Leadership Practices to Increase Equity through Closing Intraschool Achievement Gaps

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Abstract

This convergent parallel exploratory mixed methods study examined the degree to which purposefully selected schools closed intraschool achievement gaps while exploring educator beliefs and practices regarding the implementation of gap-closing strategies. Student achievement data revealed achievement rising and gaps closing between the intervention subgroups and their peers in different ways at the school sites. Interviews with school principals and focus groups with teachers suggested that the process of attempting to close the gaps resulted in the transformation of practices and beliefs of teachers and principals. Merged quantitative and qualitative results revealed new perspectives to inform subsequent study phases.

Key words: leadership development; equity; school improvement model

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Introduction

Which leadership practices effect transformative change in educators and in student success? This question prompted this exploratory study regarding the degree to which trained school leaders were able to close identified intraschool achievement gaps (i.e., gaps occurring between subgroups of students and their peers within a school), as well as to explore educators' perspectives on the ways their beliefs, assumptions, and practices shifted while engaging in efforts to close gaps. A secondary goal was to refine the data collection and analysis strategies for the next phase of the study.

A mixed methods approach was selected in order to accomplish complementarity and expansion. Complementarity was a primary goal to reveal new insights generated by data convergence, divergence, paradoxes, and/or new perspectives through merging quantitative and qualitative data at the data interpretation and reporting stages. The secondary purpose of this mixed methods approach was one of expansion, intended to extend the range of inquiry to test different, contrasting methods to answer the same research problem (Creswell & Plano-Clark, 2007; Greene, 2007; Hesse-Biber, 2010). Therefore, the overarching quantitative and qualitative research purpose was developed with separate paradigm-specific mixed methods research questions to probe the research problem from two separate perspectives. The quantitative research question was: To what extent and in what ways did the identified academic gaps between the intervention

subgroups and peer groups close? The qualitative research question was: In what ways do educators perceive their practices, beliefs, and assumptions have changed as a result of their efforts to close achievement gaps within their schools?

Conceptual Framework

This study investigated the outcomes of a model of leadership development for school improvement that engages school leaders and teams to implement cycles of inquiry aimed at closing intraschool achievement gaps. The development of the model and the design of this study are grounded in two theories of how adults learn. The first is Kegan and Lahey's (2009) conceptualization of the stages of adult mental complexity. Kegan and Lahey describe four key stages: instrumental, socialized, self-authoring and transformational. The leadership development model uses facilitative leadership practices to intentionally move people through the stages of complexity toward self-authoring and transformational learning and actions. Further, the model engages teams in a key practice that Kegan and Lahey advocate as a way to move toward transformational learning - using cycles of inquiry to identify a focus (e.g. closing an intraschool gap), enact change practices and examine the impact of changing your behavior to challenge assumptions that may hold you back from attaining your goal (e.g., equitable student outcomes).

The second theory that informs the study is Lave and Wegner's situated learning in a community of practice (1991). It is through this lens that the leadership development model continuously engages leaders and leadership teams both in authentic experiences while actively implementing (situated learning) and in communities of practice (in the school and between schools) to create dynamic and robust learning.

The model of leadership development under investigation builds the capacity of school and teacher leaders to improve their school through practitioner-based improvement research cycles (Bryk, Gomez, Grunow, & LeMahieu, 2015). In the model, leaders are trained to facilitate collaborative cycles of inquiry that involve (a) identifying an intraschool achievement gap, (b) working to close the gap using facilitative leadership practices that empower shared leadership, (c) monitoring progress data, and (d) improving instructional practices and systems to achieve the best outcomes. This study represents the first step toward an ongoing effectiveness research study on the implementation of the leadership model across a growing number of schools to further validate the leadership development model and inform the field of effective leadership practices to advance equity.

In the state the study took place in, state test achievement scores have shown incremental increases on average; however, persistent gaps have remained for students categorized as Special Education, English Learners, African American, Hispanic, and/or Native American) (Borg, 2016). These gaps or educational debts (Ladson-Billings, 2006) are the manifestations of systemic inequities both across (e.g., urban versus suburban schools) and within (e.g., special education versus non-special education students in the same school) schools. While gaps across schools are rooted in the district, state, or national systemic inequities (Darling Hammond, 2010); intraschool gaps can represent the result of inequities within schools (Johnson & Avelar, 2010; Skrla & Sheurlich, 2009). This study is concerned with inequities within schools (intraschool gaps) because they are within the realm of influence of school leaders to impact. Further, the aim and effort of closing intraschool achievement gaps represents a high leverage strategy for school leaders to accelerate overall school improvement (Johnson & Avelar, 2010; Skrla & Sheurlich, 2009).

School leadership that empowers shared ownership for transforming instructional practices to meet students' needs is critical to achieving equitable educational outcomes for all students (Leithwood, Harris, & Strauss,

2010). Effective leadership development builds capacity for school leaders to facilitate a learning culture, empower shared leadership and strengthen the links between educator practices and student outcomes (Leithwood et al., 2010). The leadership development model under investigation in this study enacts these practices by supporting leaders to facilitate cycles of inquiry to close intraschool achievement gaps. The importance of closing intraschool gaps is based on the following theory of action. If school leaders draw attention to inequitable outcomes for a specific group of students and lead school communities through a collaborative, data-driven process to improve educator practices and learning outcomes for these students, then systemic inequities will be challenged and changed, and educators' beliefs about the ability of all students increased through the evidence of success. Scharff, DeAngelis, and Talbert (2009) have enacted and studied a similar school improvement model,

> "Studying the system through the lens of students for whom it is not working clarifies which decisions lead to patterns in curriculum and instruction that consistently fail to meet specific students' needs. The tight focus on a small group of students makes facing and addressing those conditions manageable; shifts the conversation from generalities and assumptions about why struggling students can't learn to specific information about what they don't know and how teachers can help them learn it; and illuminates places where a small, strategic system change can make a big difference" (p.59).

If a school community only focuses on school improvements aimed at increasing the overall percent proficient or average performance of all students, they may not develop the necessary shifts in educator beliefs needed to implement and sustain high expectations for all students. These shifts are necessary to accomplish the goal of equitable outcomes for all students (Campbell Jones, Campbell Jones, & Lindsey, 2010; Johnson & Avelar La Salle, 2010; Love, 2009; Skrla, McKenzie, & Scheurich, 2009). Therefore, the model taught to leaders to implement collaboratively includes the following steps:

- identify inequities in their students' achievement outcomes;
- analyze the reason for the inequity, and what instructional and school practices need to change or strengthen to eliminate or reduce the inequities;
- use core leadership practices to facilitate educators to implement changes or strategies to meet students' needs;
- monitor and communicate progress to students, parents, and teachers;
- make adjustments based on data to increase effectiveness; and
- continuously facilitate this cycle of collaborative inquiry and action.

