

Creation and Validation of a Measure of Leadership Density
in Elementary and Middle Schools

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Abstract: This article reports on the rationale, development, and refinement of a new measure of leadership density called the Leadership Density Inventory (LDI). Based upon the results of the second stage of research, the LDI was revised from 31 to 16 items. A three-factor solution for the LDI was obtained with Teacher Leadership, Student Leadership, and Opportunities for Leadership comprising the latent constructs. The Revised LDI demonstrates acceptable psychometric properties and appears to hold merit as a valid measure of leadership density in schools. Results for the second phase of the research are discussed in detail along with conclusions and suggestions for further research.

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Leadership density was first referred to by Sergiovanni in 1987 and later articulated by Ellett (1996). The term, as used by Sergiovanni, can be understood as an enabling process that facilitates active involvement of other organizational members in the leadership process. For the purposes of this study, leadership density was defined as: *deliberate role taking on the part of any member of an organization that moves the organization or organizational member(s) toward attainment of personal and/or organizational goals*. Inherent in this definition is the assumption that the goals of the organization and/or of individuals are morally, ethically, and legally grounded.

The concept of leadership in schools described here depicts leadership as a school-wide, organizational construct instead of a function of position, authority, or power invested in principals and other individuals in schools. From this perspective, leadership need not be vested in any one particular person(s). Rather, leadership roles can be assumed by anyone possessing: (a) the capability to successfully engage in leadership tasks; (b) a personal investment in the task(s); and (c) sufficient commitment to see the task(s) successfully completed.

The notion of some type of distributed leadership in schools and other organizations has received quite a bit of attention in the extant literature. These perspectives on leadership are expressed in the work of Bass (1990), Bass and Avolio

(1990; 1993), and Burns (1978) among others. Lawler (2001) also articulates a view of leadership that embraces some form of distributed leadership. He notes that businesses in the future will have:

. . . flat, agile structures, open information, power that moves to expertise, and systems that create knowledgeable employees throughout the organization.

Because they will have these characteristics, their human capital will be much more valuable and will require different treatment than has been true of the human capital in traditional organizations (p.17).

Calls for the flat, agile structures Lawler envisions require a theoretical perspective, one that follows Immegart's (1988) charge to frame studies that go beyond investigating the leader towards developing theories of leadership. It is to this end that the development of the Leadership Density Inventory (LDI) was undertaken.

Theoretical Perspective for Development of the LDI

As noted, literature on leadership in organizations in general, and schools in particular, has emphasized a need for moving away from an over-dependence upon *a leader* towards a model where the individual and collective talents of organizational members can be brought to bear in solving problems and seeking more effective and efficient ways of doing things (e.g., Fullan, 1993; Lambert, 1998; Lawler, 2001; Weiss & Cambone, 2000; Wheatley, 2000). Lakoff and Johnson (1981) contend that metaphors form the conceptual basis for nearly all conscious thought. Given the central role that metaphors play in how we understand the world, it was considered critical to develop a metaphor for understanding the concept of leadership density. The metaphor that was chosen was jazz, specifically small combo jazz.

Small jazz combos have fluid and dynamic leadership and work within an organizational structure that is believed to be critical to creating and facilitating leadership density in schools. Small jazz combos are able to quickly react to unexpected perturbations in the music and each member plays a critical role in the quality of the music. Furthermore, the process of creating music within a small jazz combo relies upon each member's ability to improvise and expand upon the contributions of other band members. All of these characteristics of small jazz combos are believed to map very well onto the fluid, dynamic, and always changing landscape of leadership in schools and for this reason the small jazz combo metaphor is believed to provide a useful tool for rethinking the traditional model of school leadership.

By contrast to a model of leadership density in schools, traditional models of leadership in schools tend to reflect a classical music metaphor. In classical music, the composer creates the musical score providing the conductor with relevant instructions for performance of the score. The conductor takes the information and oversees the orchestra's efforts to faithfully replicate the composer's creation. In classical music, the outcome is predetermined and predictable (hopefully), i.e., the faithful replication of the composer's musical score. Many of the tenets guiding the production of classical music can also be found in leadership models for schools. For example, outside boards typically set policy (write the score). The policy is given to the principal (conductor) who is responsible for monitoring orchestral members' (faculty) efforts to achieve the predetermined outcome ascribed by the policy.

