agents for change, these principals recognize teachers as equal partners in this process, acknowledging their professionalism and capitalizing on their knowledge and skills (Darling-Hammond, 1988; Rowan, 1990).

Focusing on school leadership relations between principals and teachers, this study examines the potential of their active collaboration around instructional matters to enhance the quality of teaching and student performance. The analysis is grounded in a comparison of two conceptions of leadership—transformational and instructional. Functioning as leaders, principals can serve to transform school cultures or to maintain them (Firestone & Louis, 1999; Leithwood & Jantzi, 1999). Transformational leadership, put briefly,

1992). Instructional leadership, developed during the effective schools movement of the 1980s, viewed the principal as the primary source of educational expertise. Aimed at standardizing the practice of effective teaching, the principal's role was to maintain high expectations for teachers and students, supervise classroom instruction, coordinate the school's curriculum, and monitor student progress (Barth, 1986). For principals who lacked the skills to accomplish these tasks, coaching and on-site assistance were in short supply. Instructional leadership in practice fell far short of the ideal (Cuban, 1984; Murphy & Hallinger, 1987).

Moreover, the hierarchical orientation of instructional leadership conflicted with the democratic and participative organization of schools that emerged in the late 1980s with school restructuring and the movement to empower teachers as professional educators (Marks & Louis, 1997). Because critics had attributed to the educational bureaucracy schools' failure to educate effectively (Carnegie Forum on Education and the Economy, 1986), a fundamental restructuring initiative entailed decentralizing to schools authority over such matters as budgets, hiring, curriculum, and instruction. When principals adopted this model fully, they shared management decisions with teachers and other constituents (Malen, Ogawa, & Kranz, 1990).

Because teachers possessed critical information about their students and how they learn, teachers needed discretionary authority to make their own curricular and instructional decisions (Hallinger, 1992; Sykes, 1990). The latitude to make such decisions would improve both teachers' -235.7 thority-284(ran2 (199her7 , 0 0rtructo5.7c(1t

Leithwood, Tomlinson, & Genge, 1996; Sagor & Barnett, 1994; Silins, Muford, Zarins, & Bishop, 2000).

Transformational leadership affirmed the centrality of the principal's reform role, particularly in introducing innovation and shaping organizational culture (Conley & Goldman, 1994; Leithwood, 1994). While concentrating on renewing the organization and its personnel, however, trans-

Rather, principals should be concerned with facilitating teachers' exercise of initiative and responsibility in instructional matters (Glanz & Neville, 1997; Senge et al., 2000). Such an approach is consistent with educational reforms

teachers' responsibility and accountability for change (Louis, 1994). The relationship is a reciprocal one, where those in formal roles step aside to let others step into leadership roles (Prestine & Bowen, 1993). This phenomenon is often subtle and might not be readily apparent except in certain critical incidents that threaten change efforts (Prestine & Bowen).

Shared instructional leadership, therefore, is not dependent on role or position. Its currency lies in the personal resources of participants and is deployed through interaction (Ogawa & Bossert, 1995). Such leadership extends throughout the organization with revised structures permitting coordinated action (Ogawa & Bossert, 1995; Pounder, Ogawa, & Adams, 1995).

Transformational leadership has been the subject of systematic inquiry in nonschool organizations for several decades. Supplying conceptual grounding for transformational leadership, Burns (1978) focused on the relationship between the leader and the "followers." When the relationship focuses on the

By seeking to foster collaboration and to activate a process of continuous inquiry into teaching and learning, transformational leaders attempt to shape a positive organizational culture and contribute to organizational effectiveness (Fullan, 1991; Leithwood et al., 1996). But even in collaborative cultures where principals' transformational efforts encourage teachers to con-

Although the importance transformational leadership places on vision building can create a fundamental and enduring sense of purpose in the organization, the model lacks an explicit focus on teaching and learning. Instructional leadership, emphasizing the technical core of instruction, curriculum, and assessment, provides direction and affects the day-to-day activities of teachers and students in the school. The action orientation of shared instructional leadership moves a school staff forward to accomplish each goal and, in so doing, to enact the vision. Transformational leadership builds organizational capacity whereas instructional leadership builds individual and collective competence. Instructional leadership is shared, in that specific leadership functions are carried out by many people working in collaboration (Firestone, 1996).

The theory of action underlying this model holds that the efficacious principal works simultaneously at transformational and instructional tasks. As a transformational leader, the principal seeks to elicit higher levels of commitment from all school personnel and to develop organizational capacity for

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1. What is the relationship between transformational and shared instructional leadership in restructuring elementary, middle, and high schools?
2. How do schools with varying approaches to leadership differ according to their demographics, organization, and performance?
3. What is the effect of transformational and shared instructional leadership on school performance as measured by the quality of pedagogy and the achievement of students?