To enable schools to continuously engage in this inquiry and action process, leaders build the capacity of educators in the school to collaborate and lead these cycles of improvement (Johnson & Avelar La Salle, 2010; Leithwood, et al., 2010; Love, 2009; Ross & Berger, 2009; Skrla et al., 2009; Talbert et al., 2010).

By focusing reform on intraschool inequities in student outcomes, school communities increase their sense of efficacy that through strong adult collaboration, they can impact the students who are most underserved. Thus, their assumptions of these students' abilities are influenced in positive ways: educators begin to raise expectations for students and see that through their own and their students' efforts, all students can learn at high levels (Campbell Jones et al., 2010; Hammond, 2015). When a school community believes in its ability to impact the learning of all students and has developed a culture of trust and risk-taking, they are more willing to take collective responsibility for all students. The resulting high level of internal accountability leads to an

ability to meet external measures of accountability (Elmore, 2007) and to continuously function as learning communities focused on eliminating inequitable outcomes in their schools. With each new cycle focused on increasing equity for specific groups of students, the school community learns and strengthens practices that ensure all students to have a path to an excellent education.

Literature supports the theory of action and leadership practices described above to enable school and teacher leaders to collaboratively identify, plan, monitor, and close intraschool achievement gaps to lead toward a trajectory of educational equity and larger school improvements (Campbell Jones et al., 2010; Johnson & Avelar La Salle, 2010; Leithwood et al, 2010; Love, 2009; Ross & Berger, 2009; Skrla et al., 2009). In schools in which similar school improvement models have been implemented, Talbert et al. (2010) have investigated the perceptions of educators, and Scharff and Talbert have linked their model to the outcomes of the most struggling students. However, there is no research that links the perception of practices data with the degree to which the specific identified intraschool gaps are closing. This focus is critical for the actively engaged communities of practice (Lave & Wegner, 1991) of leaders and teams to directly link their efforts to outcomes to allow changes in practices and beliefs (Kegan & Lahey, 2009).

This study addressed this need by developing a research protocol for use in an initial *N*=5 study schools implementing the model. The process and results both informed the research questions and subsequent research phases, including the development of a survey (Braun, Gable, Billups, 2105). Ultimately, this work will inform preparation programs and school leaders on the ways that efforts to close intraschool achievement gaps impact educators' practices and beliefs, as well as the outcomes of high and equitable student achievement.

Methodology

Research Design

This project was designed as a convergent parallel exploratory mixed methods study involving quantitative analysis of student achievement data and qualitative interpretative exploration using interviews and focus groups. Mixing occurred at the data interpretation stage to inform the overall research purpose, but the inquiry was distinguished with separate paradigm-specific research questions, overlapping sampling strategies, separate data collection, and separate data analysis. Data analysis was accomplished through a collaborative process of inter-rater coding and debriefing, which ensured the integrity and verity of the findings. In the final phase of the study, aligning quantitative results with emergent themes created a profile of the transformative effect of principal leadership on teacher beliefs and practices to close intraschool achievement gaps.

Participants and Sites

Using purposive sampling strategies, participants included *N*=5 principals trained in the leadership development model. These principals were serving in public schools and identified an intraschool achievement gap they were working to close, provided pre- and post-student achievement data, participated in 1:1 interviews and organized staff to attend focus groups. Five focus groups were conducted with the teachers and staff at the *N*=5 school sites (Site 1 *n*=7, Site 2 *n*=5, Site 3 *n*=6, Site 4 *n*=6, Site 5 *n*=5). Participants of the focus group were individuals who were involved in the interventions for the subgroups and were selected based on their 'information rich' potential for detailed responses and 'thick description' (Patton, 2002). Building on the purposeful sampling approach, participants for interviews were further identified using elite informant status (principals) or criterion-selection sampling (focus groups) to increase the substance and scope of participant stories and to increase the holistic perspective of their

collective narratives. The profile of each site is presented in Table 1.

Table 1
Profile of Study Sites

Site	Context	Grade levels	Number of Students	% Eligible for Subsidized Meals	% Receiving Special Education Services	% Receiving ESL* Services	% AHANA **	Years Focused on Gap
1	Urban Charter	K-1	160	66	6	29	70	2
2	Suburban Regular	6-8	200	9	13	1	8	1
3	Suburban Regular	PreK-1	360	17	18	0	10	1
4	Urban Regular	5-8	660	84	23	14	81	2
5	Urban Regular	9-12	740	72	25	15	81	2

Note: Source Infoworks, Rhode Island Department of Education (2015), *ESL is English as a Second Language/Bilingual, **AHANA refers to Asian, Hispanic, African American, Native American

Site 1 Context, Gap, and Practices

The school was in its second year of existence. A majority of teachers were within their first few years of teaching and fully committed to the beliefs and mission of the school that all children can achieve and graduate from college. The principal identified an achievement gap between a subgroup of 1st grade students (with and without Individualized Educational Plans (IEPs)) and their peers in English Language Arts (ELA). All students were engaged in differentiated literacy instruction. In addition, the students in the intervention group also received targeted literacy instruction focused on their individual goals. Both the whole-school literacy initiatives and the interventions were designed to improve literacy for all while closing the gaps for the subgroup of students. The school used multiple data sources, including the standardized data used in the study analysis, to monitor student progress, inform instruction, and assess the degree to which the gap closed.

Site 2 Context, Gap, and Practices

The principal was new to the school and the majority of staff members had been at the school for 10+ years. The principal identified an achievement gap between a subgroup of 7th and 8th grade students (with and without IEPs) and their peers in math and literacy. All students were impacted by a multitude of school-level initiatives, including moving to Common Core State Standards and a new Response to Intervention (RTI) process, designed to improve literacy and math for all. The students in the intervention subgroup were engaged in the RTI process to determine their needs and provide specific interventions in math and/or reading. The school used two sources of standardized data to measure math and ELA literacy.

Site 3 Context, Gap, and Practices

The context was quite similar to Site 2 in every way except the grade levels served. The principal was new to the school and a majority of the teachers had been at the school 10+ years. The principal identified a gap between a group of Kindergarten (K) and grade 1 students identified for intervention services in math and reading compared to their grade level peers. All students were impacted by the implementation of a new RTI process that engaged teachers in regular data analysis to decide which of their limited resources/services to provide to students most in need and to share best practices for classroom-level interventions. The students in the intervention group received extra services to meet their identified needs both in and out of the classroom. The school used two sources of standardized math and reading assessments: one for Kindergarten math and reading and grade 1 reading and the other for grade 1 math.