The use of musical metaphors as a basis for thinking about leadership has previously been noted in the literature (Depree, 1992; Hurley, 1999; Iwanicki, 1999).

However, these musical metaphors have all reflected a centrist perspective of the leader's role in conducting the band or orchestra. From a leader centrist perspective, leaders are designated based upon their position or formal authority. Schools have tended to follow the leader centrist model as evidenced by notions such as the principal as the instructional leader of a school (Beck & Murphy, 1993; King, 2002; Lashway, 2003; Leithwood & Duke, 1999), change agent (Lashway, 2003; McEwan, 2003; Murphy & Datnow, 2003; Reeves, 2002), or the conductor of the school (Hurley, 1999; Iwanicki, 1999). Although the notion of the principal as a conductor is interesting, it fails to address a fundamental shortcoming of the metaphor. That is, the principal rarely has the entire faculty together at any one time. On the other hand, the small jazz combo metaphor is believed to provide a better metaphor than classical music for capturing how schools actually operate. For example, teachers are often organized into small teams or departments that are analogous to small jazz combos. From both an administrative as well as a classroom perspective, pathways to desired outcomes can change quickly, requiring organizational structures that can react quickly to unexpected changes. The ability to improvise is a necessary skill for administrators, teachers, and students alike. The need for restructuring organizations so they can facilitate this type of leadership is evident in current literature on school reform. The recent advent of professional learning communities in schools and the call for schools to be organized so these communities can flourish is one pertinent example. According to Hord (1997b), "the professional learning community is seen as a powerful staff development approach and a potent strategy for school change and improvement." Furthermore, when schools are organized into professional learning communities,

teachers are more effective, student academic gains are increased, and the achievement gap between students of varied backgrounds is reduced (Hord, 1997a, 1997b).

Initial Development of the LDI

The Leadership Density Inventory, grounded in the small jazz combo metaphor, is a new way of operationalizing leadership in schools. The strategy in developing the LDI was to first identify salient features of small jazz combos and school corollaries of each feature reflecting leadership structures and processes in the school organization.

Subsequently, sets of items operationalizing each school organizational characteristic were written. These items were submitted to a panel of three higher education faculty members. These faculty members were all part of the original discussions regarding an attempt to frame a model for school leadership within an appropriate metaphor and were familiar with the small jazz combo metaphor and the concept of leadership density in schools. A conceptual definition for leadership density was provided and was used by the panel members to make judgments as to whether the LDI draft items were measurement indicators of the leadership density construct. A set of items was written to reflect each school organization corollary of the small jazz combo characteristics. Appendix A shows examples of linkages between small jazz combo characteristics, their school organizational corollaries, and items developed for the LDI. The results of the expert panel review affirmed the LDI items as potential indicators of the leadership density construct. Thus, the original total set of 31 items was included in the first phase of the original study.

Phase I Study Results

Because the LDI was a new measure developed specifically to measure leadership density in schools, it was necessary to complete a small pilot study to affirm that the task instructions and item statements were understandable and clear. Thus, a draft version of the LDI that included task instructions and the 31 items was piloted with a small sample of teachers (n=8). With few exceptions, the task instructions for all measures and the item statements were understandable and sufficiently clear to be used in the larger study. Only a few minor grammatical corrections were made as a result of the teacher panel's review.

Subsequent to the pilot, survey packets were sent to all teachers (n=1632) in each participating school in early to mid-spring, 2001. Nine-hundred and eighty-seven surveys were returned (60%). Given that the LDI is a new measure of leadership density in schools, it was of interest to identify items operationalizing latent constructs comprising the LDI. A series of principal components analyses was completed with the Leadership Density Inventory (LDI) measure. A six-factor solution was accepted as best representing latent constructs measured by the LDI. The results of this six-factor solution are included in Table 1. As shown in the table, these six factors collectively accounted for a total of 47.9% of the variance in the solution.

Table 1

Internal Reliabilities, and Total Variance Explained for a Six-Factor, Rotated Solution of the LDI.

