade-level chairs with responsibility to lead teacher teams and with consistent occasions to apply Leadership Skills training. Nor did TLT participants necessarily hold formal mentoring or instructional coaching roles that might have made use of the Skillful Teacher training. Thus, their sense of efficacy along leadership dimensions would not have been bolstered with enhanced and related practical experience.

**Exhibit 26. Teacher Leader Outcomes, LST and Comparison Group, PSJA ISD,
2011-12 Through 2013-14 Combined**

Teacher Leader Outcome	LST			Comparison			HLM Results	
	Mean	SD [a]	*N* [b]	Mean	SD	*N*	β [c]	*p* [d]
Teacher efficacy	3.56	0.43	60	3.53	0.36	65	0.05	0.50
Job satisfaction	3.29	0.58	60	3.15	0.60	65	0.14	0.17
Teacher leader efficacy for supporting instruction	3.33	0.82	53	3.27	0.77	55	0.06	0.69
Teacher leader efficacy for management	3.48	0.89	53	3.43	0.81	55	0.06	0.67
Teacher leader efficacy for problem solving	3.43	0.87	53	3.40	0.70	55	0.05	0.69

[a] SD = standard deviation, a measure of variation from the average.

[b] *N* represents the number of participants in this analysis.

[c] β indicates the difference between the two groups under comparison.

[d] *p* values indicate the significance of the relationship measured by β.

Exhibit 27. Teacher Leader Outcomes, STT and Comparison Group, PSJA ISD, 2011-12 Through 2013-14 Combined =

Teacher Leader Outcome	SST			Comparison			HLM Results	
	Mean	SD [a]	N [b]	Mean	SD	N	β [c]	p [d]
Teacher efficacy	3.42	0.46	61	3.58	0.34	59	-0.16	0.04
Job satisfaction	3.14	0.59	60	3.17	0.57	59	-0.02	0.87
Teacher leader efficacy for supporting instruction	3.14	0.77	52	3.12	0.73	46	0.02	0.91
Teacher leader efficacy for management	3.33	0.80	53	3.28	0.79	46	0.06	0.71
Teacher leader efficacy for problem solving	3.26	0.75	53	3.26	0.63	46	0.01	0.93

[a] SD = standard deviation, a measure of variation from the average.

[b] *N* represents the number of participants in this analysis.

[c] β indicates the difference between the two groups under comparison.

[d] *p* values indicate the significance of the relationship measured by β.

Teacher Leader Retention

As Exhibit 28 shows, TLT participants in PSJA ISD had the same level of one-year retention as the delayed-treatment comparison group. The majority of treatment and delayed-treatment teachers had more than five years of experience, when teacher turnover is more stable. Thus perhaps it is not surprising that the Teacher Leader Training did not affect one-year retention. Moreover, the study could not follow all three cohorts of the teacher leader participants for two years of participation, which might have demonstrated stronger effects. [16]

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[16] The decision to make teacher leadership training a two-part program was taken after the initial study design and the study timeframe would not have allowed us to follow three cohorts for two years each, which would have been necessary to achieve a usable sample size.

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Exhibit 28. One-Year Teacher Retention, TLT Participants Compared to Comparison Teachers, PSJA ISD, 2011–12 Through 2013-14

Predictor	Estimate	SE	p	Odds Ratio
TLT participation	-0.31	0.52	0.55	0.735
Cohort 2	-0.14	0.55	0.80	0.867
Cohort 3	0.82	1.15	0.48	2.267
Hispanic	0.26	0.82	0.75	1.299
Male teacher	-0.63	0.58	0.28	0.533
Math teacher	1.15	1.10	0.30	3.143
Science teacher	0.33	0.86	0.70	1.391
Social science teacher	0.53	0.83	0.52	1.705

Qualitative data indicate that teacher leader participants found that the training was useful, which shows promise. The study could not follow the participants for longer-term outcomes, but these same outcomes over three or five years would be worth examining. If TLT participants eventually attain more responsibility and recognition as teacher leaders, job satisfaction, efficacy, and retention may show positive effects over a longer term.

IDEA Public Schools Teacher Leader Training Outcomes, 2011–12 Through 2013-14 Combined

Job Satisfaction and Leader Efficacy

No significant differences in leadership efficacy were found between LST and STT participants at IDEA Public Schools. In other words, across the three cohorts of Teacher Leader Training participants, neither type of training had a stronger impact on teacher efficacy, leader efficacy, or job satisfaction than the other (Exhibit 29). This lack of difference may reflect the low level of influence TLT had on job satisfaction and leadership efficacy, compared with other factors such as school leadership, collegial environment, and resources commonly experienced by STT and TLT participants.

Teacher Ratings of Grade-Level and Content Team Leaders. IDEA Public Schools has formal teacher leadership positions, specifically grade and content team leaders. Each grade team has a team leader selected by the school administration. A content team leader position arises in secondary schools once the school has three or more teachers in the same content area, typically once the school serves three grade levels because usually one teacher teaches a subject to the entire grade. As a result, teachers have up to two specific team leaders they work with as part of the regular operations of the school.

IDEA secondary teachers rated their grade and content team leaders on leadership skills such as organizing effective teamwork, communication, and providing feedback. According to teachers' ratings, LST and STT participants performed similarly in

providing instructional support and in managing their teams (Exhibit 29). Although one might have expected that STT participants would be rated higher on teacher leader instructional support and that LST participants would be rated higher on teacher leader management, the results might not have met those expectations because factors such as interpersonal style and skills and resources, including time to work with the teams, might have been more determinant of the ratings.

Exhibit 29. Teacher Leader Outcomes, LST and STT Participants, IDEA Public Schools, 2011-12 Through 2013-14 Combined

Teacher Leader Outcome[a]	LST			STT			HLM Results[b] (LST vs. STT)	
	Mean	SD[c]	N[d]	Mean	SD	N	β[e]	p[f]
Teacher efficacy	3.28	0.42	50	3.38	0.36	51	-0.02	0.81
Job satisfaction	3.02	0.63	50	3.09	0.54	51	-0.05	0.61
Teacher leader efficacy for supporting instruction	3.30	0.96	52	3.30	0.76	52	0.06	0.69
Teacher leader efficacy for management	3.11	0.80	52	3.20	0.79	52	0.02	0.64
Teacher leader efficacy for problem solving	3.24	0.83	52	3.38	0.80	52	-0.09	0.52
Teacher reported quality of teacher leader instructional support	2.71	0.57	58	2.71	0.58	56	-0.02	0.86
Teacher reported quality of teacher leader management	2.91	0.56	57	2.91	0.55	56	-0.004	0.97

[a] Teacher survey outcomes are on a 4-point scale with 1 = strongly disagree to 4 = strongly agree.

[b] HLM models nested teacher leaders in schools and controlled for pretest scores.

[c] SD = standard deviation, a measure of variation from the average.

[d] N represents the number of participants in this analysis.

[e] β indicates the difference between the two groups under comparison.

[f] p values indicate the significance of the relationship measured by β.

Teacher Leader Retention

TLT participants at IDEA Public Schools had a higher one-year retention rate than other veteran teachers (Exhibit 30). TLT participants were one and a half times as likely to stay at IDEA one year after their initial TLT training, compared with other IDEA veteran teachers (non-NTT and non-TLT participants). These results are not causal because TLT participants are those teachers selected by district and school leaders to become content and grade team leaders. Thus they are perceived as more effective than their peers not selected to be content and grade team leaders. Nonetheless, the results suggest that the selection process and the TLT training together yielded a teacher leader cadre who had a higher likelihood of staying at IDEA than those not identified as teacher leaders.

Exhibit 30. One-Year Teacher Retention, TLT Participants Compared with Veteran Teachers, IDEA Public Schools, 2011–12 Through 2013-14 Combined

	Estimate	SE	*p*	Odds Ratio[a]
TLT participation	0.45	0.22	0.04	1.57
Cohort 2	-3.9	0.17	<.0001	0.02
Cohort 3	-0.90	0.18	<.0001	0.41
Hispanic teacher	5.19	0.18	<.0001	178.70
Male teacher	-0.12	0.12	0.31	0.88
Total years of experience	0.07	0.009	<.0001	1.08

[a] An odds ratio is a measure of association between a predictor and whether or not a teacher stayed in the district one year after the training. The odds ratio for TLT participation represents the odds that TLT participants stayed in the district one year after the training, compared to the odds that other veteran teachers stayed in the district over the same time period. An odds ratio of 1.57 indicates that TLT participants were 57% more likely to stay in the district one year after the training than other veteran teachers at IDEA Public Schools.

Discussion

We found no differences between PSJA STT and LST participants compared with the delayed treatment group on job satisfaction, efficacy on leadership dimensions, and one-year retention rates, except that STT participants reported lower teacher efficacy ratings than comparison teachers did. IDEA STT and LST participants did not differ on job satisfaction and leadership efficacy. Despite relatively high implementation fidelity on teacher leader selection and training, specific challenges around attendance, communication, and teacher leader selection could explain these results. Attendance at ongoing professional development was poor in both districts, so teachers may not have attended enough training to perceive changes to their leadership efficacy or job satisfaction.

Another contributing factor to these results could be the teacher leader selection process. TLT participants in both districts expressed confusion over why they were

selected and school leaders reported little knowledge of the TLT curriculum. The selection process was critical to identifying participants in roles that provided opportunities for applying skills developed through STT and LST. Consistently clear communication with school leaders about the objectives and skills targeted in the TLT curriculum might have helped them support TLT participants in their roles or might have helped them understand how to take advantage of the teacher leaders' new skills. Where TLT participants did not hold formal positions leading teacher teams, participants had fewer opportunities to apply the strategies they had learned through TLT.

IDEA Public Schools TLT participants did demonstrate higher one-year retention rates compared with other IDEA veteran teachers. IDEA Public Schools selected teacher leaders who excelled in the classroom and met the rigorous process examining leadership traits. This higher retention rate reflects the effects of both the selection of TLT participants—those teachers identified by district and school leaders as content and grade team leaders—and the TLT training combined.

These findings underscore the importance of intentionally selecting teacher leaders who have roles that will allow them to practice the skills they learn through TLT. In addition, clearly communicating the TLT curriculum and expectations is essential for ensuring that participants understand the alignment between TLT and school priorities. For teacher leaders to fully implement what they learn, principals need a solid understanding of TLT so they can support teacher leaders and leverage their new skills in leading teacher teams.

The RGV Center for Teaching and Leading Excellence encompassed activities beyond the New Teacher Training and Teacher Leader Training discussed thus far. As part of its vision to develop a full human capital pipeline, the Center also offered school leadership training, spurred the development of comprehensive human capital strategies in each district, and represented a novel partnership between a non-charter school district and a charter management organization. This chapter discusses the school leader training opportunities, the partnership between IDEA Public Schools and PSJA ISD, and the results from a comparative interrupted time series intended to reflect the broader Center goals and activities.

School Leader Training

IDEA Public Schools and PSJA ISD offered a variety of leadership training programs for school leaders and district leaders, including:

- Harvard Scholars (PSJA ISD) and Rhodes Fellows program (IDEA Public Schools), which focused on developing individuals preparing to become school and district leaders

- Principals in Residence (IDEA Public Schools) and School Leader Interns (PSJA ISD) for aspiring principals

- New principal training

- Action Learning Training, which supported teams of leaders in addressing critical district or school challenges

- Scholastic Achievement Partners, which provided intensive principal professional development and coaching

The programs offered by IDEA Public Schools and PJSA ISD had similar objectives but were delivered separately so that the programs could be appropriately tailored to meet the needs of each district's experienced, new, and prospective school leaders. The numbers of participants in each program for the two districts are detailed in Exhibits 31 and 32.

Exhibit 31. School Leader Training Participation, IDEA Public Schools, 2011-12, 2012-13, and 2013-14

	Rhodes Fellows	Principals in Residence	New Principal Training	Action Learning Training
2011-12	12	n/a	n/a	25
2012-13	10	6	15	21
2013-14	13	8	3	26
Total number of participants*	35	14	18	72

* Total number of participants includes the number of participants by program for each year. It is not an unduplicated count of individuals; it includes those who participated in more than one program in the same year or across years.

Source: IDEA Public Schools internal documentation.

Exhibit 32. School Leader Training Participation, PSJA ISD, 2011-12, 2012-13, and 2013-14

	Harvard Scholars	School Leader Interns	Scholastic Achievement Partners	Action Learning Training
2011-12	6	3	8	23
2012-13	12	3	12	41
2013-14	10	3	13	n/a
Total number of participants	28	9	33	64

* Total number of participants includes the number of participants by program for each year. It is not an unduplicated count of individuals; it includes those who participated in more than one program in the same year or across years.

Source: PSJA ISD internal documentation.

School and district leaders who participated in leadership training during 2011–12 or 2012–13 reported in the spring 2013 survey[17] on the extent to which their training experiences prepared them to implement practices and strategies related to their roles. As Exhibits 33 and 34 show, the percentages of school leaders in IDEA Public Schools and PSJA ISD reporting that their respective training was "effective" or "very effective" varied substantially, depending on the school leadership function or practice. In both districts, higher proportions of participants reported that their training was "effective" or "very effective" in helping them build skills related to supporting teachers, such as:

- Evaluate and provide instructional feedback to teachers (82% IDEA and 78% PSJA ISD)

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[17] School leadership training participants in 2013-14 were surveyed in spring 2014 for district internal purposes only.

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- Encourage teachers to take on leadership roles (72% and 88%, respectively)
- Build professional learning community among faculty and staff (71% and 81%, respectively)
- Use data to monitor school progress (86% in both districts)
- facilitate student learning (83% IDEA and 79% PSJA ISD)

In both districts, the lowest proportions of school leaders reported that the training provided "effective" or "very effective" support in preparing them to work to secure extra funding when needed (41% IDEA and 55% PSJA ISD). These results likely reflect the relatively few school leaders who considered fund-raising as part of their responsibilities.