Site 4 Context, Gap, and Practices

The principal was in her second year as an administrator at the school, and the assistant principal who was co-leading the initiative was in her first year. They focused efforts on a perceived gap between grades 7-8 students who were receiving support for their social learning (i.e., behavior) and their grade-level peers in math and reading. All students were impacted by the school-wide initiative to improve student behavior, including a focus on restorative behavior practices and an RTI system focused on improving student behavior in the classroom setting. In addition, the students in the intervention group received behavior plans, additional support, and continuous monitoring.

The school used one source of standardized data to measure math and ELA literacy.

Site 5 Context, Gap, and Practices

The principal had been an administrator at the school for three years and the school had gone through an extraordinary period of turmoil in those years to determine a path toward 'turning the school around' from their low student outcomes. The principal identified a gap between 9th grade students who were below grade level in math and their peers. All students were impacted by the move to a Common Core-aligned curriculum and the implementation of an improved RTI process. The intervention group was enrolled in an algebra seminar in addition to their math course. The school used one source of standardized data to measure math and ELA literacy.

The unique context (Table 1) of each school represented a range of settings. While the practice of identifying a gap that was relevant to the needs of their students and designing specific interventions to meet those needs was analogous at each school, the actual gaps, practices, and assessment instruments were different. Interestingly, each school had an overarching focus on moving toward Common Core-aligned curriculum and associated instructional practices and on improving the RTI system to further differentiate learning and best use limited and diminishing resources.

Data Collection

Data collection occurred over two years, with Sites 1 and 2 participating in the first year and Sites 3, 4 and 5 in the second year. For each site, the sampling and data collection process were the same. Early in the school year, introductory discussions were held with each principal to record their articulation of the gap, the work being done to close it, and the data they would provide by the end of the school year. By the spring, interview and focus group sessions were conducted using interview protocols and focus group moderator guides and audio recorded for subsequent transcription. By the summer, each principal provided non-identifying student achievement data.

Instrument development for interview protocols and focus group moderator guides followed similar processes; in both cases, instruments were initially developed with content experts, while questions and probes were grounded in the literature. Interview protocols incorporated a variety of introductory, content-based, and free word association questions, followed by sequenced questioning ("I used to think …. But now I think…") to elicit reflective and transformative perspectives on the phenomenon under inquiry. Focus group moderator guides were developed using Krueger and Casey's (2009) template for the icebreaker, introduction, transition, content, and debriefing questioning routes; these questions shared similar content focus with interview protocols but were also customized to match teacher perspectives, which differed from principal perspectives elicited in the individual interviews. Instruments were piloted with individuals who resembled study participants but who were not included in the final sample; adjustments were made to both instruments prior to live data collection, and were likewise modified during the study to adjust probes and prompts to obtain clearer and richer information.

Data Analysis

Preliminary data analysis was accomplished separately for each data set. Quantitative data were analyzed using SPSS software, and presented in tables; qualitative data were analyzed using thematic analysis (Giorgi, 1985) and reported narratively. The final process of converging the data at the interpretation stage involved three strategies suggested by Onwuegbzie and Teddlie (2003), consisting of data comparison, data consolidation (emergent), and data display. By comparing the data to see where there was overlap between statistical results and thematic concepts, researchers were able to identify new insights generated by the comparisons. Figure 1

illustrates how the data were examined in this mixed approach to support new perspectives created by this analysis. For instance, there were similarities and differences in the results when viewing the same phenomenon, and while no apparent contradictions were evident in the findings, the new insight generated from these results indicated that there was a transformative effect of school leadership on the perspectives of teachers who collaborated in gap-closing strategies. The analysis procedures are outlined below, followed by detailed analysis for quantitative, qualitative, and converged data.

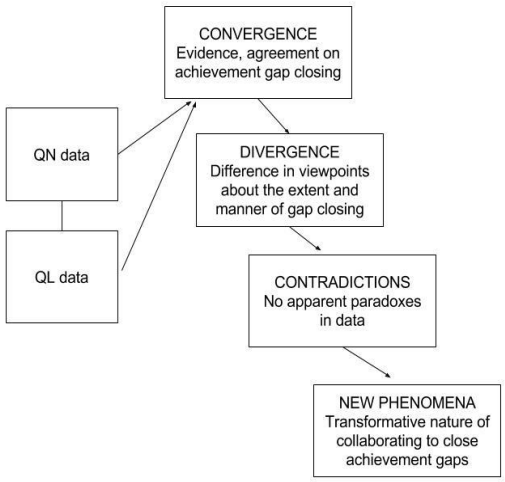

Figure 1. Data Analysis Typology for QN and QL Results

Quantitative

To analyze the degree to which the intraschool gaps closed, a three-step process was used. First, an independent samples *t*-test was used to compare the pre-test results for the intervention and peer groups to determine if they began in significantly different places. Next, a related *t*-test was conducted to compare the pre- and post-means of the intervention and peer groups to determine if both groups' scores significantly incremented upwards. Finally, an analysis of covariance (ANCOVA) analysis using the pre- and post-test data for the intervention and peer groups provided the degree to which a significant difference (gap) remained between the groups after the intervention treatment. ANCOVA was used to assess differences between the post-test data while controlling for initial differences on the pretest data to control for variation in the groups. Effect sizes were calculated for each step where statistically significant findings were present to allow a comparison of the results since different standardized tests were used at the five school sites.

Qualitative

Data analysis was accomplished through several steps: 1) holistic review of all interview and focus group transcripts; 2) review of only the interview transcripts for comparison among the principals; 3) review of only the focus group transcripts for comparison among the focus groups; 4) within-case analysis, comparing the differences in perceptions and perspectives between school principals and their teaching staff, and 5) cross-case analysis, comparing the emergent themes holistically. Giorgi's strategy for holistic data analysis (1985) was used for the macro level analysis. This process included reading the entire description to get a sense of the whole statement, re-reading to discriminate ''meaning units" from a psychological perspective, going through all the "meaning units" and expressing the psychological insight contained in them more directly, and finally synthesizing the "meaning units" into statements regarding the subjects' experiences (1985, p.10).

Interview and focus group data were integrated for analysis of the two data sets holistically. Employing a rigorous inter-rater coding and analytical process, the researchers coded interview and focus group data independently, using the same sequence of within case (all interview data reviewed separately from all focus group data), and then reviewing initial code categories in an across-

case approach. Coding comprised a blend of grounded codes, originating from the literature, with in vivo codes originating from participant stories and descriptions. Following these analyses, the researchers collaborated to identify common code categories and initial and emergent themes. This process ensured the depth and verity of the findings for interview data, focus group data, the integration of these data sets for all qualitative findings, and the convergence of all data (quantitative and qualitative) for the final synthesis.