<u>Factor</u>	<u>Alpha</u>	<u>Total Variance Explained</u>
Teamwork	.74	47.9%
Empowerment	.79	
Adaptability	.57	
Student Collaboration	.71	
Chain of Command	.59	
Authoritative Decision Making	.57	

As can be seen from Table 1, the percentage of variance explained by the six-factor solution for the LDI was marginal, as were three of the internal reliability coefficients. Considered collectively, these results argue for further clarification and enhancement of the constructs being measured by the LDI. Given the exploratory nature of this phase of the study, these findings were not unexpected. Rather, the initial results are interpreted as a promising first step in clarifying and measuring constructs central to leadership density.

Phase II Study Results

Participants

Participants consisted of 175 teachers representing suburban and rural schools in the southeast region of the United States. Fourteen (8.0%) were male, 158 (90.3%) were female, and three did not respond. Nine (5.1%) of the participants identified themselves

as African-American, 160 (91.4%) as Caucasian, five (2.9%) as “other”, and one participant did not respond to this question. Elementary and middle schools grades were represented in the sample with 78 (44.6%) representing primary grades (pre-k – 3), 39 (22.3%) representing upper elementary grades (grades 4 – 5), and 49 (27.5%) representing middle school grades (6 – 9). Nine teachers did not respond to grade level taught. Approximately half of the teachers (n = 87) indicated they taught in an elementary classroom. Other areas of concentration included special education (n = 9), reading (n = 19), math (n = 12), social studies (n = 8), science (n = 8), art (n = 3), physical education (n = 9), and “other” (n = 17). Three teachers did not respond to this item. Of the 170 teachers who reported degree earned, slightly over half (n = 86) had earned a bachelor’s degree, 48.3% (n = 83) a master’s degree, and one (.6%) a doctorate degree.

Instrument

The original LDI consisted of 31 items; eight teamwork items, five adaptability items, five empowerment items, four student collaboration items, four chain-of-command items, and three authoritarian decision-making items. The pilot study instructions included the definition of leadership density and teachers responded using a Likert-type scale with 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree. The original Leadership Density Inventory can be found in Appendix B.

Procedure

Refinement and revalidation of the LDI took place in two stages. First, to address validity of inferences based on scores yielded by the instrument at the substantive stage (Benson, 1998), the instrument was subjected to a review by a 10-member panel. The 10 reviewers were doctoral level students in an advanced level survey research-design

course. Feedback from the review panel was used to improve the clarity of directions and clarity of items in addressing the construct of leadership density.

Second, teachers were surveyed and the instrument was subjected to statistical analyses to address its psychometric integrity at the structural stage of validity assessment (Benson, 1998). Analyses included an exploratory principal components analysis, a confirmatory factor analysis, and item-scale correlations. Additionally, Cronbach's alphas were computed. Based on the Cronbach's alphas and exploratory factor analyses results (using a cutoff for structure/factor coefficients of .40) items were reviewed and those that did not contribute to maintaining internal consistency within scales or yield structure/pattern coefficients that would support a judicious and parsimonious theoretical framework were reviewed by the researchers to further evaluate content. Items that did not meet statistical and content-relevant criteria were eliminated.

Finally, to substantiate the revised instrument's structural integrity, a confirmatory factor analysis was completed and item-scale correlations (with item removed from its own scale) were computed. Goodness-of-fit between the specified model and the data was estimated using the Comparative Fit Index (CFI) (Bentler, 1990), the Tucker-Lewis Index (TLI) (Bentler & Bonett, 1980), the Normed Fit Index (NFI) (Bentler & Bonett, 1980), and the Root Mean Square Error of Approximation (RMSEA) (Browne & Cudeck, 1993).

Results

Substantive Stage

Based on feedback from the panel of reviewers, changes were made in the wording and organization of the directions and in the wording of several items. First the

definition provided for “teacher” was omitted. Second, based upon reviewer critique, instructions were reworded and reorganized to make them more concise. Third, the rating scale originally employed caused some confusion or concern on the part of the reviewers. The scale on the original Leadership Density Inventory measured strength of beliefs for events occurring within a school, while the conceptual definition of leadership density was a function of the frequency of occurrence of assumed leadership by organizational members. In order to measure frequency of occurrences of events, a seven-point Likert-type scale anchored by always, sometimes, and never would yield more precise information than the original four-point agreement scale.