Exhibit 33. School Leader Training Participant Reports on Leadership Training Effectiveness, IDEA Public Schools, 2011-12 and 2012-13 Combined

Use data to monitor school progress, identify problems and propose solutions. — 86%
Facilitate student learning (e.g., eliminate barriers to student learning). — 83%
Evaluate and provide instructional feedback to teachers. — 82%
Work with teachers to change teaching methods where students are not succeeding. — 76%
Encourage teachers to take on leadership roles within the school. — 72%
Build professional learning community among faculty and staff. — 71%
Foster teacher professional development for instructional knowledge and skills. — 71%
Work with parents on students' problems or learning needs. — 70%
Praise and recognize teachers' accomplishments. — 70%
Attend district-level meetings and carry out district-level responsibilities. — 68%
Guide the development and evaluation of curriculum and instruction. — 68%
Work with teaching staff to solve school or department problems. — 67%
Manage the school facilities, resources, procedures (e.g., maintenance, budget,… — 55%
Provide support for classroom discipline and order. — 50%
Work to secure extra funding when needed. — 41%

Percent of principals reporting "effective" or "very effective"

Source: Evaluation of the RGV Center for Teaching and Leading Excellence, school leader training participant survey, spring 2013.

Exhibit 34. School Leader Participant Reports on Leadership Training Effectiveness, PSJA ISD, 2011-12 and 2012-13 Combined

Category	Percent
Encourage teachers to take on leadership roles within the school.	88%
Use data to monitor school progress, identify problems and propose solutions.	86%
Work with teaching staff to solve school or department problems.	86%
Build professional learning community among faculty and staff.	81%
Facilitate student learning (e.g., eliminate barriers to student learning).	79%
Evaluate and provide instructional feedback to teachers.	78%
Foster teacher professional development for instructional knowledge and skills.	77%
Praise and recognize teachers' accomplishments.	76%
Work with teachers to change teaching methods where students are not succeeding.	76%
Provide support for classroom discipline and order.	73%
Guide the development and evaluation of curriculum and instruction.	73%
Attend district-level meetings and carry out district-level responsibilities.	71%
Work with parents on students' problems or learning needs.	71%
Manage the school facilities, resources, procedures (e.g., maintenance, budget,…	61%
Work to secure extra funding when needed.	55%

Percent of principals reporting "effective" or "very effective"

Source: Evaluation of the RGV Center for Teaching and Leading Excellence, school leader training participant survey, spring 2013.

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Whereas a majority of PSJA ISD district-level participants found the training effective across a number of district-level functions, the leadership training appeared to be less relevant to district leaders at IDEA Public Schools. As Exhibit 35 shows, 45% or fewer of IDEA Public Schools district administrators reported that their training was "effective" or "very effective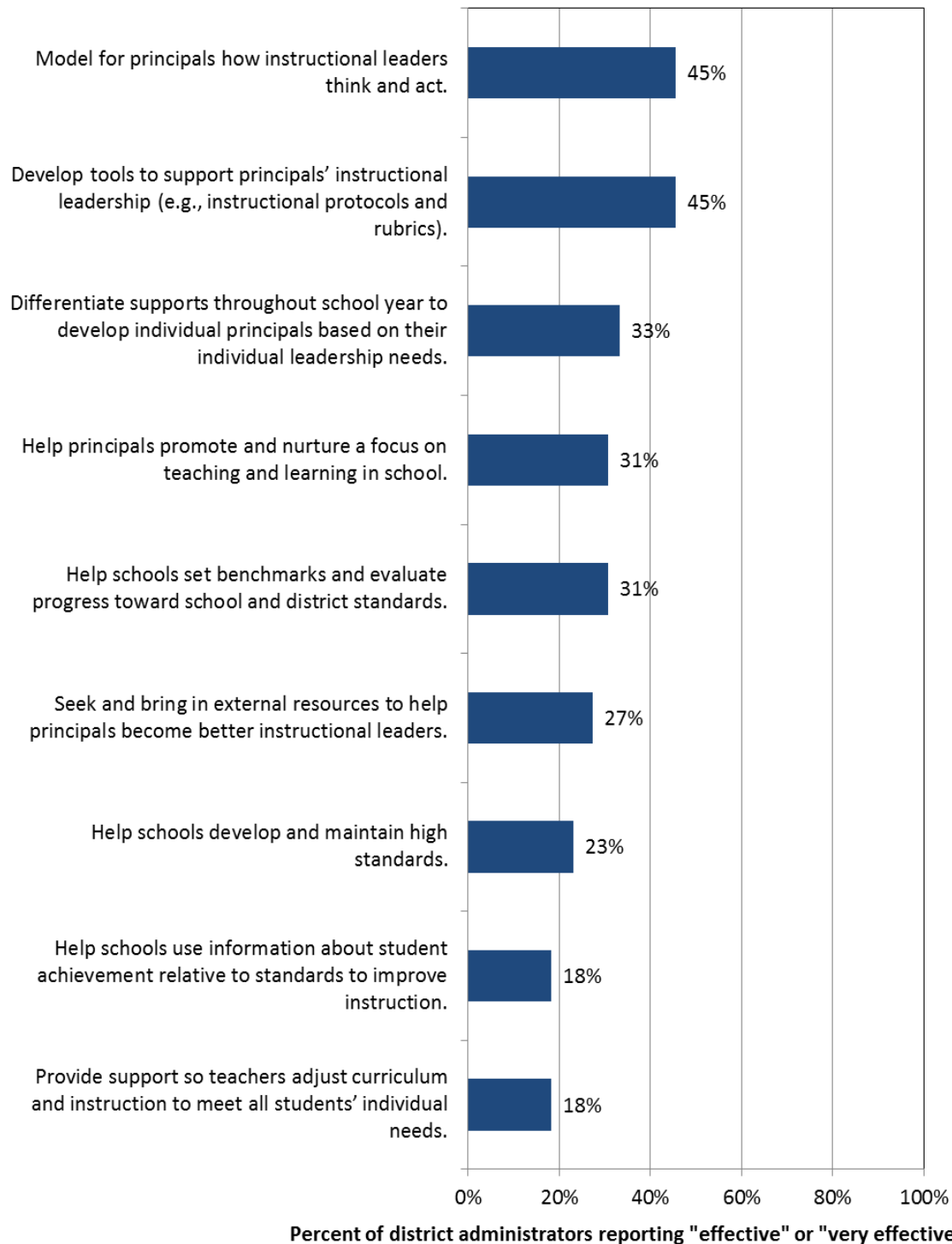" in supporting their practice in a variety of areas such as developing tools to support principals' instructional leadership, helping schools set benchmarks and evaluate progress, and helping schools use student achievement results to improve practice. In contrast, a majority of PSJA ISD administrators reported that their training was "effective" or "very effective" in supporting the development of nearly all their leadership and management practices (Exhibit 36). In both districts, the smallest proportion of district administrators reported that the training was "effective" or "very effective" in influencing their ability to support teachers in adjusting curriculum and instruction to meet all students' individual needs.

The contrast between school leader and district leader responses probably reflects a greater training emphasis on developing skills and strategies that are more closely aligned with school leadership functions or needs.

Exhibit 35. District Leader Participant Reports on Leadership Training Effectiveness, IDEA Public Schools, 2011-12 and 2012-13 Combined

Percent of district administrators reporting "effective" or "very effective"

Category	Percent
Model for principals how instructional leaders think and act.	45%
Develop tools to support principals' instructional leadership (e.g., instructional protocols and rubrics).	45%
Differentiate supports throughout school year to develop individual principals based on their individual leadership needs.	33%
Help principals promote and nurture a focus on teaching and learning in school.	31%
Help schools set benchmarks and evaluate progress toward school and district standards.	31%
Seek and bring in external resources to help principals become better instructional leaders.	27%
Help schools develop and maintain high standards.	23%
Help schools use information about student achievement relative to standards to improve instruction.	18%
Provide support so teachers adjust curriculum and instruction to meet all students' individual needs.	18%

Note: School leader training participants with district-level roles were included in the school leader training survey.

Source: Evaluation of the RGV Center for Teaching and Leading Excellence, school leader training participant survey, spring 2013.

Exhibit 36. District Leader Participant Reports on Leadership Training Effectiveness, PSJA ISD, 2011-12 and 2012-13 Combined

Percent of district administrators reporting "effective" or "very effective"

Note: School leader training participants with district-level roles were included in the school leader training survey.
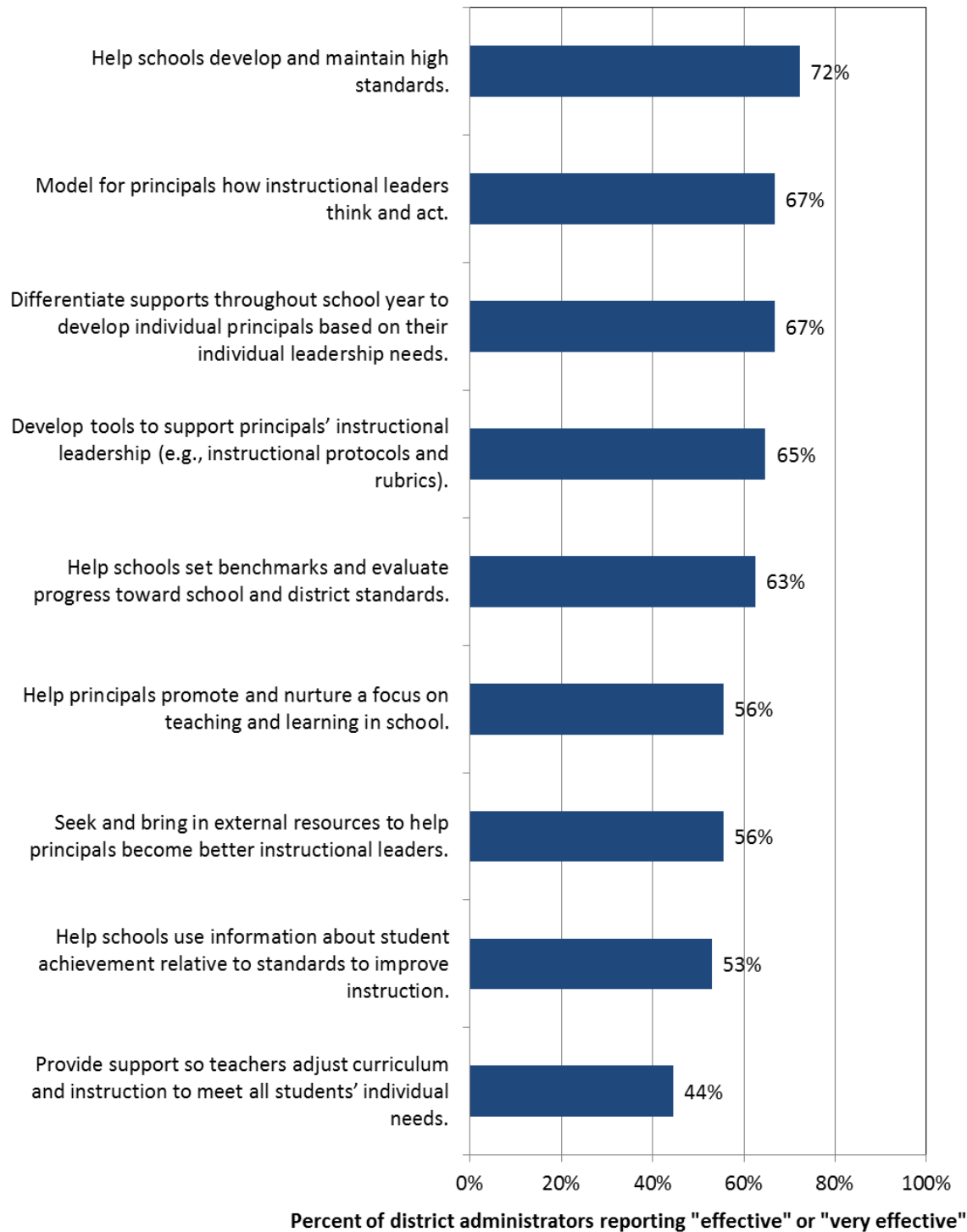
Source: Evaluation of the RGV Center for Teaching and Leading Excellence, school leadership training participant survey, spring 2013.

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IDEA Public Schools–PSJA ISD Partnership

PSJA ISD and IDEA Public Schools joined in partnership around a common goal of college for all in a region of economic disadvantage. Each district was willing to engage with and learn from the other, despite the local competitive environment between traditional public school districts and charter management organizations.

The partnership began with foundational efforts between the two districts that included creating the NTT and TLT curricula. A third critical partner, Teach For America (TFA), helped each district adapt and implement the TFA model for teacher recruitment, selection, and onboarding. This partnership also rose above the typical competition for top teacher talent for the benefit of the districts and the students and families they serve. TFA served as a willing partner, aligned with both PSJA and IDEA in the quest to better educate the students of the Rio Grande Valley.

Partnership Accomplishments and Challenges

The primary vision and goal of the partnership—to strengthen the human capital pipeline for both districts—stayed consistent throughout the life of the grant and were particularly clear at the administrative level at both districts. The vision was less explicit at the campus level, where teachers and school leaders viewed the Center's work as primarily the various trainings it offered.

Since the inception of the Center in 2011, the relationship between the two districts has stretched to accommodate both the common goals and specific needs of each. Leaders in both districts indicated that the partnership had helped them build robust recruitment and selection processes tailored to their district needs, and had enriched the development of their new teacher onboarding programs. The districts also collaborated to define a broader complement of leadership development programs for principals, prospective principals, instructional coaches, and other lead teacher positions. Staff at multiple levels agreed that the Center's activities had led to a clearer teacher career pathway where teachers are more aware of the education, skills, and experience they must obtain to grow professionally and advance at their respective districts.

While leaders at both districts agreed that they mutually benefited from the partnership, they acknowledged that they had not leveraged the partnership at all levels or promoted closer ties between teachers and school leaders across the two districts. Such relationships might have provided teachers and school leaders with a broader network and learning community. Teachers generally expressed appreciation for the opportunities to interact with peers from the other district; however, such interactions were limited to the summer institutes and did not generally persist outside of that forum.