Modifying Krueger and Casey's (2009) Classic Approach for focus group data analysis (with an overlay of the Key Concepts Framework), and Miles and Huberman's (2013) three-tier coding strategy (descriptive, interpretive, and pattern coding), the next phase of data analysis and coding proceeded in the following 4 steps: (1) coded data were transformed into themes and categories in order to present the findings, using participants' words and expressions to illustrate their meaning essence (Giorgi, 1985); (2) initial thematic clusters were created by searching the content categories to see where themes emerged and were similar; (3) descriptive summaries were developed by labeling each initial theme cluster with a descriptive sentence or phrase that explained the theme in more detail, at which point the researchers compared the theoretical framework with the findings to determine how to best to integrate the themes with the elements of the framework; and (4) integrating quotes and stories by reviewing the transcripts to link stories, expressions, and phrases, with the theme categories to augment the reader's understanding of how to interpret the findings. (Giorgi, 1985; Krueger & Casey, 2009, p. 122).

Limitations and Delimitations

Several limitations posed minimal threats to the credibility and transferability of the study and its findings. One member of the research team inherently presented bias due to her relationship with the participants and her role as an administrator in the training program; this bias was managed through bracketing at the beginning of each interview and focus group session, and by soliciting rich descriptive information from participants. These detailed stories and descriptions allowed participants to elaborate on their opinions and viewpoints, limiting or offsetting the researcher's bias assumptions about their perceptions. Inherent bias and familiarity with the content and the participants were also addressed through peer debriefing at the conclusion of each data collection session; by working in tandem with a fellow researcher who had minimal knowledge of the training program content or graduates, the data could be reviewed with greater 'distance' and reflection.

The delimitations of this research included the small group of participants and sites in order to allow for in-depth study. Further, only principals who had been trained in the leadership development model were selected for this pilot phase as they had all learned the same school improvement strategy to focus on closing intraschool achievement gaps. Principals selected represented a variety of years of participation in the training and sites were chosen to represent a variety of contexts (e.g., grade level, socioeconomic level, and urban/suburban setting).

Results

Quantitative Results

The study schools used different assessments; however, all assessments were given early in the school year as a pre-test and late in the school year as a post-test. Further, the calculation of effect sizes for any significant statistics allowed comparisons to be made.

Test 1: Pre-Assessment Difference Between the Intervention and Peer Groups

An independent samples *t*-test was used to compare pre-test results for the intervention and peer groups to determine if the schools accurately identified a gap between the groups. Table 2 displays all the results of this first test, with the *p* values in bold for sites that had a

significant difference between peer and intervention groups. The elementary schools (Sites 1 and 3) had the largest differences on the pretest with a large effect size (d =1.40) at Site 1 and four large effect sizes (d =.95, d =1.33, d =2.0, d =2.51) at Site 3. The middle schools (Sites 2 and 4) had mixed results. One grade level intervention group at each middle school site were significantly lower on the pre-test: at Site 2 in ELA (t(59)=2.13, p=.04 (d=.41, small effect size) and at Site 4 in 7th grade ELA (t(135)=1.96, p=.05 (d=.59, medium effect size). However, the intervention and peer groups at these sites were not significantly different on the pre-test for math, nor at Site 4 for 8th grade ELA. Finally, the intervention and peer groups at Site 5 (the high school) were significantly different on the pre-test (t(120)=2.85, p=.005 (d=.52, medium effect size). Overall, except for Site 4, the schools accurately identified intervention groups that had significantly lower performance on the pre-test.

Table 2
Test 1Results of t-test and Descriptive Statistics for Pre-Test by Group

Sites	Intervention Group			Peers					
	n	*M*	*SD*	*n*	*M*	*SD*	*t*	*p*	*d*[a]
1									
ELA	16	3.56	.63	58	5.17	1.74	3.62	**.006**	**1.40**
2									
ELA	7	957.71	227.34	52	1130.71	198.28	2.13	**.040**	**.41**
Math	6	851.67	43.32	53	887.08	131.72	.65	.520	
3									
K ELA	49	124.27	38.21	112	163.46	44.61	5.35	**.001**	**.95**
1 ELA	35	82.54	20.51	110	147.63	31.36	11.51	**.001**	**2.51**
K Math	48	8.69	5.93	108	39.27	24.65	12.14*	**.001**	**2.00**
1 Math	56	1.71	1.84	89	5.62	4.04	7.92*	**.001**	**1.33**
4									
7 ELA	16	382.50	184.77	119	509.25	247.26	1.96	**.050**	**.59**
8 ELA	24	547.58	267.69	93	512.17	294.85	.534	.594	.13
7 Math	17	609.29	116.72	114	663.01	122.11	1.70	.091	.20
8 Math	25	704.2	88.99	90	689.13	120.48	.689	.494	.14
5									
9 Math	51	655.94	78.33	69	711.57	134.25	2.85*	**.005**	**.52**

Note: [a] Effect size guidelines were as follows: .20 = small, .50 = medium, .80 = large, *equal variance not assumed. **Bolded** statistics indicate the ideal outcome that the schools chose a statistically significant gap within their school to close. Sample sizes (N) represent individual students.

Test 2: Pre- to Post-Assessment Differences for Intervention and Peer Groups

Related samples t-tests were used to compare pre- and post-test results for both the intervention and the peer group to determine if each group made significant gains on the post-test. Table 3 displays all the results, with the p values in bold for the groups that had a significant difference between pre- and post-tests. The elementary schools (Sites 1 and 3) had the most growth for the both the intervention and peer groups. Site 1 had large effect sizes for both the peer (d=2.05) and intervention (d=2.34) groups. Site 3 had large effect sizes in math for the K intervention group (d=5.74), K peer group (d=3.11), the grade 1 intervention group (d=5.0) and the grade 1 peer group (d=4.37), and in ELA for the grade 1 peer group (d=1.31) and grade 1 ELA intervention group (d=.77). However, Site 3 had a small effect size (.28) for the ELA K intervention group and no significant difference for the K ELA peer group. The middle school Sites (2 and 4), were quite different than the elementary results, with only the peer groups showing significant growth and one instance of an intervention group showing significant growth in Site 4 grade 7 ELA group (t(16) = 4.17, p=.001, d =.85, large effect size). Site 5, the high school, showed significant growth and a large effect size (d=1.07) for the intervention group and a medium effect size (d=.54) for the peer group. Though the results are mixed, the elementary schools and the high schools generally showed greater growth for the intervention and peer groups than the middle schools.