To study school restructuring in the United States, the Center on Organization and Restructuring of Schools undertook a national search for public schools that had made substantial progress in their reform efforts. Out of a nationally nominated pool of 300 schools, the center selected 24 elementary, middle, and high schools, 8 at each grade level, to participate in its School Restructuring Study (SRS). Despite the selection criteria for nomination and inclusion in the study, the schools in the SRS sample varied substantially in their goals, their capacity for reform, and their success in restructuring. (See Berends & King, 1992, and Newmann & Associates, 1996, for additional details on sample selection and for profiles of the SRS schools.) Representing 16 states and 22 school districts, most of the SRS schools are urban, enrolling substantial proportions of economically disadvantaged and minority students.

Compared with public schools nationally, schools in this sample are larger

well as with school and district administrators. Researchers also observed governance and professional meetings at each school, and they collected and analyzed written documentation pertaining to the school's restructuring efforts.

The instruction and assessment practices of 144 core-class teachers (3 mathematics and 3 social studies teachers from each school) received special scrutiny. Trained to evaluate instruction according to standards of intellectual quality, the researchers rated the instruction in each core class at least four times, with two researchers observing at least half the classes. The interrater reliability for the joint observations was .78. To evaluate the quality of assessment, the SRS asked all core teachers to provide two written assessment tasks that were representative of how they typically assessed learning. Subject matter specialists from the center and trained teacher practitioners rated the assessment tasks on standards of intellectual quality. Teams of two raters scored the tasks independently, resolving any differences in their judgments through discussion until they arrived at a consensus score.

The center also collected from the teachers the work that students completed in response to the assessment tasks, totaling over 5,000 assignments. Trained researchers and practitioners rated the student work according to standards for authentic achievement. At least one third of these papers were evaluated by teams of two raters. The interrater reliabilties were .77 for social studies, .70 for mathematics. (For more information about the instruments and procedures for observing teachers, collecting and rating assessment tasks and student work, see Newmann, Secada, & Wehlage, 1995n (w) 12 (Ne) 24 (wmann,)]TJ ET BT 9.9999 0 0 9

	Low Leadership (N = 9)	*Limited Leadership (N = 6)*	*Integrated Leadership (N = 7)*
School demographics			
Number of elementary	3	2	2
Number of middle	3	2	2
Number of high	3	2	3
Size	656	977	1,008
Percentage free/reduced lunch	51.0*	31.0	24.0
Percentage African American	26.0	18.0	21.0
Percent Hispanic	29.0	11.0	17.0
NAEP achievement	–.36	.13	.36
School leadership			
Number of schools with principal surrogate	3	0	0
School performance			
Pedagogical quality	–.67	.00	.86**
Authentic achievement	–.83	.21	.85***

NOTE: NAEP = National Assessment of Educational Progress.
*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

siderable amounts of time with the school principals. During each of their site visits, the researchers conducted a formal interview lasting 60-90 minutes with the principal or, in the case of three schools (one at each grade level) that elected to abandon the principalship as conventionally understood, a principal surrogate, typically a designated teacher or a coordinating team (cf. Table 1). Additionally, while at each of the schools, the researchers observed the principal's interactions formally and informally with teachers, staff members, and other professionals of the school community. The researchers viewed the principals in action at such gatherings as curriculum committees, school improvement committees, administrative councils, and faculty meetings. Interviews with many teachers at each school also attested to the nature of principals' leadership. Based on these data, the SRS researchers produced the case studies and coding reports.

A systematic and thorough process ensured the validity of both these sets of documents. At the conclusion of the study years, each research team collaborated to write a case study summarizing and synthesizing the interview, observation, and documentation data collected at the school the team visited. The 24 case studies, typically about 150 single-spaced pages in length, followed an identical topic outline. As part of a rigorous peer review, other center staff members reviewed and critiqued the drafts of the case studies. Based

on the reviews, the research team revised the drafts. To facilitate systematic retrieval of case study data, the full center research team developed a standardized list of more than 100 items for coding the case study data. Two researchers from the team that had visited the school coded the case separately. The researchers resolved disagreements through discussion until they reached consensus. Codes were later converted into variables. Several were

SRS	*Bass & Avolio (1993)*	*Leithwood, Jantzi, & Steinbach (1999)*
There is evidence of significant intellectual leadership from the principal or other school-based administrators.	Intellectual stimulation	Holds high expectations Provides intellectual stimulation Models organizational values
The school administration's behavior toward the staff is supportive and encouraging.	Individualized consideration	Provides individualized support Builds collaborative culture
The principal is interested in innovation and new ideas.	Inspirational motivation	Strengthens productive school culture
The principal influenced restructuring.	Inspirational motivation Intellectual stimulation	Develops widely shared vision
The principal shares power with teachers.	Idealized influence	Creates structures for participation in decisions Builds consensus about school goals

NOTE: SRS = School Restructuring Study.

instructional leadership, and the extent that principal and teachers interacted on matters of instruction, curriculum, and assessment. Tapping the elements of shared instructional leadership discussed earlier (e.g., Blase & Blase, 1999; Ogawa & Bossert, 1995; Prestine & Bowen, 1993), these items reflect principal focus on instruction, teachers exercising instructional leadership roles beyond the classroom, and the mutual engagement of principal and teachers as leaders in the core areas of instruction, curriculum, and assessment.