Perhaps one of the greatest benefits was finding the middle ground where two districts with very different cultures could learn from one another. As different respondents framed it:

- "To collaborate with a district that is both different and similar is really good. It's a professional learning community; we tweak and perfect it [the collaboration] all the time."

- "We have the same mission and goal, and it's good to have the perspective of another lens—it makes you stronger. We all do some things well, and together we can build strength."

- "The biggest breakthrough after the first [summer] institute is that it's ok to have parallel training. Not every training or strategy is needed by both districts. We can't do everything together."

The partnership itself often acted as a mirror that allowed each district to see itself more clearly. In doing so, the joint work highlighted each district's strengths to build on and each district's weaknesses to improve—sometimes in collaboration and sometimes independently.

Implications for Partnership and District Capacity

As the project evolved, leaders of both districts changed how they articulated their visions for the future of the Center. Whereas the initial vision included a bricks and mortar facility led by staff who would report or respond to both districts' needs, that vision changed over time to become more of a "virtual Center" in which both districts co-planned and co-created the activities. As time went on, district leaders agreed that some training opportunities were best delivered jointly and others were better delivered separately because of differences in district strategies and priorities. The NTT was the best example of strong collaboration between IDEA Public Schools and PSJA ISD in both planning and execution. Presenters from both districts worked together to build the training curriculum and deliver the content to groups composed of teachers from both districts until the final summer institute. The coaching summit, where the districts brought together their instructional coaches to examine and share coaching practices, was another example of successful collaboration, providing an opportunity for both districts to learn from each other and TFA about strengthening teacher supports within schools.

Over time, even as the two districts worked together to develop the training, they moved apart in other critical areas. Differences in coaching models, leadership development, and school calendars led Center leadership to hold the other training components (ongoing PD and coaching) for new teachers, as well as TLT and school leader trainings, separately. Nonetheless, both districts planned the objectives, content, and session formats together for many of the trainings they implemented separately, drawing on the perspectives and contributions of both districts. Indeed, with their partnership experience, IDEA Public Schools and PSJA ISD included other local districts in final collaborative meetings and reporting sessions. These meetings allowed other districts to hear the insights and promising practices developed at the Center and may stimulate future collaborative efforts throughout the Rio Grande Valley.

The divergent paths the districts took in these critical areas may have lessened the opportunity and the need for continued collaboration as time went on. However, by identifying their own needs and building internal district capacity to meet those needs, each district arguably bolstered the sustainability of new teacher, teacher leader, and school leader training, even if the Center itself is not sustained. It remains to be seen whether the collaboration between the two districts becomes a valued practice that continues well beyond the life of the grant and serves to spark new and innovative approaches over the long term, or whether it will be a time-limited experience from which each district takes its relevant lessons and continues to develop independent of the other.

It is now obvious that districts can plan for some strategies and implement them collaboratively, and that others require differentiation, specific tailoring, and accommodations based on district-specific needs and characteristics. Future partnerships would do well to acknowledge this balance from their inception, focusing on maximizing the benefits derived from the areas in which they can collaborate effectively and adapting others to fit the unique or specific needs of their districts.

Comparative Interrupted Time Series Results

The NTT and TLT analyses discussed previously provide insights into whether and how those trainings influenced teachers and yielded effects on teacher and student outcomes. The Center also provided an umbrella for a broader set of strategies, such as the school leadership training discussed above, and was integrated into the districts' overall strategy to develop their human capital pipeline. We conducted an exploratory analysis to take into account the broad strategy represented by the Center in each district. We used a comparative interrupted time series (CITS) approach, with a time series beginning three years before the Center was established and ending in 2013-14, the last year for which data were available and three years after the Center was established (the "interruption").

Because the establishment of the Center coincided with the introduction of new state tests, looking at the student outcome trajectory for IDEA Public Schools and PSJA ISD alone would have confounded the effects of the Center with those of the new assessments. Comparing IDEA Public Schools and PSJA ISD results with those from Education Service Center Region 1 schools[18] attempts to control for the effects of the state testing changes, which arguably would have affected all schools similarly.

The analysis examined all grades at PSJA ISD because new teachers across all grades were eligible to participate in the trainings. Only secondary grades were

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[18] The state is divided into regions, each served by an Education Service Center. Region 1 represents the Rio Grande Valley, where PSJA ISD is located and where the vast majority of IDEA Public Schools are located. Only those schools in the RGV opened by 2010-11, the last year before the RGV Center was opened, are included in the analysis.

included for IDEA Public Schools, however, because their elementary teachers participated in the direct instruction initiative at the time rather than NTT or TLT.

On the basis of the CITS, the Center did not result in a change in PSJA ISD's student outcomes relative to schools in Education Service Center Region 1. Math and reading results, however, indicate different patterns. In reading, the gap between PSJA ISD and Region 1 increased slightly (marginally statistically significant, $p < 0.10$) (Exhibit 37). In contrast, the difference in math results for all grades between PSJA ISD and Region 1 showed no difference in trajectory over the time series (Exhibit 38).

The difference between IDEA Public Schools' middle school reading results and that of Region 1 schools remained similar (Exhibit 39). However, middle school math results at IDEA, while still higher on average than that of Region 1 schools, trended downward compared with Region 1 overall (Exhibit 40). Although no differences appeared in the first year, a negative 10-point difference in 2013 with marginal statistical significance ($p < 0.10$) and statistically significant negative 14-point difference in 2014 ($p < 0.05$) indicate a beginning pattern. (See Appendix D for full results.)

To contextualize these findings, it is important to remember that the broadest available outcomes are reading and math scores; however, grades 3-8 teachers at PSJA ISD or grades 6-8 teachers at IDEA were only a subset of RGV training participants, and reading or mathematics teachers at IDEA were a minority of participants. To the extent that the Center represented a systemic change in human capital development, reading and math scores may indicate how thoroughgoing the intervention may have been. For example, school and teacher leadership, according to the logic model, should influence effectiveness at the school and district levels. However, as a direct chain of influence, the training did not focus specifically on reading and math teachers or on math and reading content areas. Thus, the CITS analysis is informative about the direction of Center influence but is only one of a range of results that need to be taken into account to understand the promise of the Center.

Exhibit 37. Reading Achievement, All Grades, PSJA ISD and Region 1, 2007 Through 2014
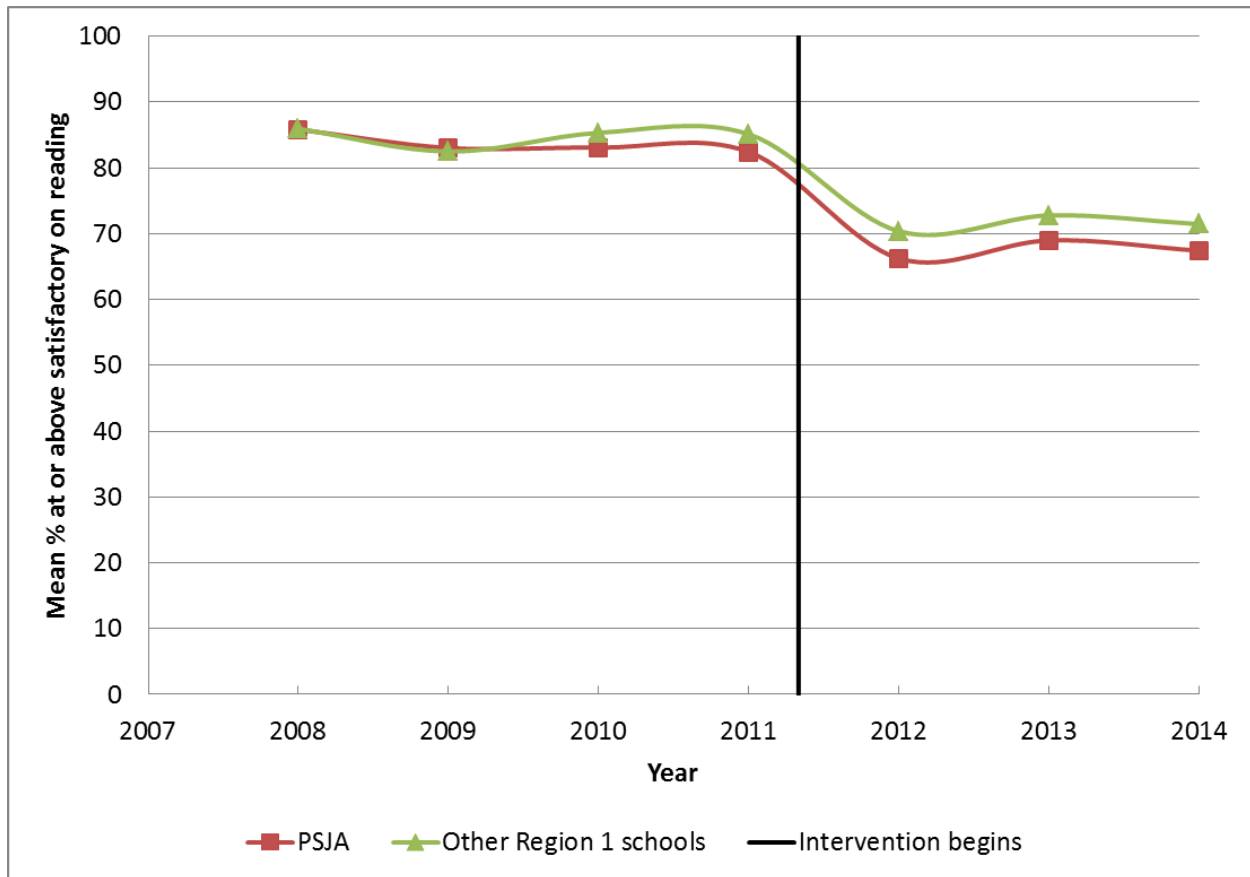
Source: Academic Excellence Indicator System, 2007 through 2012; Texas Academic Performance Reports, 2013 and 2014.

Exhibit 38. Math Achievement, All Grades, PSJA ISD and Region 1, 2007 Through 2014
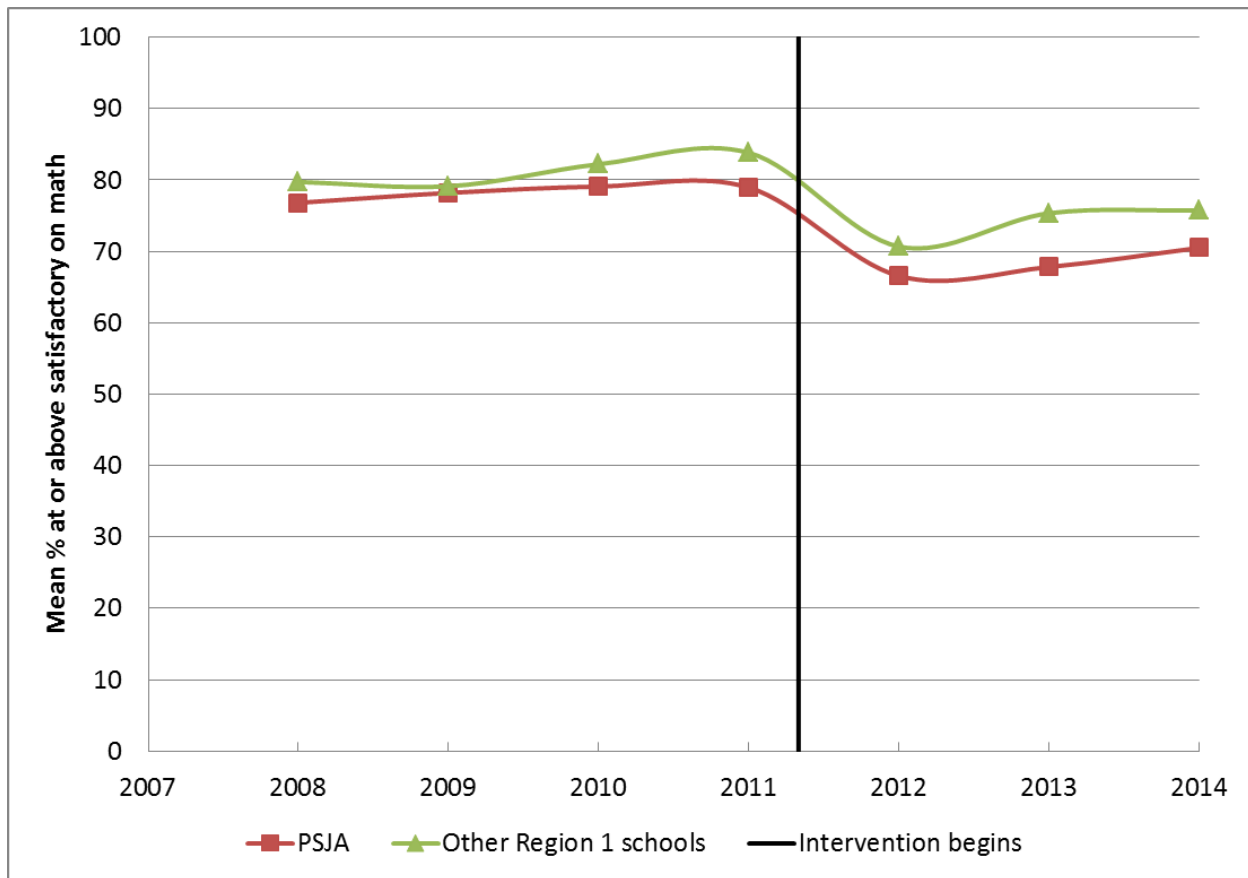
Source: Academic Excellence Indicator System, 2007 through 2012; Texas Academic Performance Reports, 2013 and 2014.