Table 3
Test 2 Results of t-test and Descriptive Statistics for Pre- and Post-Assessments by Group

Sites		Pretest		Posttest				
	N	*M*	*SD*	*M*	*SD*	*t*	*p*	*d*[a]
1								
1 Intervention ELA	16	3.56	.63	5.75	1.24	6.86	**.001**	**2.34**
1 Peers ELA	63	5.17	1.74	9.03	2.03	17.29	**.001**	**2.05**
2								
Intervention ELA	7	957.71	227.34	1142.29	143.36	2.28	.37	
Peers ELA	52	1130.71	198.28	1204.48	157.28	6.36	**.001**	**.94**
Intervention Math	6	851.67	43.32	890.00	150.63	.69	.36	
Peers Math	53	887.08	131.72	1001.13	101.12	7.78	**.001**	**.63**
3								
K Intervention ELA	49	124.27	38.21	134.57	36.66	-2.71	**.009**	**.28**
K Peers ELA	112	13.46	44.61	166.20	38.49	.95	.343	
1 Intervention ELA	35	82.54	20.51	111.51	54.42	3.228	**.003**	**.77**
1 Peers ELA	110	147.63	31.36	213.09	68.25	14.06	**.001**	**1.31**
K Intervention Math	48	8.68	5.93	89.31	22.17	26.32	**.001**	**5.74**
K Peers Math	108	39.30	24.65	117.17	25.41	36.21	**.001**	**3.11**
1 Intervention Math	56	1.71	1.84	17.73	4.58	26.99	**.000**	**5.00**
1 Peers Math	89	5.62	4.04	24.46	4.56	38.42	**.000**	**4.37**
4								
7 Intervention ELA	16	382.50	184.77	516.69	132.98	4.17	**.001**	**.85**
7 Peers ELA	115	520.32	243.50	594.48	258.56	5.93	**.001**	**.30**
8 Intervention ELA	24	547.58	267.69	534.00	276.70	.418	.680	.05
8 Peers ELA	92	517.54	291.85	556.15	302.06	3.33	**.001**	**.13**
7 Intervention Math	17	609.29	116.72	629.53	133.06	.84	.413	.16
7 Peers Math	114	663.01	122.11	703.79	114.12	5.65	**.001**	**.35**
8 Intervention Math	24	702.79	90.62	721.75	107.16	1.73	.096	.19
8 Peers Math	90	689.13	120.48	701.62	128.49	2.09	**.039**	**.10**
5								
Intervention Math	40	658.45	85.80	747.33	80.14	8.34	**.001**	**1.07**
Peers Math	59	723.66	132.23	793.56	128.74	7.11	**.001**	**.54**

Note: [a] Effect size guidelines were as follows: .20 = small, .50 = medium, .80 = large. **Bolded** statistics indicate that the schools increased the achievement of the subgroup and/or the peer group a statistically significant amount. Sample sizes (N) represent individual students.

Test 3: Adjusting for Initial Differences, **Qualitative Results**

Table 4

Test 3 Adjusted Posttest Means and Analysis of Covariance (ANCOVA) by Group

Sites	Intervention Group				Peer Group					
	Pretest		Posttest[a]		Pretest		Posttest[a]		ANCOVA	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	η^2
1										
ELA	3.56	.63	6.62	.42	5.17	1.74	8.8	.21	20.68**	.23
2										
ELA	957.71	227.34	1243.34	31.70	1130.71	198.28	1190.88	11.29	**2.39**	
Math	851.67	43.32	905.20	36.18	887.08	131.72	999.41	12.14	6.09*	.10
3										
K ELA	124.27	38.21	152.53	3.86	13.46	44.61	158.34	2.48	**1.50**	
1 ELA	82.54	20.51	187.550	10.48	147.63	31.36	188.90	5.01	**.010**	
K Math	8.68	5.93	102.70	3.44	39.30	24.65	111.22	2.31	**3.83**	
1 Math	1.71	1.84	18.94	.62	5.62	4.04	23.70	.48	32.58**	.19
4										
7 ELA	382.50	184.77	623.73	33.34	520.32	243.50	579.59	12.27	**1.53**	
8 ELA	547.58	267.69	511.50	24.93	517.54	291.85	562.02	12.73	**3.26**	
7 Math	609.29	116.72	664.27	18.16	663.01	122.11	698.61	6.96	**3.10**	
8 Math	702.79	90.62	711.33	11.47	689.13	120.48	704.40	5.92	**.29**	
5										
Math	658.45	85.80	777.27	10.94	723.66	132.23	773.26	8.94	**.08**	

Note: [a] Adjusted Post-test, *N* sizes all the same as Table 3, *p<.05, **p<.01, Effect size guidelines were as follows: .01 = small, .06 = medium, .14 = large. **Bolded** statistics indicate the ideal outcome that the schools increased the achievement of the subgroup at a greater rate than the peer group thereby reducing the gap so that there was not a statistically significant difference on the adjusted post assessment. Sample sizes (*N*) represented in Table 3.

Intervention and Peer Group Post Differences

Analysis of Covariance (ANCOVA) was used to compare adjusted post-test results, after statistically equating the intervention and peer groups using the pretest scores, to determine if significant differences (i.e., a gap) still remained between the two groups after the intervention period. Unlike Test 1 and 2, the optimal result was a statistically significant difference to *not* be present. Therefore, the *F* values in bold represents the sites where there was no significant difference in the adjusted post-tests scores. Results varied at the different sites (see Table 4). Three sites showed a gap in performance remained evidenced by a significant difference between the two groups on the adjusted post-test results. Site 1 in ELA ($F(1, 71) = 20.68$, $p < .01$, $\eta^2 = .23$, large effect size), Site 2 in math ($F(1, 57) = 6.09$, $p < .05$, $\eta^2 = .1$, medium effect size), and Site 3 in grade 1 math ($F(1, 143) = 32.58$, $p < .01$, ($\eta^2 = .19$, large effect size).

After the initial round of inter-rater coding, the researchers confirmed that research-based leadership practices (Leithwood et al., 2004; 2010) appropriately supported the use of inductive codes and the outline for theme labels: (a) setting direction, (b) monitoring progress, (c) developing capacity to teach, collaborate and lead, and (d) reorganizing systems. Results are encapsulated in the participants' own words. An overarching theme surfaced, reflecting the transformation of practice and beliefs experienced by participants in their efforts to close achievement gaps, "All students reaching toward unlimited potential is the goal, everything else is flexible."

Theme #1 Setting Direction: 'Care Less About the How As Long As We Get There. If We Are Not Getting There, That's a Different Conversation'

This theme refers to the establishment and communication of a shared and clear understanding of the current reality, vision,

priority goals, and common language that raises the ceiling on what educators believe students can achieve and increases their commitment to urgently change practices to enable all students to reach high expectations. In all the study schools, there was a push to raise expectations and achievement for all students, and specifically for a subgroup of students who were being underserved (i.e., the intervention group). While principals drove the effort to set and communicate a vision and goals that challenged the staff's perspective of what was possible, they realized that a collaborative, flexible approach was vital to building ownership. As one principal expressed:

Having clear goals in mind of where you want your team to end are super important, but I think the flexibility of how the team gets to that goal is something that like I have definitely grown to appreciate...I care less about the how, as long as we get there...being flexible when flexibility is warranted and holding that line where maybe it stopped.