Structural Stage

Principal component analyses were conducted to explore the factor structure of the thirty-one items on the LDI. Results were evaluated based on (a) variance accounted for by the solution, (b) scree plots, (c) structure/pattern coefficients, and d) item content in relation to leadership-density theory. Analyses using more than three factors yielded a number of cross-loadings (structure/factor coefficients) as well as factors with one or two items or with negative structure/pattern coefficients. Item coefficients loaded predominately on three factors. Additionally, the scree plots suggested that fewer factors could sufficiently explain the variance in the model.

Sixteen items were retained based on the results of a three-factor solution, reliability analyses (alpha coefficients for scales with specific items removed), and assessment of item content. The retained items were then subjected to a confirmatory factor analysis with three factors: teacher leadership density (7 items), student leadership density (5 items), and leadership opportunity (4 items total, 2 items reverse coded). The

confirmatory factor analysis yielded satisfactory fit indices with a CFI = .99, a TLI = .98, a NFI = .97, and a RMSEA = .09. Item path coefficients are presented in Figure 1. All item-to-latent variable path coefficients were significant with Critical Ratios above 1.96. Alpha coefficients for the three scales were .89 for the teacher leadership scale, .82 for the student leadership scale, and .79 for the leadership opportunity scale. The revised Leadership Density Inventory can be found in Appendix B. Figure 1 provides the leadership density model with path coefficients.

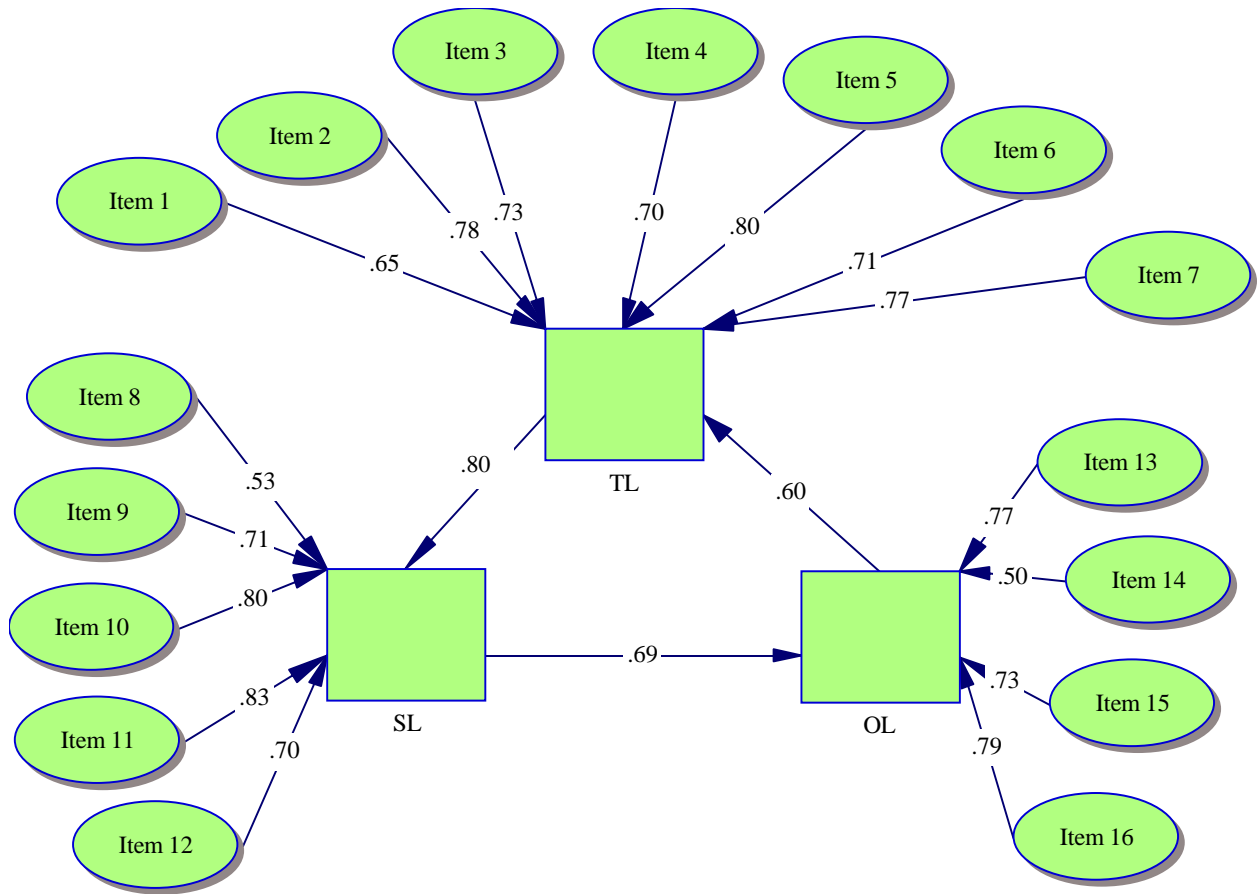


Figure 1. Leadership density model with path coefficients.