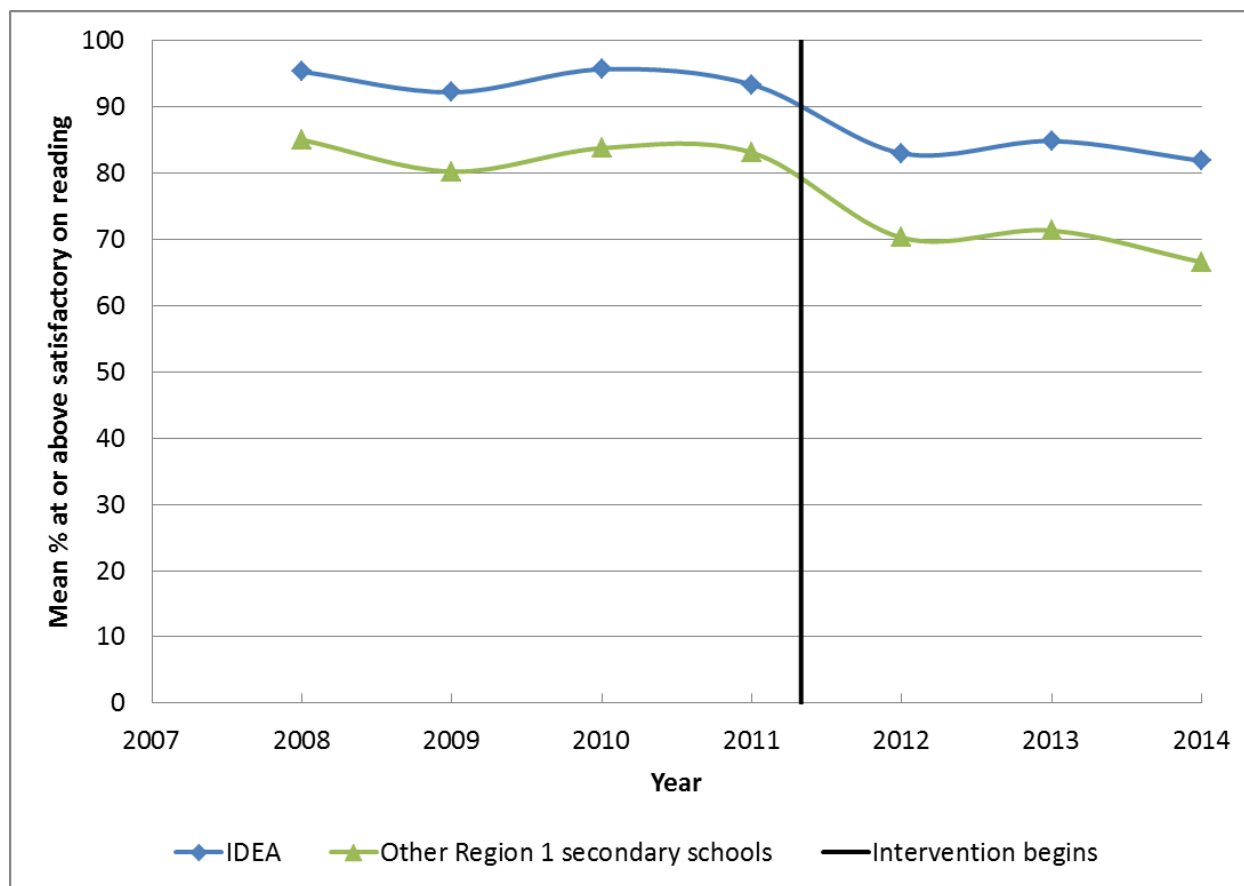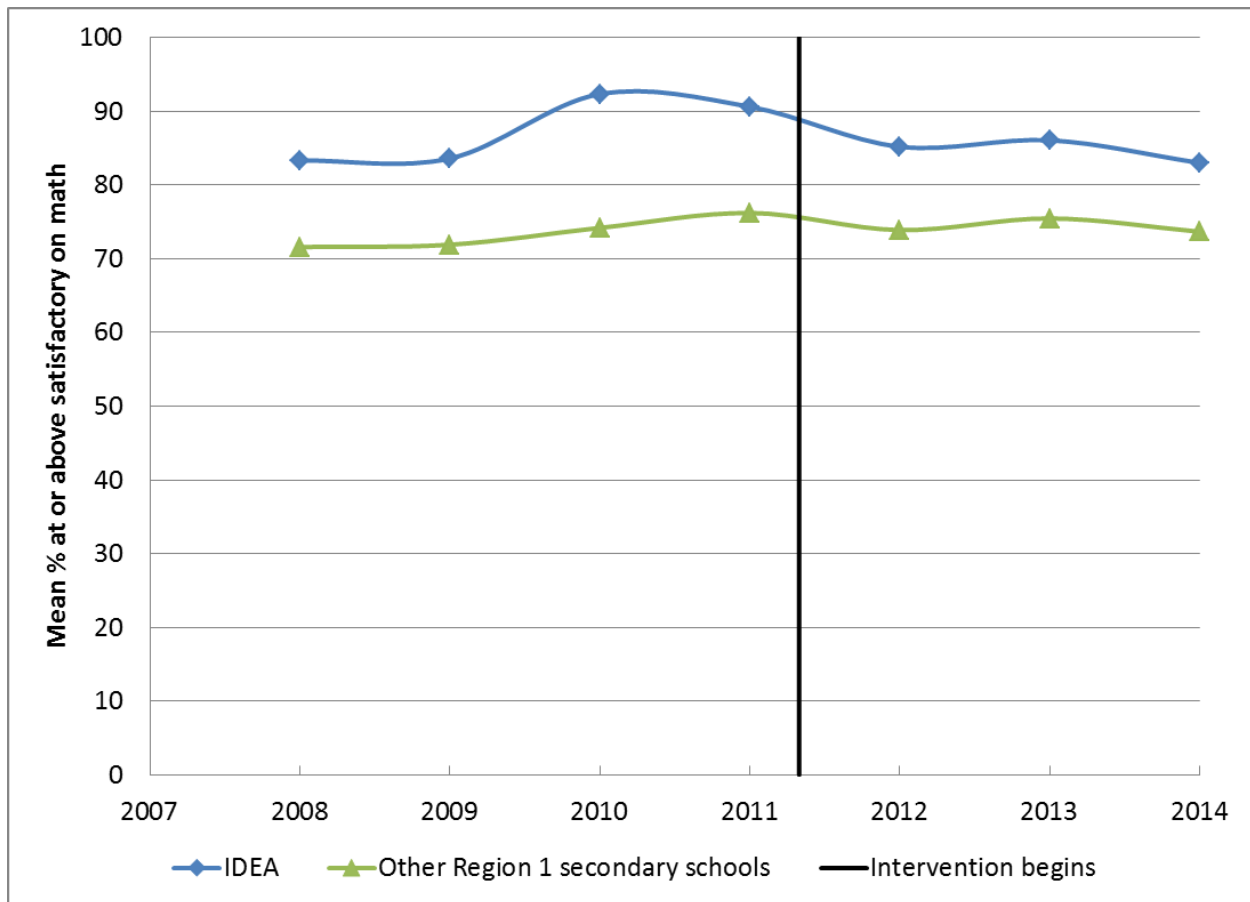**Exhibit 39. Reading Achievement, Secondary Grades, IDEA Public Schools and Region 1, 2007 Through 2014**

Source: Academic Excellence Indicator System, 2007 through 2012; Texas Academic Performance Reports, 2013 and 2014.

Exhibit 40. Math Achievement, Secondary Grades, IDEA Public Schools and Region 1, 2007 Through 2014

Source: Academic Excellence Indicator System, 2007 through 2012; Texas Academic Performance Reports, 2013 and 2014.

This final chapter recapitulates the key findings from the evaluation of the Center and discusses their implications and limitations.

Implementation

Across the three targeted training programs—NTT, TLT, and school leader training—implementation was relatively strong. NTT and TLT participants, however, had difficulty consistently attending training activities during the school year.

New Teacher Training

Together, the districts achieved high implementation fidelity ratings for the two key components of new teacher recruitment and selection and NTT. The three NTT summer institutes met indicator thresholds for being interactive and practice-based. Participants were engaged and reported that the summer institutes were useful.

Attendance, particularly for ongoing professional development sessions in both districts and coaching during the year for one district was the greatest challenge. Ongoing professional development sessions reinforced topics from the summer institute; however, participants cited long distances and scheduling conflicts with other events at their schools as barriers to attendance. Across the three years, between 4% and 42% of NTT participants at either district attended at least three ongoing professional development sessions. Strong participation in ongoing professional development is essential since teachers must be present and engaged to fully benefit from NTT. Clearly communicating expectations for attendance to participants and school leaders could mitigate barriers and make clear that ongoing professional development is part of NTT participation.

Coaching was potentially the most powerful of the NTT supports because coaches worked one-on-one with new teachers to address their needs. However, coaching was uneven because of capacity issues. In PSJA ISD, approximately 80% of NTT participants in each of the second and third cohorts received coaching at least once as a needs assessment; 65% to 73% from the second and third cohorts, respectively, received coaching once a month. IDEA Public Schools had on-site coaches who had greater access to new teachers, with 90% or higher in the second and third cohorts receiving coaching at least once a month. Across high, medium, and low attendance levels, NTT participants reported that the training and coaching they did participate in was moderately or greatly influential on their teaching practices. Teachers responded positively to coaching, highlighting the benefits of differentiated, job-embedded support. Although both districts improved the frequency of coaching to participants over the study period, this positive response suggests value in shifting even more resources towards coaching.

Teacher Leader Training

The second major training focus of the Center, TLT, was also implemented with high fidelity in both districts. Similar to NTT, the summer institutes were engaging for participants, interactive, and practice-based. TLT participants faced the same hurdles as NTT participants in trying to attend ongoing professional development sessions during the school year. As a consequence, generally fewer than 50% of TLT participants attended all three ongoing professional development sessions.

TLT participants reported uncertainty about how to apply what they had learned to their daily responsibilities. Principals' knowledge of the TLT curriculum—particularly in the first and second years but also into the third year—was limited, and they did not articulate expectations for a teacher leader role at school. Center directors tried to involve principals in the TLT summer institute to align what participants were learning and principals' expectations for teacher leaders' roles back on campus. TLT participants from IDEA Public Schools were able to leverage the training to some extent in their roles as grade and content team leaders. At PSJA ISD, most TLT participants did not have formal roles leading teacher teams that would have given them opportunities to apply what they had learned through TLT.

Similar to NTT, strong participation from TLT participants in ongoing professional development is vital since teacher leaders must be present and engaged to fully benefit from TLT curricula. Some participants' lack of understanding on how to apply what they learned to their given role and how curricula aligned to school priorities could have influenced their commitment to attending ongoing profession development. Therefore, strategically selecting participants in formal leadership roles with clear opportunities to apply practices learned could help create stronger commitment to training participation. In addition, further improving school leaders' understandings of TLT curricula could help school leaders better communicate the alignment between TLT and school priorities, as well as provide more targeted guidance for implementing new practices.

School Leader Training

The evaluation tracked only enrollment and participant survey responses for school leader training. The range of options touched a broad number of experienced, new, and aspiring principals, with 37 to 50 participants each year at IDEA Public Schools and 26 to 68 participants each year at PSJA ISD. School leaders reported positive influence on different dimensions of their work, including using data to monitor school progress, facilitate student learning, and evaluate and provide instructional feedback to teachers. District leaders in both districts also had development opportunities through Action Learning Training, a team-based approach focused on organizational needs. Action Learning Training participants found that training less applicable to the wide range of district-level functions. This perceived disconnect between training content and district-level responsibilities underscores the

importance of showing clear alignment between the curriculum and participants' roles and responsibilities.

Outcomes

Through the mix of training for educators at each career stage, the Center strove to improve instruction and, ultimately, student achievement. The evaluation included two randomized controlled trials with which to understand impacts on teacher and student outcomes: (1) PSJA ISD students in grades 4 through 8 were randomly assigned to NTT participants or comparison teachers in the same grades, subjects, and schools; and (2) PSJA ISD-selected teacher leaders were randomly assigned to LST, STT, or a delayed treatment comparison group; IDEA Public Schools-selected teacher leaders were randomly assigned to LST or STT. All other outcome analyses were descriptive and do not provide causal evidence for the impact of the Center's programs. These descriptive analyses include: student achievement analysis of IDEA NTT participants; teacher outcomes (job satisfaction, self-efficacy, and one-year retention in the district) of NTT participants at both IDEA Public Schools and PSJA ISD; and a comparative interrupted time series exploring the overall effect of the Center on districtwide student outcomes for both districts. The results were mixed across these various outcome analyses.

New Teacher Training

It is important to remember that the full logic model for NTT includes strengthening recruitment tools and practices. The NTT outcome analysis encompasses both the recruitment effect and the NTT training effect on program participants and is not able to disentangle the two because both recruitment and training reforms were implemented at the same time.

Student achievement between PSJA NTT participants and their more experienced colleagues in the same grades, subjects, and schools was equivalent, after controlling for pretest scores. These results pertain to reading and math in grades 4 and 5 and in grades 6 through 8 and to social studies in grade 8. Equivalent student performance between NTT participants and the comparison group is arguably a positive result, since other research has found novice teachers' students to have lower achievement compared with students of experienced teachers (Croninger, et al., 2005; Harris & Sass, 2008; Rice, 2003; Vanderhaar, Munoz, & Rodosky, 2007).

Teacher outcomes also seemed to reflect mixed results. PSJA NTT participants reported higher job satisfaction ratings than comparison teachers of the same grades and subjects (3.3 versus 3.2 on a 4-point scale, $p < 0.05$), suggesting that they felt supported enough to withstand the pressures of the first years in the classroom. They reported lower self-efficacy ratings than comparison teachers (3.35 versus 3.52 on a 4-point scale, $p < 0.0001$), probably reflecting a realistic assessment of their own skills in relation to the instructional standards articulated by the district. Retention of PSJA NTT

participants one year after training was inconclusive: while NTT participants had lower one-year retention rates compared with PSJA ISD teachers with more experience, consistent with the literature, NTT participants had much higher retention rates than teachers with similar levels of experience in the three cohorts before NTT was offered. This latter comparison is tenuous, however, because the economy differed significantly between the two time periods and probably affected teachers' choices to remain in their current job and the district's employment needs. IDEA NTT participants did not differ on average from non-NTT, non-TLT participants in job satisfaction or self-efficacy ratings.