And another principal described her changing strategy to share ownership as:

Before I thought that I needed to be the one sort of, setting the direction and setting the course and making sure everybody stayed on it. Now I think I need to be less of the navigator and more of the crew.

Teachers expressed the numerous ways that the efforts to set direction impacted their work. A critical way was in the clarity of purpose and language it brought to the changes they were being asked to make. As one teacher expressed:

Communication is essential. Because the first year or two, communication wasn't as fluid, and everyone was kind of going in a different direction...it clashed at times. Whereas now, with communication being more fluid and things being more consistent, I think everyone's pulling in the same direction and has a better understanding of where it's going to go.

The impact on the teachers of the practices to set direction transformed their expectations of students, especially the students who were previously underserved. The teacher recognized they're well-intentioned, though the expectation-lowering previous role in maintaining the gap:

In the past, it felt so validating to just say 'Oh, but they struggle with the basics, so I'm not even going to push them to that because it's more stress on me and more stress on them.' ...but I think what we've seen through this push is that they're still capable at their at their level and we can't be holding them back.

Teachers expressed that their beliefs were shifting toward seeing students' potential as unlimited. For example, one teacher remarked, 'before I thought that there was like this theoretical ceiling to what kids could learn in kindergarten...now based on the data that we're looking at, I see that there really is no ceiling.'

Importantly, teachers and principals felt that they needed to adapt urgently. In one teacher's words, 'to suck it up and do whatever it takes.' Increasing expectations for students is a key outcome of this theme that was achieved in complex ways throughout the schools.

Theme #2, Monitoring Progress: 'Data Helps Me Know What My Students Really Need!'

This theme reflects the variety of data cyclically used by teachers and students to learn about students' strengths and needs, plan next steps to differentiate instructional approaches and monitor growth and success to unleash student potential. Principals and teachers discussed the ways that the use of data individually, collectively and with students, evolved their use of data and their instructional practices. Participants provided extensive

examples of the ways in which frequent and relevant data grew more valuable with use:

Yes, I would say that the weekly progress monitoring that takes place has given me lots of information I did not have before. And my job has changed because I now have that information. I am more clear about what the disability might be or even if there is a disability at all. Because I have data to use, I have a lot more information to guide me when I try to identify kids who might need interventions.

The importance of varied data points, as opposed to a single source, also helped build a common, accurate, and trustworthy picture of student learning. Powerfully, the practice of using frequent, varied data also helped teachers 'understand them [students] and see them in a different light.'

In addition to the importance of informal and frequent data use in the classrooms, teachers also described the way that regular cycles of looking at and 'speaking about' data with colleagues 'cleared up the confusion of expectations for instruction' and raised expectations for students. Further, it focused the staff on taking collective responsibility for students and ensuring limited resources went to the most needed places, rather than, as one teacher said, 'the squeaky wheel getting the most.' Remarkably, cyclical collaborative dialogue about data challenged teachers' perception of student ability:

So before I thought data was pretty static, meaning that low kids will stay low and high learning kids will remain high, but now there's so much more to looking at the data! If you use the data the right way, it shows you there is a ton of growth from my lower students as well as for my higher students

And, the regular use of data increased teacher efficacy and motivation to adapt practice:

When we actually were able to look at the data and really see our efforts and see that it is making a change, that it is worthwhile, I think you know it lifts us up and gives us a reason to continue to do it.

The use of data, on a regular and systematic basis, made it possible for teachers to monitor student progress in significant ways. Perhaps more important was the recognition that students were increasing their efficacy through owning and celebrating their progress:

Kids make graphs on their progression in reading and writing. And what I see is that they're very eager to look at the graph and it's an incentive for them to try and improve the results…overall, it helps them take ownership of their learning.

Using data and monitoring student achievement so closely gave teachers the information they needed to customize instruction to each student's individual needs and abilities. This differentiated learning strategy was noted by numerous participants:

Before I thought data was something used to show that we are doing our job and now I know that data is used to really understand all of your students and know exactly what they need so we can provide it for them the way they need it

There is an interconnected dynamic between the first theme, Setting Direction, and this theme, Monitoring Progress. A clear direction must be set *and* everyone must monitor through varied, frequent data if progress is being made toward that direction. The groups described the ways the process of monitoring their progress changed beliefs and practices, which motivated them to continue reaching toward the vision that was set and raising it by increasing expectations for themselves and students.

Theme #3, Developing Capacity: 'Before I Thought It Was All About Teaching. Now I realize It Is All About Learning.'

Developing Capacity: To Teach involves teachers knowing students well enough to craft personalized learning experiences for all student needs and strengths. Teachers (and then students) develop efficacy and take responsibility for student learning by tracking student growth, adapting instructional practices, and questioning their assumptions. Many participants noted that they had previously envisioned teaching in a static, teacher-centered way but that their recent experiences with gap-closing strategies had caused them to see teaching as an ever-evolving means to an end, student learning.

In order to get even those little successes, you need to really individualize and get to know your kids on a personal level one-on-one, each child. You should know what they love, what they don't love, what they are good at, and what they struggle with.

A key goal of building the capacity to teach was to shift instructional practices in the classroom by situating the responsibility for student learning primarily in the classroom setting, rather than relying on outside support. As one principal articulated:

Really trying to shift teachers' mindset around the idea that if a child is struggling that that child must then, therefore, get extra support from another body...shifting that responsibility back to the classroom teachers who then were creating a plan.

By resituating the responsibility on the teachers to change their practice for students who were struggling, rather than reach for outside support, a ripple effect occurred in which teachers realized what they were doing for the most underserved would benefit all students.

If I see that the strategy is good for all kids, then I make it part of what I do...whether it be putting in an agenda for the day at the beginning of class. So all kids do well, I incorporate it.

Developing Capacity: To Collaborate involves teachers engaging in collaboration, problem-solving, and communication to learn from each other, build trust, evolving practices, and give input into reorganizing systems. Principals expressed their views on the need for collaboration among teaching staff:

Before this, I thought that having rock star teachers in every single classroom would be enough but now I think that you need rock star teachers who are interested and able to work together, to share best practices, resources, and truly have a sense of the team… putting that common vision over their individual glory is super important!

Teachers felt similarly about the value of working together as a team:

I don't think it's one person's, but I think our system, our community, and altogether as a team, with the supports that are set, through guidance, through teachers, through support staff, through meetings and RTI and we truly do help with the success and it's just, it makes it make me, it humbles me to see it and then I go, okay, it's working.