TL=Teacher Leadership; SL=Student Leadership; OL=Opportunities for Leadership

Convergent and discriminate validity were addressed in two ways. First structure/pattern coefficients connecting the latent variables in the structural model were examined (see Figure 1). The structure coefficients between latent variables were high supporting the contention that all items measure leadership density. However, distinction among latent variables (discriminate validity) was not apparent based on these coefficients. Thus, a second method was used to assess both convergent and discriminate validity at the item level. Each item was correlated with its own scale (with the item

removed) and with each of the other scales. Each item correlated more highly with its own scale than with other scales (see Table 2), suggesting valid and distinct inferences can be made based on scores from each of the three scales.

Table 2

Item correlations with its own scale (in bold) and other scales.

Item (scale)	TL	SL	OL
In this school... (Teacher Leadership)			
the principal guides instructional decisions much like a conductor guides an orchestra (reverse code)	.621	.408	.474
the principal willingly allows and encourages teachers to assume leadership roles	.762	.382	.423
teachers assume many leadership roles	.768	.334	.435
the principal encourages experimentation and innovation in regards to teaching and learning	.625	.436	.537

(table continues)

Item (scale)	TL	SL	OL
diverse solutions to problems are actively solicited by the principal	.741	.454	.616
teachers willingly take on leadership roles as they arise	.648	.498	.503
active experimentation is encouraged in the pursuit of school goals	.693	.547	.541
(Student Leadership)			
students voluntarily assume leadership roles when opportunities arise	.436	.485	.436
students readily volunteer their experience and knowledge with the class	.398	.642	.383
teachers encourage students to share their knowledge with other students in the class	.434	.699	.456
students volunteer to help each other	.375	.739	.459
teachers implement cross curricular activities	.481	.566	.507
(Opportunities for Leadership)			
teachers recognize the contributions of other teachers to the overall accomplishment of school goals	.606	.508	.653
a tight chain of command is followed (reverse code)	.356	.327	.486
students regularly engage in mastery demonstrations of acquired knowledge	.554	.530	.638
teachers regularly share effective instructional strategies	.614	.442	.659

Overall results suggest that valid and reliable inferences can be made from the scores on each of the LDI scales. Confirmatory factor analysis results support the theoretical framework underpinning the LDI. Both Coefficients among factors and item-scale correlations suggest that all items measure leadership density. Item-scale correlations further suggest that a level of distinction among scales can be useful to researchers.

Discussion

The Leadership Density Inventory, based upon a small jazz combo metaphor, is a new way to measure levels of distributed leadership in schools. Given the exploratory nature of the first phase of the research, the marginal results were not unexpected. In fact, the original research provided an overall confirmation that, while in need of refinement, the argument for using a small jazz combo metaphor to conceptualize leadership in schools is viable and theoretically grounded.

The focus of the second phase of the research was the refinement of the LDI. The confirmatory factor analysis on the revised LDI gave strong empirical support for the three-factor solution. The new factor structure suggests that leadership density in schools can be viewed as primarily being a function of the levels of leadership density for teachers, the levels of leadership density for students, and finally, the degree to which both teachers and students are afforded meaningful leadership opportunities due to the organizational structure of the school. Finally, the item correlations with its own scale provided evidence of discriminate validity.

Nearly twenty years ago Sergiovanni (1987) used the term leadership density while arguing for the inclusion of teachers in the decision-making process in schools. It seems intuitive that a person charged with leadership responsibility should have the need, ability, and willingness to see a task successfully to completion. If, as Sergiovanni argues, teachers should play a substantive role in school leadership, then it is important to determine to what extent the leadership abilities of teachers are distributed within a school. The LDI is designed to measure whether organizational members perceive this to be the case in their particular school setting. Or said another way, the LDI is a way to assess perceptions of the use of human capital within a school.