The nine component items all come from the coding. Items 1-3 are dummy coded (0 = No, 1 = yes): (a) There is evidence of significant instructional leadership in the school, (b) significant instructional leadership comes from a principal or other school-based administrator, and (c) significant instructional leadership comes from a teacher or group of teachers. Items 4-9 are ratings on a 3-point scale of low, medium, and high: (d) the actual influence of teachers over curriculum, (e) the actual influence of teachers over instruction, (f) the actual influence of teachers over student assessment, (g) the actual influence of principals over curriculum, (h) the actual influence of principals over instruction, and (i) the actual influence of principals over student assessment. The measure is constructed as an index summing the items ($! = .77$) and standardized ($M = 0$, $SD = 1$).

School demographics. Grade-level indicator variables for elementary, middle, and high school—if Yes, coded 1, all others, 0; school size, number of students enrolled; school socioeconomic status (SES), the proportion of students receiving federal lunch subsidy; percentage African American, proportion of African American students; percentage Hispanic, proportion of Hispanic students; average NAEP achievement, aggregated student score on a baseline test of basic knowledge and skills in mathematics and reading/writing.

Control variables. When pedagogical quality is the dependent variable, the control variables include classroom compositional measures: percentage female, proportion of girls enrolled in the class; percentage African American, proportion of African American students enrolled in class; percentage Hispanic, proportion of Hispanic students enrolled in class; average SES, student score on the SES scale (tapping parental education and household possessions) aggregated to the classroom level; average NAEP achievement, individual student scores on the baseline test aggregated to the classroom level.

When student achievement is the dependent variable, the controls account for student background characteristics: Female, student gender dummy variable, Yes coded 1, No coded 0; African American race, Yes coded 1, No coded 0; Hispanic ethnicity, Yes coded 1, No coded 0; SES—student SES; NAEP achievement, student baseline test score.

To examine the relationship between shared instructional leadership and transformational leadership in the schools, we use a scatterplot analysis (Research Question 1). The scatterplot displays the distribution of schools according to their comparative ranking on these two leadership dimensions. The transformational leadership and shared instructional leadership measures are standardized so that the average score for a school in the study sample is 0 and the standard deviation is 1. We overlay a quadrant on the scatterplot, with the axes placed at 0 on each leadership measure. In this way, we situate schools relative to the other study schools as either low or high on both shared instructional leadership and transformational leadership or low on one dimension and high on the other.

Based on this distribution, we construct a categorical variable to parallel the schools' quadrant positions, for instance, low on both forms of leadership, high on both forms, low on one form and high on the other. Using one-way analysis of variance (ANOVA), we compare means for the schools on their

The nine schools that scored low on both leadership measures did not ben-

focus on integrated leadership—the coexistence at high levels of transformational and shared instructional leadership. To capture the effect of integrated leadership, we constructed an indicator variable to represent schools where shared instructional leadership and transformational leadership coexist as compared with leadership in all other schools—that is, those where transformational and instructional leadership were generally low and those where transformational leadership was high but lacked principal and teacher collaboration around curriculum, instruction, and assessment.

Psychometric properties of the school performance measures. Based on the unconditional HLM analyses, we computed intraclass correlations for the two dependent variables (Table 3). Substantial variation exists between

not found systematic variation in the quality of pedagogy that reflects differences in teachers' social and professional backgrounds.

In schools with integrated leadership, average pedagogical quality is 0.6 *SD* higher than in other schools, a difference that very likely reflects the shared engagement of both administrator and teachers around matters of pedagogy ($p \leq .05$). The backgrounds of the students in these teachers' classrooms are not influential for school average pedagogy, with the exception of baseline achievement as measured on the NAEP assessment. In schools where classroom average prior achievement is higher, pedagogical quality tends to be higher by 0.4 *SD* ($p \leq .001$). The model explains 26% of the between-school difference in pedagogical quality.

Authentic achievement. The student performance analysis entails a three-level HLM model, although the model contains no predictors at Level 2, the classroom level (Table 5). The model takes into account student background characteristics that have the potential to affect their achievement beyond school effects (Newmann et al. 1996).

Schools with integrated leadership are higher achieving by close to 0.6 *SD* ($p \leq .01$). As was the case with pedagogical quality, strong student performance probably reflects the concerted work of administrator and teachers focused on curriculum, instruction, and assessment. Student background characteristics are somewhat influential. Girls achieve at higher levels than boys by 0.1 *SD* ($p \leq .001$), whereas minority students, both African American and Hispanic, perform at lower levels than their peers ($p \leq .01$). Although

student SES is not a significant factor, prior achievement is. High scores on the NAEP assessment will add close to 0.3 *SD* to students' achievement. The model accounts for 57% of the between-school variance in authentic achievement.

The starting point for the study was a recognition both of the importance of instructional leadership if schools are to improve and of its evolving nature in the context of teacher professionalism. Early conceptions of instructional leadership had focused on the principal's role in managing school processes

frameworks, and new forms of assessment. Responding to these demands

This study suggests that strong transformational leadership by the principal is essential in supporting the commitment of teachers. Because teachers

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