Importantly, teachers and principals noted that working together was not just about being congenial or simply sharing ideas and practices, it was about developing a community that was 'in it' together and honestly expressing and challenging each other's perspectives. This deep level of collaboration built trust encouraged risk-taking and focused all efforts and decisions on students.

We look at the entire grade level and the collective responsibility…not thinking necessarily about our own needs but that we're

remembering that everyone has needs… and that we need to make sure that the children come first.

Developing Capacity: To Lead involves a principal knowing the context of the school and the teachers' strengths and needs, similar to the ways teachers need to know students well. Principals use that knowledge to plan steps to share the leadership and ownership of the work to reach the goals. To build the trust needed for teachers to both do the hard work described in these themes and be willing to step up into leadership roles, principals expressed ways they set the stage to distribute leadership. First, they needed to model what they wanted to see and be present in all aspects of the work, 'walking the talk.' Principals also described how they constantly reflected on their own leadership and considered their colleagues need to enable them to build their capacity to lead:

I am learning something new every day about my leadership capacity…I have a much better understanding of how to work with different types of people and a lot of my work here is building relationships and building trust.

Principals felt it was also crucial to distribute leadership to teacher leaders to 'become the experts and become the outward representation' of the change. While formal teacher leadership was seen as important, principals and teachers discussed the need for all staff to become involved and assume leadership and responsibility for all stages, from design to implementation. As one principal expressed:

We involved as many stakeholders as possible in the development of the system and I think that was the biggest instrument of the success that we've had thus far...it's really shared leadership and building ownership.

Learning is what happens when capacity is built. Building capacity necessitates that a leader uses the practices throughout this theme to create a trustful culture and climate that enables teachers and students to take the risks needed to take full responsibility for their learning. As one teacher expressed, 'I thought student learning was about effort and initiative of the student. Now, I think about the classroom environment to make the student feel safe enough to try things.'

Theme #4, Reorganizing Systems: 'Helping Us Do Everything We Can, As Well As We Can.'

This theme involves a leader building buy-in and commitment, not just compliance, to clear manageable systems to identify, plan, set, and track goals for students with a variety of data, and processes for colleagues to learn from the data and student progress. Similar to the first theme, Setting Direction, principals seemed to drive the creation of structures and systems to ensure equitable access to excellent teaching and student learning. Also, similar to the work for teachers in themes two and three, principals used inquiry and data to monitor and adjust to increase the effectiveness of the systems on a regular basis. From a principal's perspective:

Before I thought leading was like my personality, like a checklist and here's my to-do and that's done, taken care of, had that conversation, but then that gets back to my checklist, so now it's more of the cyclical process of checking back in and revisiting things to make sure that all those systems are still working smoothly and things can continue to grow and that it's not just done onto the next thing; it's ongoing.

And, from a teacher's perspective, 'there's a lot of this process that's trial and error and I don't think that we're ever going to come to a point where you feel like the system is perfect.'

While this theme involved work that assumed a great deal of the principals' attention, they realized that for any system to work, they needed commitment and involvement of the staff.

Once you think you maybe have a system and a structure established that works for your team, constantly keeping an open mind, getting team input to see how we can improve. So whether, it's you know the structure of our team meetings or the structure for data analysis, or the tools that we utilize for developing interventions, constantly getting the thoughts of your team, constantly getting that feedback, just make sure you're doing everything you can, as well as you can

Principals described that releasing control and opening up the changes in the system to a process of shared decision-making was not easy, and often took time.

I was very directive this year because I had a vision of how I wanted this process to go and I wanted it to happen now...I get a little impatient... next year I would want to even release more responsibility and ownership and just directly to the teachers

Teachers reflected that the reorganization of systems and structures were particularly challenging because they demanded that everyone 'trust the process', 'be patient', 'be flexible' and be willing to be uncomfortable with the change process. One teacher expressed what it felt like to be in this process:

And how is this all going to work? ...Not only do we need the staffing, but we need to figure out the right amount of time and the patience to see the results. So everyone has to be flexible and adjust their schedules and balance teaching with student needs and available resources.

Converged Results

After separate analysis of the quantitative and qualitative data, the results were left intact as either quantitative or qualitative and were examined together in side-by-side columns (Table 5) to compare for differences, similarities, contradictions or new insights (Greene, 2007). The optimum quantitative results would show a significant gap was closed while raising achievement for both peer and intervention groups are represented by (a) a significant difference on test one, (b) significant differences between the pre- and post-assessments for both groups on test two, and (c) no significant ANCOVA difference on test three. The overall results (Table 5) show that while the majority of schools identified the intervention group accurately (test 1), and raised achievement significantly for peers and intervention groups (test 2), some gaps or difference still remained (test 3). Three sites achieved the optimal quantitative results of closing a gap for a group of students who were scoring significantly lower than their peers while significantly raising achievement for both the intervention group and their peers: Site 3 in grade 1 ELA and K math, Site 4 in grade 7 ELA and Site 5 in grade 9 math. Two sites accurately identified a gap and raised achievement significantly for the intervention and peer groups, but still showed a significant gap (test 3): Site 1 in grade 1 ELA and Site 3 in grade 1 math.

The qualitative results were more similar to the schools than the quantitative results among the five school sites. After determining the themes, the qualitative data were coded by the core practices that represent each theme. This allowed a simple calculation to be made for each school by dividing the number of times a core practice was discussed by the number of times all the core practices were discussed at that school site. All the sites discussed all the core practices; and all the schools spent a greater percentage of the time discussing practices associated with building capacity, and less time discussing practices associated with monitoring progress, setting direction and reorganizing systems (Table 5). However, slight variations exist and two of the sites with the most optimal quantitative results (sites 2 and 5) spent a greater percentage of time discussing the practices of setting direction and reorganizing systems.

Overall, there were three ways the data from the schools converged: (1) every school had progress evident in the student outcomes of the work to close the gaps, (2) all the principals and teachers were using and discussing all identified core leadership practices, albeit to various degrees, and (3) evidence at all schools indicated that the work to close the gaps utilizing the core practices was transforming, changing both beliefs/assumptions and practices of leaders and teachers. The schools diverged in the degrees to which the gaps were closing, the contexts/demographics in which the work was situated, and which core leadership practices were prioritized by the principals and teachers. The results of qualitative and quantitative phases did not appear to contradict one another but rather created a richer picture of potential patterns of changing educator practices, beliefs and student outcomes.

Table 5

Converged Quantitative and Qualitative Results

Note: Posttest[a] is the adjusted post-test. Bolded results represent either show positive outcomes for the intervention group, peers and/or increasing equity by gap closing (test 3).