Teacher Leader Training

Although TLT participants in both districts reported that TLT influenced some specific aspects of their work, no differences in general were evident between PSJA TLT participants and the delayed treatment comparison group on the teacher outcome measures included in this evaluation, after controlling for baseline ratings. The teacher outcomes included job satisfaction, self-efficacy, efficacy in instructional leadership, efficacy in management, efficacy in problem-solving, and one-year retention. The only exception was lower self-efficacy ratings among PSJA STT participants compared with the delayed treatment group. LST and STT participants at IDEA Public Schools did not differ in these outcome measures either, after controlling for baseline ratings. These results seem to indicate that other factors underpinning teacher leaders' commonalities in job satisfaction and various dimensions of efficacy were stronger than the influence of TLT training. TLT did not appear intense enough to overcome the challenges of inconsistent attendance at ongoing PD. Moreover, TLT participants on their own could not make the connections between what they learned and how that training might apply to their specific responsibilities if school leaders did not set clear expectations for their roles as teacher leaders and provide opportunities for them to exercise leadership.

Comparative Interrupted Time Series

The comparative interrupted time series suggests that the overall Center activities did not change PSJA ISD's achievement in reading or math relative to schools serving the same grades in Education Service Center (ESC) Region 1. A similar analysis showed that IDEA Public Schools achievement relative to ESC Region 1 schools in grades 6-8 reading did not change. Results, however, suggest that although IDEA Public Schools' math achievement in grades 6-8 continued to exceed that of Region 1 schools, the gap closed through a slight downward trend in IDEA Public Schools' performance.

The districtwide trajectory for IDEA Public Schools and PSJA ISD confounds Center effects with those of new state tests, which began the same year as the Center. The comparison with ESC Region 1 schools helps disentangle the confound since the change in state tests affected the Region 1 comparison schools as well as IDEA Public Schools and PSJA ISD.

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Limitations

As with all studies, certain limitations must be taken into account when interpreting the results. The limitations of this study pertain to generalizability and narrowness of the outcomes included. First, because the randomized controlled trial for NTT was situated in PSJA ISD, the results of NTT on student achievement do not generalize to IDEA Public Schools or to other charter school contexts. IDEA Public Schools differs from PSJA ISD in ways that are likely to affect how NTT participants apply what they learned in the classroom. For example, IDEA Public Schools continued to expand during the study period; thus, school leader and teacher turnover at the school level as a result of staff's moving to open new sites or being promoted to central office positions worked against building stable capacity at each site. Also, the PSJA ISD teaching staff has more teaching experience, on average, than staff of IDEA Public Schools, and PSJA ISD schools are larger. While smaller schools at IDEA may promote greater cohesion among staff and students, novices in PSJA ISD schools have access to more individuals with greater levels of classroom experience. At the same time, IDEA Public Schools has built-in coaching positions at each campus to work directly with teachers needing instructional improvement.

Another factor that limits the generalizability of the NTT student effects is that NTT participation was broader than the tested grades and subjects included as student outcomes. Without reliable and standardized achievement measures that reflect the full range of grades and subjects taught by NTT participants, the PSJA NTT student outcome analysis indicates the NTT effect on only the core subjects tested from grades 4 through 8.

The study is also limited in the teacher outcomes available. We were not able to obtain direct measures of instructional quality or leadership skills—only teacher-reported measures related to instruction, leadership responsibilities, and the influence of the training on NTT and TLT participants' respective practices. Direct measures of instruction would have provided a valuable window into the degree to which and in what ways NTT participants' teaching differed from that of comparison teachers to help interpret the equivalent student achievement between the two groups. Moreover, the training might have had an effect on other outcomes, such as classroom culture, positive teacher-student relationships, and student engagement in learning, that were beyond the scope of this study.

Finally, data quality in teacher-student links to support the student outcome analyses in both districts and data on teaching assignments were inconsistent from year to year, requiring repeated data requests and significant data cleaning. Eventually, the datasets were adequate for analysis but were not of consistently high quality.

Overall Partnership

The partnership between IDEA Public Schools and PSJA ISD was an ambitious undertaking—an unprecedented effort to collaborate between organizations that are otherwise rivals for student enrollment. District leaders saw the potential for strengthening human capital in the Rio Grande Valley and having the districts learn from each other as benefits outweighing working alone. Staff participated in a variety of collaborative efforts, including jointly developing NTT and TLT components and offering NTT summer institutes together, sharing instructional coaching strategies through two annual coaching summits, and district staffs' jointly participating in Action Learning Training.

The districts' joint work provided several key lessons about partnership. Vesting Center directors from the two districts with parallel responsibilities and authority was necessary for productive decision-making. The work would have been stymied if one of them had to unduly defer to authority that wasn't directly involved in the Center.

Collaboration at multiple levels of the system among counterparts across the two districts also led to a broader sense of collaboration. At the same time, as more individuals were involved in collaboration across the districts, the message about why working together was important became more diffuse. Creating buy-in among NTT and TLT participants, for example, by explaining why district leaders embarked on the venture and how they anticipated to benefit from the experience was central to having meaningful collaboration below the district level.

Center directors also learned through experimentation and negotiation how to balance joint planning and implementation under appropriate contexts and independent execution where logistics were too difficult or goals, strategies, or organizational structures too different. For example, jointly running NTT summer institutes made sense for all three years because all participants had little teaching experience and needed to learn the fundamentals of managing a classroom and planning a lesson. However, after the first summer, the Center directors determined that jointly planning TLT but administering it separately was more suitable because the formal roles of teacher leaders in the two districts differed.

Going forward, the districts are incorporating the substantial advances they made in developing new teachers and teacher leaders and incorporating them into their respective human capital strategies. Each district continues to refine the trainings as its needs change. In doing so, they may move farther away from their original joint work but the effort leveraged resources to provide a new teacher and teacher leader development model that IDEA Public Schools and PSJA ISD demonstrated could be implemented across diverse contexts.

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Data Sources

The evaluation of the Rio Grande Valley Center for Teaching and Leading Excellence (the Center) uses a wide range of qualitative and quantitative data to understand how the Center is implementing the training components, whether and how participants use what they learned, facilitating factors and barriers for applying what they learned, and the effectiveness of the training on selected teacher and student outcomes. Exhibit A-1 lists the data sources and their purposes for this study.

Exhibit A-1. Data Sources and Their Purposes

Data Source	Randomly Assign Students*	Student Outcomes Analysis	Randomly Assign Teacher Leader Participants	Training Quality/ Usefulness	Degree of Training Participation	Conditions Supporting Participants' Use of Training Strategies	Teacher Outcomes Analysis
Secondary Data Collection							
Student demographics/ achievement data	X	X					
Human resources data	X	X	X				X
Surveys							
Baseline teacher survey						X	
Pre-training teacher leader survey							X
New Teacher participant survey				X	X	X	X
Teacher Leader participant survey				X	X	X	X
Coach survey				X		X	
Center Training							
Summer institute observations				X		X	
Summer institute focus groups				X		X	
Participant evaluation forms				X			
Coaching log					X		
Attendance					X		
Site Visits							
Principal and training participant interviews and focus groups				X		X	

* PSJA ISD only, for analysis of New Teacher Training effect on student outcomes.

Surveys

The study administered surveys to NTT and comparison teachers, TLT and comparison teachers, and school leader training participants to measure implementation and certain teacher outcomes. Exhibit A-2 details the surveys administered each year, the target respondents, and response rates.

Exhibit A-2. Description of Surveys and Response Rates

Survey	Administration	Target Respondents	Response Rate[a]		
			2011-12	2012-13	2013-14
New Teacher participant survey	Spring 2012, 2013, 2014	All IDEA secondary teachers, including new teacher training participants PSJA new teacher training participants and grade-level team colleagues	IDEA 76% PSJA 83%	IDEA 86% PSJA 71%	IDEA 76% (59%)[b] PSJA 67%
Pre-Training Teacher Leader participant survey	Summer 2011, 2012, 2013	All IDEA Skillful Teacher and Leadership Skills participants attending Teacher Leader training for the first time All PSJA Skillful Teacher and Leadership Skills participants attending Teacher Leader training for the first time and delayed treatment teachers	IDEA 92% PSJA 80%	IDEA 81% PSJA 70%	IDEA 76% PSJA 67%
Teacher Leader participant survey	Spring 2012, 2013, 2014	All IDEA Skillful Teacher and Leadership Skills training participants All PSJA Skillful Teacher training participants, Leadership Skills training participants and delayed treatment teachers	IDEA 85% PSJA 87%	IDEA 80% PSJA 77%	IDEA 73% PSJA 73%
Coach survey	Spring 2012	IDEA assistant principals of instruction All PSJA ISD Center coaches	IDEA 83% PSJA 100%	--	--
School Leader survey	Spring 2013	IDEA and PSJA school leaders and district administrators who participated in a leadership training during the 2011–12 or 2012–13 academic years	--	IDEA 76% PSJA 82%	--

[a] The response rates include a small number of partially completed surveys.

[b] In summer 2014, a second teacher survey was administered to IDEA NTT participants with a subset of teacher leader outcome questions to rate grade and content team leaders' effectiveness on leadership dimensions, which were inadvertently omitted in the spring 2014 survey.

Exhibit A-3 details the survey factors we constructed for implementation and outcome measures. We conducted principal axis with varimax rotation factor analysis to explore the internal structure of the survey items. Eigenvalues and scree plot cut-off points were used to guide the dimensionality of the factor space and to let the interpretability of the factors indicate the exact number of factors to retain. The large, dominant first eigenvalue and explained variance indicate single factors for each set of items. Using the teacher survey data collected for this study, the reliability alpha (a measure of a single, unidimensional latent construct) ranged from 0.81 to 0.96, indicating a high level of inter-correlation among items under each factor. To create these summary measures, we computed factor scores, which are z-scores ranging from approximately -3 to 3, with the mean being zero and the standard deviation being 1. The factor scores indicate the ranking on a latent continuum for that factor. We also created factor scores averaging individual item values so that the mean fell within the survey rating scale, thus improving interpretability of the factor scores.

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Exhibit A-3. Survey Factor Scale, Items, Source, and Reliability

Survey Factor	Scale	Items	Source	Reliability
Teacher efficacy	1=Strongly disagree; to 4=Strongly agree)	CT16		0.91
		a. I am confident in my ability to teach	Wechsler, et al., 2010	
		b. I can handle challenging classroom management and discipline situations	Wechsler, et al., 2010	
		c. If a student in my class becomes disruptive and noisy, I know techniques to redirect him/her quickly	Wechsler, et al., 2010	
		f. If a student does not remember information I gave in a previous lesson, I know how to increase his/her retention in the next lesson	Wechsler, et al., 2010	
		g. If one of my students couldn't do a class assignment, I can accurately assess whether the assignment was at the correct level of difficulty	Wechsler, et al., 2010	
		h. I am able to adapt my instruction so I meet the needs of students at varying academic levels equally well	Wechsler, et al., 2010	
		i. With additional effort, I can get through to even the most difficult or unmotivated students	Young, et al. 2010a, 2010b	
		j. I can provide an alternative explanation when students are confused	Klassen & Chiu, 2010	
		k. I can implement a variety of assessment strategies	Klassen & Chiu, 2010	
		l. I can craft questions to prompt students to think more critically	Newly created	
		m. I can build effective, objective-driven lesson plans so students who complete the lesson activities master the objective	Newly created	
		n. I know how to start with the learning goal and assessment to plan a unit of study	Newly created	
		o. I know where to insert "check-for-understanding" questions into a lesson plan to assess student learning	Newly created	

Exhibit A-3. Survey Factor Scale, Item, Source, and Reliability (continued)

Survey Factor	Scale	Items	Source	Reliability
Job satisfaction	1=Strongly disagree; to 4=Strongly agree	**CT17**		0.89
		a. The freedom I have to teach	Wechsler, et al., 2010	
		b. School policies that support my work	Wechsler, et al., 2010	
		c. My profession (e.g. thinking ahead 3 years, I am sure I will still be in the education field)	Wechsler, et al., 2010	
		d. My professional development opportunities	Wechsler, et al., 2010	
		e. Commitment of my school to high quality instruction	Newly created	
		f. The leadership opportunities at my school	Wechsler, et al., 2010	
		g. The support I receive from parents/guardians in teaching their children	Wechsler, et al., 2010	
		h. The support I receive from my principal/school leader to be a successful teacher	Wechsler, et al., 2010	
Leadership efficacy for instructional skills support	1=Strongly disagree; to 4=Strongly agree	**CT14**		0.93
		a. Guide teachers through the process of building effective, objective-driven lesson plans	Newly created	
		b. Guide teachers in planning a unit of study by starting with the learning goal and assessment	Newly created	
		c. Support teachers in addressing the needs of special education students	Wechsler, et al., 2010	
		d. Support teachers in addressing the needs of English language learners	Wechsler, et al., 2010	
		e. Support teachers in adapting instruction to meet the needs of students at varying academic levels	Wechsler, et al., 2010	
		f. Provide guidance to teachers about implementing a variety of assessment strategies	Wechsler, et al., 2010	
		g. Support teachers' regular use of student assessment data	Young, et al. 2010a, 2010b	
		h. Talk with teachers about strengths and/or needs of specific students	Bland, et al. 2011	

Exhibit A-3. Survey Factor Scale, Item, Source, and Reliability (continued)