Grounding the LDI in the small jazz combo metaphor served two useful purposes. First, the metaphor is an appropriate (although certainly not the only) tool for understanding and describing distributed leadership. Secondly, the small jazz combo metaphor provides a readily recognizable mental picture that can be understood regardless of how a person's current organization is structured.

What the measure does not do is provide an independent measure of a school's effectiveness. However, a valid measure of leadership density, used in concert with other constructs known to be correlated to school effectiveness (e.g., school culture, school holding power, teacher self-efficacy, etc.) would be expected to provide useful and important information pertaining to that end. In addition to helping faculty and staff at a school gain heightened understanding of how leadership at their school might be interacting with and influencing constructs correlated to school effectiveness, the LDI would also provide a useful self-assessment tool for the faculty and administration.

Comparisons of teachers' views of the levels of leadership density in their school compared to the administration's perception would be a useful step in creating dialogue for assessing whether the individual talents of organizational members were being used optimally. Since the principal cannot be the ultimate expert on every topic, conversations generated from staff and administration perceptions of leadership density in their school would be expected to provide salient information relevant to the degree to which the talents of organizational members are utilized. Dialogue of the nature alluded to above would be an important means of identifying staff members with the ability, need, and willingness to undertake and successfully complete tasks important to a school's organizational and instructional effectiveness.

Schools would not be limited solely to analysis of faculty/administration relationships in terms of levels of leadership density in the school. In larger schools for example, or in schools that are departmentalized, the LDI could provide important data relevant to the degree to which organizational members' talents are being utilized throughout the various levels of the organization. Teachers that are new to a school and unfamiliar with the concept of leadership density could be in-serviced in the small jazz combo metaphor and then given leadership responsibilities based upon their individual talents and inclinations. The small jazz combo metaphor also lends itself very well to the important task of mentoring new personnel or helping current employees with professional development. Taken collectively, the various ways the LDI could be used in schools and the implications of these uses provide valuable insight into the culture and climate of a school and affirm the practical value of the measure.

Future Research

Though results suggest that valid and reliable inferences can be made from scores on the LDI, future research specifically focused on teachers' perceptions of leadership density in their schools would be useful. We believe it is also important to gain insight into leadership density from administrative and student perspectives and future studies are planned to address these concerns. Additional research will include different school populations, including a study specifically devoted to high schools. The data collected in these studies will be used to see if the validity and reliability of the LDI replicate in different school environments. These additional studies will also provide further clarity to inferences that can be made based upon results of administering the LDI. Once the LDI has been subjected to these processes, longitudinal studies of how school administrators integrate principles of leadership density in their schools and the subsequent relationships of this restructuring to school culture, teacher self-efficacy, job satisfaction, and teacher retention would be appropriate areas for future research.

Future research of the kind described above would be very helpful in adding to the validity and reliability information we have thus far gathered. It is important to understand the theoretical framework for leadership density in schools and its effect upon teaching and student learning. The use of survey methods provides us with a way to gather much data in a timely fashion, thereby affording us the opportunity to conduct analyses, such as structural equation modeling, requiring substantial amounts of data. However, future research into leadership density should also benefit from a mixed-methods approach and should take into consideration the metaphors constraining the school as an organization. For example, quantitative data could be used to identify schools reporting high levels of leadership density. On-site qualitative case studies could

then be undertaken to provide a rich contextual understanding of how leadership density plays out in a school and the degree to which a small jazz combo metaphor describes actual leadership roles and structures.

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Appendix A:

Small jazz combo metaphor characteristics framing the development of the LDI and resulting items

Items from the Original Leadership Density Instrument (LDI)

Small Jazz Combo Feature: Size of Group

School Organizational Corollary: Principals, teachers and/or students working together cooperatively in small groups towards the achievement of school goals.

Items:

In this school...

1. teachers typically work in small groups to accomplish school objectives.
2. teachers regularly use small group, cooperative learning in their classrooms.
3. to accomplish school objectives, the principal typically works with teachers in small groups instead of with the entire faculty as one large group.
4. opportunities for teachers to plan in small groups are built into the schedule.

Small Jazz Combo Feature: Each member of the combo takes ownership of the music.

School Organizational Corollary: Teachers and students voluntarily assume active roles of leadership when opportunities arise.