Sites	Quantitative Results: Whether or Not Achieving Optimal Results				Qualitative Results: Percentage of Time Discussing Themes			
	Test 1: Gap between groups on pretest	Test 2: Intervention Group significant growth	Test 2: Peer Group significant growth	Test 3: Gap reduced between groups on Posttest[a]	Setting Direction	Monitoring Progress	Developing Capacity	Reorganizing Systems
Site 1 - ELA	**Yes**	**Yes**	**Yes**	No	9%	27%	54%	11%
Site 2								
ELA	**Yes**	No	Yes	**Yes**	13%	22%	45%	20%
Math	No	No	Yes	No				
Site 3								
K ELA	**Yes**	**Yes**	No	**Yes**				
1 ELA	**Yes**	**Yes**	**Yes**	**Yes**	14%	22%	40%	24%
K Math	**Yes**	**Yes**	**Yes**	**Yes**				
1 Math	**Yes**	**Yes**	**Yes**	No				
Site 4								
7 ELA	**Yes**	**Yes**	**Yes**	**Yes**				
8 ELA	No	No	Yes	**Yes**	14%	25%	45%	16%
7 Math	No	No	Yes	**Yes**				
8 Math	No	No	Yes	**Yes**				
Site 5 - Math	**Yes**	**Yes**	**Yes**	**Yes**	24%	20%	39%	17%

Conclusions

This mixed methods study was designed to explore the ways in which principals and teachers implemented gap-closing strategies in their schools. The analysis of the combined data from the quantitative and qualitative methods yielded confirmatory as well as divergent results, and also generated new perspectives worthy of further study. While one aspect of the analysis was focused on the commonalities among schools, attention was also focused on the differences in the school context and the leadership practices that may have influenced behaviors, attitudes, and perceptions. Merged data analysis identified factors that explained or hinted at the variations in teacher perceptions of leadership practices, relative to their activities in gap-closing efforts.

All study sites used a process to identify a group of students for whom the typical school program was not working and who needed something different from the educators at the school to be successful. This practices of identifying specific groups to intervene and adapt practices to ensure success are well supported by the research on Response to Intervention and Multi-tiered Systems of Supports (Jimerson, Burns, & VanDerHeyden, 2016). The focus on starting small and focusing on intraschool gaps is supported by Johnson & Avelar (2010), Skrla & Sheurlich (2009) and Scharff & Talbert (2013). As the principals and school staff embarked on the year-long process to close the gaps for these groups of students, they all enacted the leadership practices described in the qualitative results: setting direction; monitoring progress; building capacity to teach, collaborate and lead; and reorganizing systems. These leadership practices are widely supported by research (Braun, Gable, & Kite, 2011; Leithwood, et al., 2010; Love, 2009; Ross & Berger, 2009; Skrla et al., 2009; Talbert et al., 2010). Importantly, through this work, the quantitative results showed achievement rising at the majority of the sites for subgroups and the whole school. While the gaps between the intervention groups and their peers were detected to be closing in some schools, significant differences still remained between the groups at the end of the year in other schools. That said, the qualitative results show that the process of attempting to both improve learning for all, and specifically for a group of students whom the school was not serving well, was transforming the practices, beliefs, and motivations of principals and teachers involved in the work. In this sense, converged data analysis yielded the confirmation that a new phenomenon, that of

the transformative effect of leadership and teacher collaboration to close intraschool achievement gaps, creates a culture and climate where students, teachers, and leaders are engaged in transformational learning, even when the gap has not been fully closed yet. The transformational power of using cycles of inquiry (data, dialogue, and results) in community to challenge and change assumptions about students perceived abilities, increase educator efficacy, and change practices is well-supported (Bryk et al., 2015; Campbell Jones, et al., 2010; Hammond, 2015; Johnson & Avelar La Salle, 2010; Kegan & Lahey, 2016; Love, 2009; Skrla, et al., 2009). This identification of a new phenomenon grounds future research phases in this topic area and provides a new approach to exploring the impact of transformative learning. Additionally, the result of applying a mixed methods approach to the study of leadership and equity relative to student success establishes the validity of the connecting quantitative and qualitative data sets in order to obtain answers to the research questions that would not have been possible in a single paradigm approach.

Implications

Extensive focus has been aimed at closing national and state achievement gaps between demographic subgroups without significant progress (Darling-Hammond, 2010). The results of this study can inform the field of educational leadership on a promising model of school reform focused on closing intraschool achievement gaps, rather than on gaps between schools. This research suggests that by resituating the focus inside a schools realm of influence, and at a manageable scale, important shifts in practice and mindset can occur. This suggests important implications for both practice and policy. Leadership develops and preparation programs should consider ways to make the change process for school leaders and teams both more manageable and focused on increasing equitable outcomes within the schools through enacting collaborative cycles of inquiry. Further, these early results suggest that states and districts consider moving away from policies that focus only on measuring progress by tracking aggregate average test scores and/or aggregate percentages of proficiency. Rather, or in addition, policy makers and educational leaders should consider empowering school teams to measure progress based on the specific, targeted populations that schools are intentionally working to impact. In doing so, policy regarding measurements of school performance could also serve to provide school-level communities of practice with precise data on the degrees to which their intentional goals to close gaps was effective at increasing equity (closing gaps). Thereby, linking accountability to productive means to increase efficacy, the evolution of effective practice, and equitable student outcomes.

During this research phase, protocols for collecting, analyzing, and reporting both the quantitative and qualitative data were developed and refined for future use. The three-step quantitative data analysis provided meaningful, robust information about the ways and degrees to which the gaps between subgroups and peers was closing. However, the small numbers of students in the intervention subgroups from some sites create a caution about interpreting the degree to which the gap is closing. To remedy this, the next phase will involve schools that are working to close a gap between larger subpopulations and their peers. Also, the one-year window of time may not be enough to actually close the gap between the groups. Future studies would benefit from working with school sites over multiple years of continuous implementation.

The interview and focus group questions successfully elicited the responses needed to answer the qualitative research questions. The robust qualitative data were used to create a survey (Braun, Gable, & Billups, 2015) for use in the next phase of the research to replace the use of focus groups and interviews. Infusing

trustworthiness strategies, such as peer debriefing, member checking, and triangulation guaranteed credibility and dependability for the qualitative data, making the convergence with quantitative data more reliable. The survey will allow a greater number of educators in study schools to contribute their perspectives.

In moving towards the next phase of this study, the researchers plan to study new schools every year to add to a larger analysis of the relationships among the degree to which achievement gaps are closing, leader and teacher practices and beliefs, and the practices that prepare leaders to close intraschool achievement gaps. Essentially, the long-term investigation will provide the data and structure to allow a broader correlational analysis of the relationships among preparation/training, educator practices and beliefs, and equitable outcomes for students.

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