Survey Factor	Scale	Items	Source	Reliability
Leadership efficacy for management	1=Strongly disagree; to 4=Strongly agree	CT15		0.86
		a. Promote teachers' ongoing professional development	Young, et al., 2010a, 2010b	
		b. Inspire the very best job performance of all teachers	Young, et al., 2010a, 2010b	
		d. Manage team members, time, and resources to meet deadlines and achieve goals	Newly created	
		e. Clearly communicate goals, strategies, expectations and actionable next steps for a teacher team	Newly created	
		j. Delegate or share responsibility with colleagues who possess the appropriate skills	CCSR, 2009	
Efficacy for problem solving	1=Strongly disagree; to 4=Strongly agree	CT15		0.87
		c. Build effective team processes for collaboration, decision-making, and conflict resolution	Newly created	
		k. Seek to understand the root cause of a problem, consider multiple solutions and identify the most effective course of action	Newly created	
		l. Reflect on data and past behavior to determine how well strategies have worked and to identify opportunities for improvement	Newly created	
Efficacy for providing feedback	1=Strongly disagree; to 4=Strongly agree	CT15		0.81
		f. Conduct critical feedback discussions with teachers	Bland, et al., 2011	
		g. Conduct classroom observations to identify teachers' areas of need	Bland, et al., 2011	
		h. Seek critical feedback from peers	CCSR, 2009	

Exhibit A-3. Survey factor, Scale, Items, Source, and Reliability of Each Survey Factor (continued)

Survey Factor	Scale	Items	Source	Reliability
Teacher reported quality of teacher leader support for managing adults (For IDEA only)	1=Poorly; to 4=Very well)	CT21 (content team leader); CT18 (grade team leader)		0.97 (content team leader scores) 0.97 (grade team leader scores)
		a. Promote teachers' ongoing professional development	Young, et al., 2010a, 2010b	
		b. Inspire the very best job performance of all teachers	Young, et al., 2010a, 2010b	
		c. Build effective team processes for collaboration, decision-making and conflict resolution	Newly created	
		d. Manage team members, time, and resources to meet deadlines and achieve goals	Newly created	
		e. Clearly communicate goals, strategies, expectations and actionable next steps for a teacher team	Newly created	
		f. Conduct critical feedback discussions with teachers	Bland, et al., 2011	
		g. Conduct classroom observations to identify teachers' areas of need	Bland, et al., 2011	
		h. Seek critical feedback from peers	CCSR, 2009	
		i. Engage parents and community to work toward a common vision	CCSR, 2009	
		j. Delegate or share responsibility with colleagues who possess the appropriate skills	CCSR, 2009	
		k. Seek to understand the root cause of a problem, consider multiple solutions and identify the most effective course of action	Newly created	
		l. Reflect on data and past behavior to determine how well strategies have worked and to identify opportunities for improvement	Newly created	

Exhibit A-3. Survey factor, Scale, Items, Source, and Reliability of Each Survey Factor (concluded)

Survey Factor	Scale	Items	Source	Reliability
Teacher reported quality of teacher leader support for instruction (For IDEA only)	1=Poorly; to 4=Very well	CT 20 (content team leader); 17 (grade team leader)		0.97 (content team leader scores) 0.96 (grade team leader scores)
		a. Guide teachers through the process of building effective, objective-driven lesson plans	Newly created	
		b. Guide teachers in planning a unit of study by starting with the learning goal and assessment	Newly created	
		c. Support teachers in addressing the needs of special education students	Wechsler, et al., 2010	
		d. Support teachers in addressing the needs of English language learners	Wechsler, et al., 2010	
		e. Support teachers in adapting instruction to meet the needs of students at varying academic levels	Wechsler, et al., 2010	
		f. Provide guidance to teachers about implementing a variety of assessment strategies	Newly created	
		g. Support teachers' regular use of student assessment data	Young, et al., 2010a, 2010b	
		h. Talk with teachers about strengths and/or needs of specific students	Bland, et al., 2011	

Site Visits and Observations

To understand in more detail how participants implemented what they learned at the summer institutes and ongoing professional development, how useful the supports were that they received from coaches and school leaders, and how the Center's work fit into the districts' individual and joint strategies, we completed a range of site visits and observations during each of the three years. Across all visits, we interviewed principals, new teacher training participants, teacher leader training participants, and school leader training participants at schools with the highest concentration of participants; conducted district focus groups with new teacher institute participants and teacher leader participants to capture views of participants at other schools; and interviewed central office staff and Center staff about implementation and plans for the future. In addition to observations of NTT, LST, and STT summer institutes each summer, we observed portions of New Teacher Training ongoing professional development, the coaching summit, Scholastic Achievement Partners training, Action Learning Training, and joint district leadership meetings.

	Number of Follow-up Site Visit Interview and Focus Group Participants*					
	IDEA			PSJA		
	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14
New Teacher Training Participants	19	24	31	42	8	14
Teacher Leader Training Participants	30	12	16	33	7	2
School Leaders	10	5	11	8	10	6
District Administrators/ Center Staff	20	4	9	14	6	4
Totals	**79**	**45**	**67**	**97**	**31**	**26**

* Excludes NTT, LST, and STT participant focus groups conducted during summer institute. Those focus groups helped provide immediate feedback on the running of the summer institutes but not on the application of what they learned to their everyday responsibilities.

NTT Student Outcome Analysis, PSJA ISD

Sample

For the teacher outcomes studied (job satisfaction and efficacy), the PSJA ISD sample included the PSJA ISD NTT participants identified as those who had not been trained by Teach for America (TFA) or who did not have significant prior teaching experience (approx. 5 years or more). The PSJA ISD comparison teachers were their peers who taught the same subject in the same grade level in the same school. TFA teachers, newly hired highly experienced teachers, and teacher leaders trained by the

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Center were excluded from the comparison group. In IDEA Public Schools, the sample included NTT participants who were all secondary teachers. The IDEA Public Schools comparison teachers are all the non-NTT secondary teachers in the district.[19]

Teachers who had one or more students with completed the prior year pretest and the posttest were included in the analysis. The PSJA ISD student sample for the student outcomes analysis was all students taught by either NTT participants or comparison teachers, pooled across grades 4 to 5 or grades 6 through 8. Students with missing pretest or posttest scores on the core subjects were excluded from the analysis. Students with severe disabilities or students whose English language proficiency exempted them from taking the state tests in the four core subject areas were also excluded from the analysis.

Student Assignment Procedures

To ensure that any difference in outcomes between the NTT and comparison teachers would not be due to preexisting differences between the two groups related to the outcomes (e.g., new teachers having more lower-performing students in their classes), PSJA ISD district staff randomly assigned students in the same grade in the same school to classrooms and to teams[20] within middle schools in summer 2011. Random assignment was conducted with each grade within each school with NTT treatment teachers in grades 4 to 5 and grades 6 through 8. The district used the same procedures in summer 2012 and summer 2013.

Through random assignment, classes in the same grade level should be composed of students of equal performance levels at the beginning of the year. SRI worked with the district to verify the random assignment by testing the baseline test score differences of students across classes in the same grade in the same school. If the average test score difference was more than 0.25 standard deviations between any two classes in a grade level within a school, the schools were notified to re-randomize their classes until they met the smaller than 0.25 standard deviation criterion. Morgan and Rubin (2012) and Lock (2011) recommends this re-randomization procedure to achieve good balance because it can provide more precise estimates of a treatment effect.

Student Attrition Rates

The attrition rate for the student outcomes analysis is the percentage of teachers whose students did not have complete pretest and posttest combining three cohorts of

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[19] Because IDEA schools are designed to be small, the secondary schools have only one teacher per subject per grade and therefore could not have the same type of control group as that defined in PSJA ISD.

[20] In middle schools, students on the same team have the same subject matter teachers.

students. The overall attrition rate ranged from 9% to 20% across subjects in PSJA ISD (Exhibit A-4). According to the WWC standards (IES, 2014), the overall attrition of this study is low. For example, student attrition for elementary reading and math outcomes, the overall attrition rate was 9% and 14%, respectively.

Differential attrition among PSJA ISD treatment and control samples was relatively high for grade 8 social studies (16.6%). However, as Exhibit A-5 shows, students in the treatment and control groups for that analysis were equivalent at baseline, indicating that any differences in grade 8 social studies scores between treatment and control groups can be attributed to NTT.

Exhibit A-4. NTT Base Sample Sizes of Students and Attrition, PSJA ISD, 2011-12 Through 2013-14 Combined

	Gr. 4-5 ELA		Gr. 6-8 ELA		Gr. 4-5 Math		Gr. 6-8 Math		Gr. 8 Social Studies	
	T	C	T	C	T	C	T	C	T	C
Students Randomized	409	1659	645	5979	372	1615	1057	4037	165	247
Students in Impact Analysis	358	1522	592	5273	321	1481	938	3563	149	182
Difference	51	137	53	706	51	134	119	474	16	65
No student pretest but has posttest	39	120	43	646	38	118	111	398	11	28
No student posttest but has pretest	0	3	0	6	1	2	2	12	4	2
No pretest or posttest	12	14	10	54	12	14	6	64	1	35
Total Loss	51	137	53	706	51	134	119	474	16	65
Overall attrition	9.1%		11.5%		9.3%		11.6%		19.7%	
Differential attrition (T vs C)	4.2%		3.6%		5.4%		0.5%		16.6%	

Notes: T=treatment; C=control
No joiners were included in the analysis.

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Exhibit A-5. NTT Baseline Equivalence of Students, Grade 8 Social Studies TAKS/STAAR, PSJA ISD, 2011-12 Through 2013-14 Combined

Treatment Group N	149
Unadjusted Treatment Group SD	276.21
Comparison Group N	182
Comparison Group Mean	742.50
Unadjusted Comparison Group SD	199.45
Treatment–Comparison Difference in Mean	9.89
Standardized T-C Difference	0.04

Note: Pretest measure is prior year TAKS/STAAR reading score

Teacher Leader Outcomes Analysis

Teacher Leader Attrition Rates

Once randomization is done, it is very important for the integrity of the research to keep participants in the condition to which they have been assigned for the whole academic year. We tracked three status categories post-random assignment: (1) "no-shows", for example, those were assigned to either LST, STT, or comparison but did not show up in school (Bloom, 1984), (2) "cross-overs" who were assigned to LST but ended up in STT or comparison, or teachers who were assigned to STT but ended up in LST or comparison, or teacher leaders who were assigned to comparison but ended up in STT or LST conditions (Shadish et al., 2002), and (3) "attrited teacher leaders" who left school for one reason or another. In addition, we also tracked which participants completed pretest measures and posttest measures. Failing to collect data from participants at either pretest or posttest can lead to a high rate of attrition, which may compromise the findings and cause failure to meet WWC standards.

The attrition rate for each teacher leader program is the percentage of participants who did not complete the pre-survey or post-survey in each year. The LST, STT, and comparison group attrition rates for PSJA ISD ranged from 7% to 39% depending on the outcome (Exhibit A-6). According to the WWC standards (IES, 2014), the overall attrition was acceptable for the three groups.

**Exhibit A-6. LST and STT Base Sample Sizes and Attrition,
PSJA ISD, 2011-12 Through 2013-14 Combined**

| | LST | | | | | | STT | | | | | |
| | Retention | | Job Satisfaction | | Self-efficacy (Management) | | Retention | | Job Satisfaction | | Self-efficacy (instructional) | |
	LST	C	LST	C	LST	C	STT	C	STT	C	STT	C
Teachers Randomized	90	88	90	88	90	88	90	88	90	88	90	88
Teachers in Impact Analysis	85	80	60	65	53	55	73	70	60	59	61	59
Difference	5	8	30	23	37	33	17	18	16	16	15	16
No pretest but have posttest	NA	NA	5	6	12	16	NA	NA	6	2	5	2
No posttest but have pretest	NA	NA	22	12	9	7	NA	NA	6	11	6	12
No pretest nor posttest	5	8	3	5	16	10	17	18	4	3	4	2
Total Loss	5	8	30	23	37	33	17	18	16	16	15	16
Overall attrition	7.3%		29.8%		39.3%		19.7%		33.1%		32.6%	
Differential attrition LST/STT vs C	3.5%		7.2%		3.6%		1.6%		0.4%		0.7%	

Notes: C=control

No joiners were included in the analysis.

The attrition rates for IDEA Public Schools LST and STT ranged from 3% to 43% depending on teacher survey outcome (Exhibit A-7). According to the WWC standards (IES, 2014), the overall attrition and differential attrition between LST and STT were acceptable.

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**Exhibit A-7. LST and STT Base Sample Sizes and Attrition,
IDEA Public Schools, 2011-12 Through 2013-14 Combined**

	Retention		Job satisfaction		Self-efficacy		Teacher Leadership Skills (Quality of Instructional Support)		Self-efficacy (Management)		Teacher Leadership Skills (Quality of Managing Individuals)	
	LST	STT	LST	STT	LST	STT	LST	STT	LST	STT	LST	STT
Teachers Randomized	91	86	91	86	91	86	91	86	91	86	91	86
Teachers in Impact Analysis	86	86	50	51	50	51	58	56	52	52	57	56
Difference	5	0	41	35	41	35	33	30	39	34	34	30
No pretest but have posttest	NA	NA	11	13	11	12	0	0	9	13	0	00
No posttest but have pretest	NA	NA	15	13	15	13	33	30	18	10	34	30
No pretest nor posttest	5	0	15	9	15	10	0	0	12	11	0	0
Total Loss	5	0	41	35	41	35	33	30	39	34	34	30
Overall attrition	2.8%		42.9%		42.9%		35.6%		41.2%		36.2%	
Differential attrition	5.5%		4.4%		4.4%		1.4%		3.3%		2.5%	

Notes: No joiners were included in the analysis.

Statistical Analysis

Both baseline balance testing and intent-to-treat (ITT) analysis were conducted on the analytic sample using Hierarchical Linear Modeling (HLM) (Raudenbush & Bryk, 2002). Analytic sample is defined as the sample of participants who had both pretest and posttest. For the NTT student outcome analysis, the analytic sample included NTT participants and their comparison teachers and their students who had both a pretest and posttest on TAKS/STAAR exam. For most of the teacher outcome analysis, the analytic sample included NTT participants and their comparison teachers who completed the post-survey. For most of the teacher leader outcomes analysis, the analytic sample included teacher leaders who completed both pre-survey and post-survey measures. Hierarchical Linear Modeling (HLM) (Raudenbush & Bryk, 2002) adjusts for clustering of students nested within classes and schools.

A three-level HLM model was used to estimate the ITT effect on student outcomes. ITT is the average effect of NTT based on the initial student assignment in the fall, regardless how many students actually received instruction in new teachers'

classes for the full year. NTT is modeled as fixed effects. Covariates in the model include reading or math pretest scores[21] in the immediate prior year, in addition to student demographic variables that may reduce residual variability.

We applied a three-level HLM to examine the one-year effect of treatment teachers on student outcomes with students nested in teachers in schools using data from three cohorts: 2011-12, 2012-13, and 2013-14. The analysis focused on a one-year effect because teachers usually teach a different cohort of students every year. Level 1 of the model is the student level, level 2 the teacher level, and level 3 the school level. Elementary grades 4 and 5 were analyzed together. Secondary grades 6 through 8 were analyzed together.

$$Level\ 1\ child\ level\ Model: Y_{its}^{spring} = \beta_{0ts} + \beta_1 Y_{its}^{fall} + \beta_2 Cohort_{its} + \beta_3 X_{its} + e_{its}$$

where i represents students; t represents teachers; s represents schools; β_{0ts} is the mean score of teacher i in school s; Y_{its}^{spring} is the posttest score in reading, math, social studies, or science; Y_{its}^{fall} is the pretest test score; $Cohort_{its}$ indicates cohorts, for example, those trained in 2011–12 constitute cohort 1, 2012–13 cohort 2, and 2013–14 cohort 3; X_{its} is a vector of student characteristics (gender, special education status, ELL status, and grade level for IDEA student outcomes descriptive analysis); and e_{its} is the student random effect.

$$Level\ 2\ teacher\ level\ model: \beta_{0ts} = \gamma_{00s} + \gamma_1 NTT_{ts} + u_{ots}$$

where γ_{00s} is the mean score for school s, NTT_{ts} is the treatment indicator variable; u_{ts} is teacher random effect.

$$Level\ 3\ school\ level\ model: \gamma_{00s} = \delta_{000} + r_{00s}$$

where $\pmb{\gamma_{000}}$ is the grand mean score; $\pmb{r_{00s}}$ is school random effect.

Note that our analysis is based on the un-imputed dataset. The HLM models list-wise deleted cases where there is a missing data point on either dependent or independent variables.

A two-level HLM was used for teacher outcomes. Level 1 of the model was the teacher level, level 2 the school level. These models controlled for teacher demographic information and pre-survey measures (if available).

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[21] Reading pretest scores were used as a covariate for reading and social science outcomes. Math pretest test scores were used as a covariate for math and science outcomes.
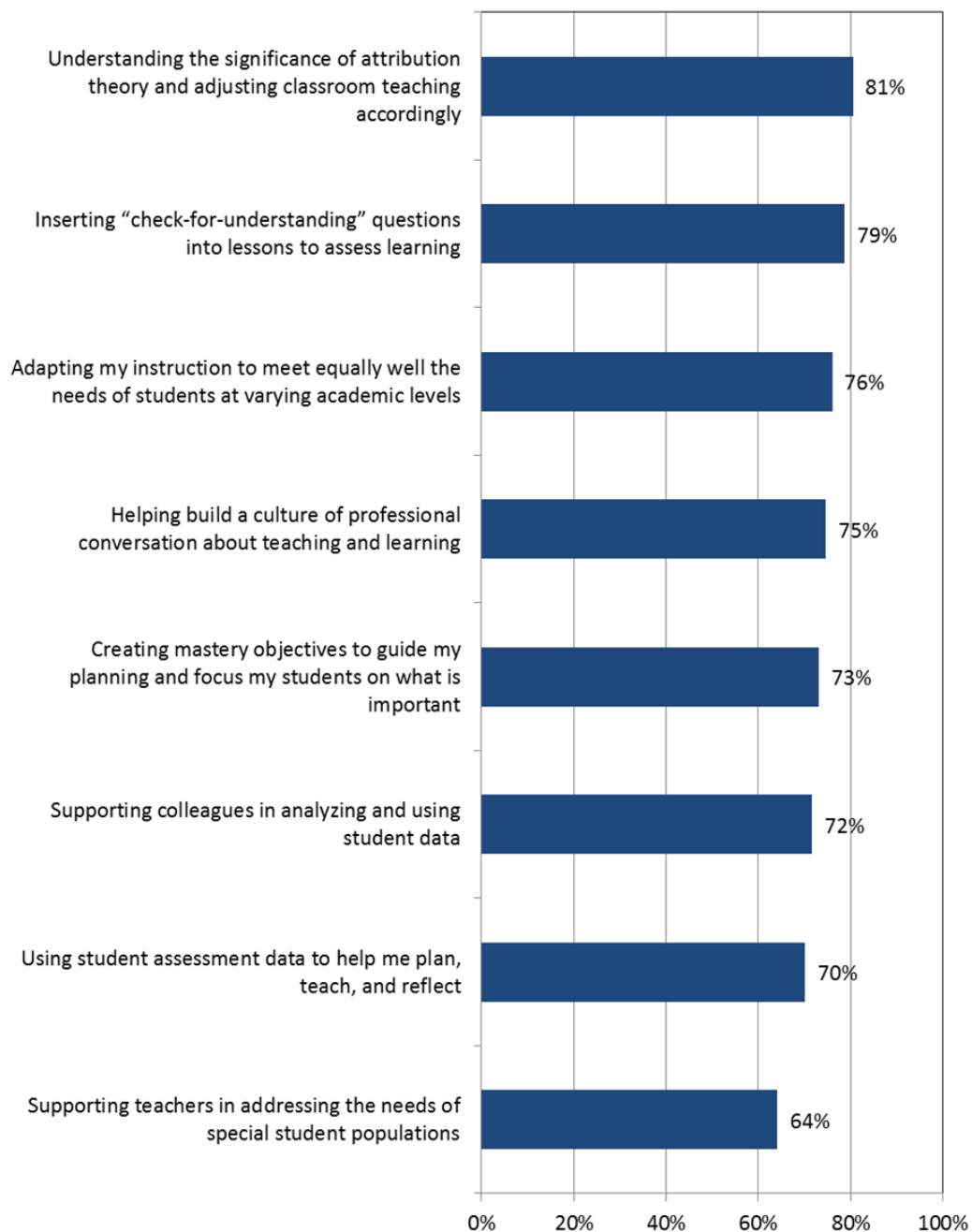
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Dimension	Poor = 1	Acceptable = 3	Excellent = 5
Training is practice-based	Training was not practice-based or there was little opportunity for it; no connections were made to current school or teacher issues.	25% of time or less was devoted to practice-based learning; teachers connect content to real situations	50% of time or more was devoted to practice-based learning; participants identified their own skills deficits and had the opportunity to address them
Training is interactive	Teachers had little or no opportunity to interact	At least 1/3 of session is interactive; teachers are provided opportunity to discuss and share viewpoints; activities involved group work	At least 50% of session is interactive; teachers were allowed to collaborate and share; teachers draw upon their own experiences to share and collaborate with others; the instructor is facilitating group discussions

Dimension	Poor = 1	2	Acceptable = 3	4	Excellent = 5
Participant engagement	Less than 50% of participants appear to be engaged most of the time; little or no active participation; participants appeared bored or uninterested	50–75% of participants appear to be engaged most of the time; instructor attempted to stimulate discussion or draw upon teachers' experiences, participants may have exhibited verbal or non-verbal signals of engagement such as laughing, nodding agreement, expressing disagreement or taking notes	75–85% of participants appear engaged most of the time, e.g. teachers participated in conversation, asking questions and offering comments, most or all of the teachers participated in discussions and activities, participants took notes, nodded agreement or disagreement, or provided other verbal or non-verbal signals of engagement	85–95% of participants appear engaged most of the time, e.g. teachers were highly participatory, discussions were animated, creative and on-topic, participants took notes, nodded agreement or disagreement, or provided other verbal or non-verbal signals of engagement	95–100% of participants appear engaged for most of the time, e.g. teachers are playing active roles in their groupings, discussions are animated, creative and on-topic, participants took notes, nodded agreement or disagreement, or provided other verbal or non-verbal signals of engagement

Appendix C. TLT Participant Reports of Effects on Instructional Leadership and Management

Exhibit C-1. STT Participants' Reports of Effects on Instructional Leadership, IDEA Public Schools, 2011-12 Through 2013-14 Combined

Category	Percentage
Understanding the significance of attribution theory and adjusting classroom teaching accordingly	81%
Inserting "check-for-understanding" questions into lessons to assess learning	79%
Adapting my instruction to meet equally well the needs of students at varying academic levels	76%
Helping build a culture of professional conversation about teaching and learning	75%
Creating mastery objectives to guide my planning and focus my students on what is important	73%
Supporting colleagues in analyzing and using student data	72%
Using student assessment data to help me plan, teach, and reflect	70%
Supporting teachers in addressing the needs of special student populations	64%

Source: Evaluation of the RGV Center for Teaching and Leading Excellence, teacher leader survey, spring 2012, 2013, and 2014.

Exhibit C-2. STT Participants' Reports of Effects on Instructional Leadership, PSJA ISD, 2011-12 Through 2013-14 Combined
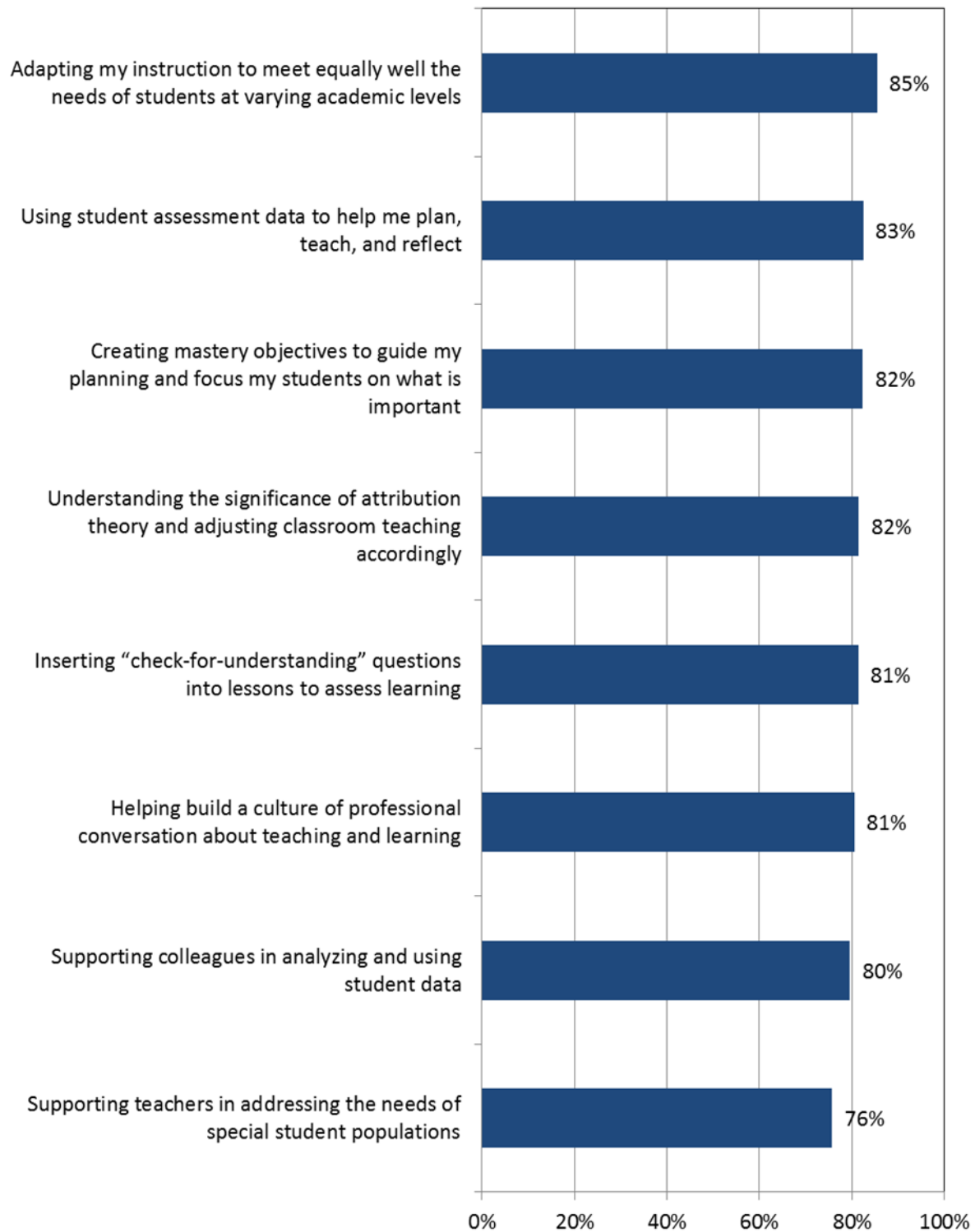
Source: Evaluation of the RGV Center for Teaching and Leading Excellence, teacher leader survey, spring 2012, 2013, and 2014.

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Exhibit C-3. LST Participants' Reports of Effects on Management, IDEA Public Schools, 2011-12 Through 2013-14 Combined

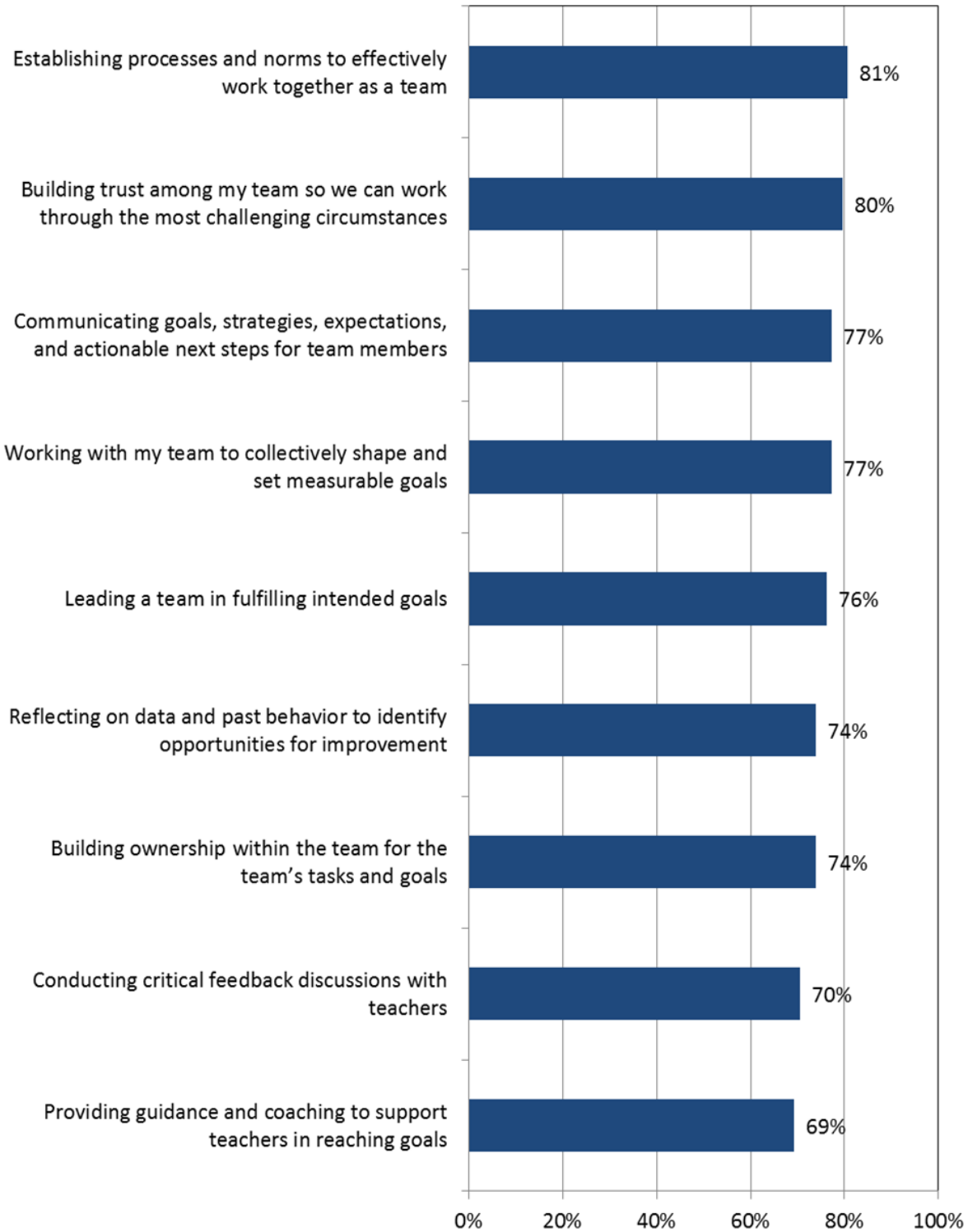| Category	Percentage
Establishing processes and norms to effectively work together as a team	81%
Building trust among my team so we can work through the most challenging circumstances	80%
Communicating goals, strategies, expectations, and actionable next steps for team members	77%
Working with my team to collectively shape and set measurable goals	77%
Leading a team in fulfilling intended goals	76%
Reflecting on data and past behavior to identify opportunities for improvement	74%
Building ownership within the team for the team's tasks and goals	74%
Conducting critical feedback discussions with teachers	70%
Providing guidance and coaching to support teachers in reaching goals	69%

Source: Evaluation of the RGV Center for Teaching and Leading Excellence, teacher leader survey, spring 2012, 2013, and 2014.

Exhibit C-4. LST Participants' Reports of Effects on Management, PSJA ISD, 2011-12 Through 2013-14 Combined
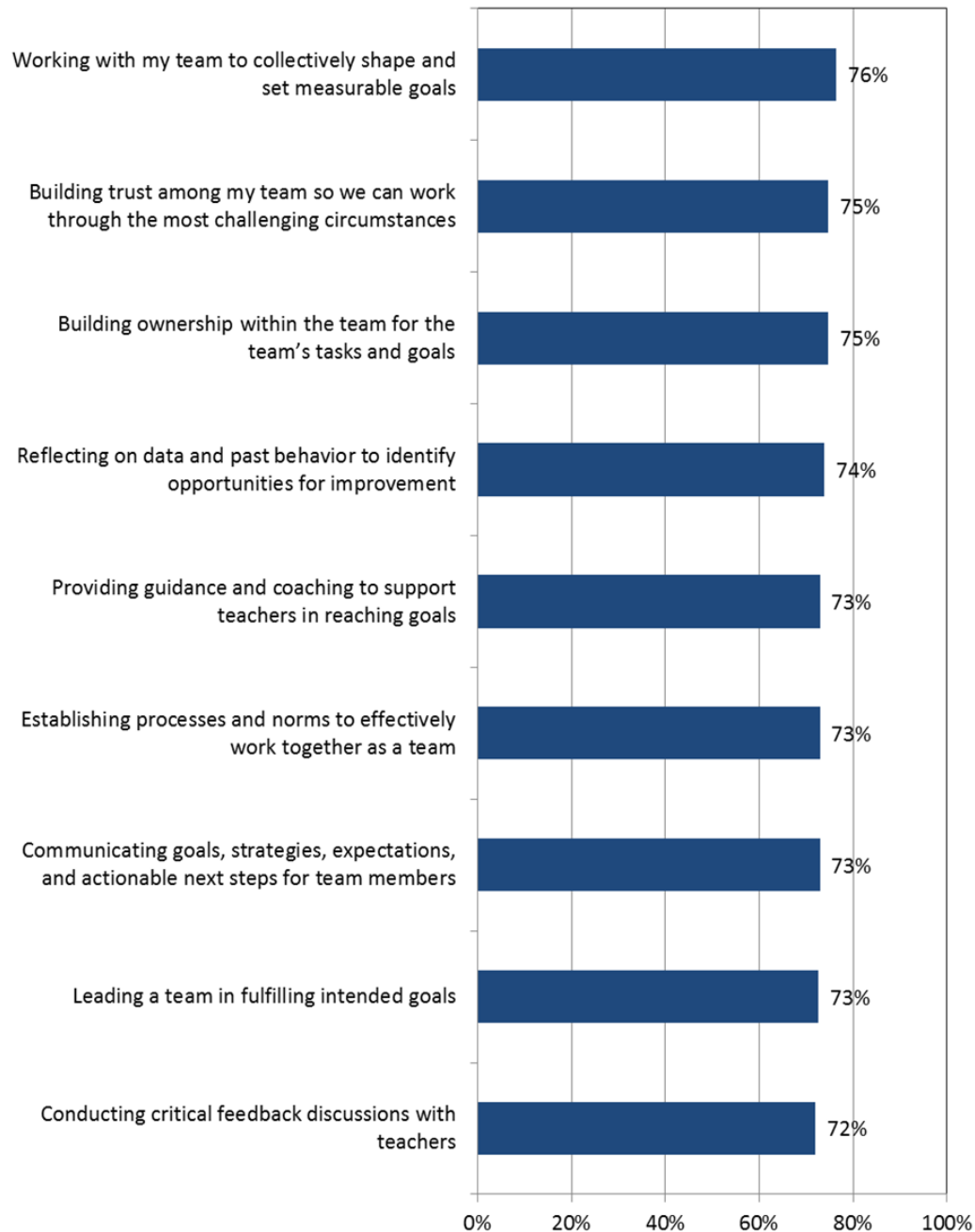
Source: Evaluation of the RGV Center for Teaching and Leading Excellence, teacher leader survey, spring 2012, 2013, and 2014.

Appendix D. Comparative Interrupted Time Series

We used multilevel models to fit four years of baseline data and three years of the intervention data following a CITS design. Level 1 is time. Level 2 is school.

$$Y_{ij} = \alpha_0 + \beta_0 Treatment + \beta_1 Time + \beta_2 Time * Treatment + \beta_3 Year1 + \beta_4 Year1 \\ * Treatment + \beta_5 Year2 + \beta_6 Year2 * Treatment + \beta_7 Year3 + \beta_8 Year3 \\ * Treatment + \varepsilon_{ij} + \mu_j + \tau_j$$

where Y_{ij} = school level percent at or above satisfactory in grades 3 to 11 across all subjects;

Treatment = treatment dummy variables. (1 for IDEA school and 0 for non-PSJA comparison schools in Region 1; or 1 for PSJA and 0 for non-IDEA comparison schools in Region 1);

Time = continuous year variable centered at baseline. (0 for year 2011, 1 for year 2012);

Year1 = dummy variable for scores in the first year after intervention started. (1 for 2012; 0 for all other years);

Year2 = dummy variable for scores in the second year after intervention started. (1 for 2013; 0 for all other years);

Year3 = dummy variable for scores in the third year after intervention started. (1 for 2014; 0 for all other years);

μ_j = between –school random variation in the baseline intercept;

τ_j = between –school random variation in the baseline slope;

α_0 = Baseline mean (intercept) for the comparison schools in the last baseline year;

$\alpha_0 + \beta_0$ = Baseline mean (intercept) for the treatment schools in the last baseline year;

β_1 = baseline slope for the comparison group;

$\beta_1 + \beta_2$ = baseline slope for the treatment group;

β_3 = deviation from the baseline slope for the comparison schools in Year 1 after the intervention started;

β_4 = estimated impact in Year 1;

$\beta_3 + \beta_4$ = deviation from the baseline slope for the treatment schools in Year 1 after the intervention started;

β_5 = deviation from the baseline slope for the comparison schools in Year 2 after the intervention started;

β_6 = estimated impact in Year 2;

$\beta_5 + \beta_6$= deviation from the baseline slope for the treatment schools in Year 2 after the intervention started;

β_7=deviation from the baseline slope for the comparison schools in Year 3 after the intervention started;

β_8=estimated impact in Year 3;

$\beta_7 + \beta_8$= deviation from the baseline slope for the treatment schools in Year 3 after the intervention started.

Exhibit D-1. CITS Estimated Effect of RGV Center for PSJA ISD, All Grades Combined

Predictors	Estimate	SE	p
Intercept	73.81	0.59	<.0001
Treatment	-4.50	2.14	0.04
Time	2.44	0.20	<.0001
Time*treatment	-1.19	0.74	0.11
Year 1	-7.21	0.45	<.0001
Year 1*treatment β_4	2.95	1.64	0.07
Year 2	-6.91	0.60	<.0001
Year 2*treatment β_6	1.50	2.20	0.50
Year 3	-8.08	0.76	<.0001
Year 3*treatment β_8	3.32	2.81	0.24

Exhibit D-2. CITS Estimated Effect of RGV Center for IDEA Public Schools, Secondary Grades Combined

Predictors	Estimate	SE	p
Intercept	65.88	0.99	<.0001
Treatment	20.85	4.05	<.0001
Time	2.93	0.34	<.0001
Time*treatment	2.44	1.86	0.19
Year 1	0.18	0.74	0.81
Year 1*treatment β_4	-7.92	3.62	0.03
Year 2	-2.48	0.98	0.01
Year 2*treatment β_6	-10.86	5.01	0.03
Year 3	-5.56	1.25	<.0001
Year 3*treatment β_8	-14.33	6.58	0.03

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**Exhibit D-3. CITS Estimated Effect of RGV Center on Reading,
PSJA ISD, All Grades Combined**

Predictors	Estimate	SE	p
Intercept	85.49	0.45	<.0001
Treatment	-2.80	1.63	0.09
Time	1.29	0.18	<.0001
Time*treatment	-1.23	0.68	0.07
Year 1	-17.06	0.41	<.0001
Year 1*treatment β_4	0.63	1.49	0.67
Year 2	-15.70	0.54	<.0001
Year 2*treatment β_6	1.89	1.99	0.34
Year 3	-18.12	0.69	<.0001
Year 3*treatment β_8	2.66	2.55	0.30

**Exhibit D-4. CITS Estimated Effect of RGV Center on Reading, IDEA Public Schools,
Secondary Grades Combined**

Predictors	Estimate	SE	p
Intercept	83.72	0.80	<.0001
Treatment	10.18	3.31	0.002
Time	1.48	0.31	<.0001
Time*treatment	0.21	1.69	0.90
Year 1	-15.79	0.68	<.0001
Year 1*treatment β_4	3.16	3.28	0.34
Year 2	-16.09	0.90	<.0001
Year 2*treatment β_6	3.02	4.55	0.51
Year 3	-21.94	1.14	<.0001
Year 3*treatment β_8	4.85	5.98	0.42

Exhibit D-5. CITS Estimated Effect of RGV Center on Math, PSJA ISD and IDEA Public Schools, All Grades Combined

Predictors	Estimate	SE	p
Intercept	83.69	0.61	<.0001
Treatment	-4.26	2.21	0.05
Time	2.51	0.24	<.0001
Time*treatment	-1.75	0.89	0.05
Year 1	-16.58	0.53	<.0001
Year 1*treatment β_4	2.99	1.94	0.12
Year 2	-14.03	0.71	<.0001
Year 2*treatment β_6	0.91	2.60	0.73
Year 3	-15.93	0.90	<.0001
Year 3*treatment β_8	4.74	3.33	0.15

Exhibit D-6. CITS Estimated Effect of RGV Center on Math, IDEA Public Schools, Secondary Grades Combined

Predictors	Estimate	SE	p
Intercept	75.58	1.07	<.0001
Treatment	16.63	4.50	0.0003
Time	2.77	0.41	<.0001
Time*treatment	2.55	2.19	0.24
Year 1	-5.81	0.81	<.0001
Year 1*treatment β_4	-5.72	3.94	0.15
Year 2	-6.57	1.07	<.0001
Year 2*treatment β_6	-9.91	5.49	0.07
Year 3	-10.77	1.36	<.0001
Year 3*treatment β_8	-14.38	7.23	0.05

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