Items:

In this school...

1. the principal willingly allows and encourages teachers to assume leadership roles.

(continues next page)

2. students voluntarily assume leadership roles when opportunities arise.
3. teachers willingly take on leadership roles as they arise.
4. students volunteer to help each other.
5. students readily volunteer their experience and knowledge with the class.

Small Jazz Combo Feature: Improvisation and Ability to Play Solo or With Others

School Organizational Corollary: Teachers and students view learning as an open process that builds on interest and abilities.

Items:

In this school...

1. the principal encourages experimentation and innovation in regards to teaching and learning activities.
2. diverse solutions to problems are actively solicited by the principal.
3. active experimentation is encouraged in the pursuit of school goals.
4. teachers readily embrace new ideas and change that increase student learning.
5. teachers often try to turn dilemmas into opportunities to accomplish school goals.
6. mistakes in pursuit of school goals are tolerated.
7. students regularly engage in master demonstrations of acquired knowledge.

(continues next page)

Small Jazz Combo Feature: No de-facto leader for the music.

School Organizational Corollary: Tight, structured chain of commands and hierarchies are not the norm (when there is no crisis).

Items:

In this school...

1. the principal has the final say on all important decisions.
2. my job is primarily to teach students.
3. policy is set by the principal.
4. teachers are told what to teach.
5. teachers are told how to teach.
6. teachers in the same subject area are expected to teach at the same pace.
7. a tight chain of command is followed.
8. the principal trusts only a few teachers to perform important tasks.
9. the principal divests leadership to only a few, trusted teachers.

Small Jazz Combo Feature: High levels of collaboration.

School Organizational Corollary: High levels of collaboration exist among staff and students.

Items:

In this school...

1. students have opportunities to make decisions about how they learn.
2. teachers team teach or implement cross curricular activities.

(continues next page)

3. teachers work together to help students, even when the help is not directly related to the subject(s) taught by teachers.
4. teachers recognize the contributions of other teachers to the overall accomplishment of school goals
5. teachers regularly share effective instructional strategies.
6. teachers regularly serve as mentors to other teachers.
7. teachers encourage students to share their knowledge with other students in the class.

Appendix B

Leadership density inventory (Phase I) and revised leadership density inventory (Phase II).

LDI

Definition

This teacher survey asks you to make a series of judgments about your experiences as a teaching professional. Teacher is defined as any full or part time faculty member having direct contact with students on a daily basis.

Instructions

This questionnaire contains a number of statements about things that occur in some schools. Given the following definition of leadership density, take the individual items in this survey and after reading each of the statements carefully, you are asked to judge how you and/or your school actually are. You are to indicate the degree to which you agree or disagree with each statement by darkening the appropriate circle.

Leadership Density Definition

Leadership is defined as purposeful role taking on the part of organizational members, either individually or collectively, that moves the organization towards accomplishment of stated goals. The greater the collective and individual role taking in leadership activities by organizational members, the greater the leadership density.

Rating Scale: __Strongly Disagree (SD)

__Disagree

__Agree

__Strongly Agree

STATEMENTS:

In this school . . .

1. teachers typically work in small groups to accomplish school objectives . . .
2. the principal has the final say on all important decisions . . .
3. the principal willingly allows and encourages teachers to assume leadership roles . .
4. my job is primarily to teach students . . .
5. policy is set by the principal . . .
6. students voluntarily assume leadership roles when opportunities arise . . .
7. teachers regularly use small group, cooperative learning in their classrooms . . .
8. the principal divests leadership to only a few, trusted teachers . . .
9. teachers are told what to teach . . .
10. teachers team teach or implement cross curricular activities . . .
11. teachers work together to help students, even when the help is not directly related to
the subject(s) taught by teachers . . .
12. to accomplish school objectives, the principal typically works with teachers in small
groups instead of with the entire faculty as one large group . . .
13. teachers in the same subject are expected to teach at the same pace . . .
14. teachers recognize the contributions of other teachers to the overall accomplishment
of school goals . . .
15. a tight chain of command is followed . . .

(measure continues)

In this school . . .

16. the principal encourages experimentation and innovation in regards to teaching and learning activities . . .
17. opportunities for teachers to plan in small groups are built into the schedule . . .
18. students regularly engage in mastery demonstrations of acquired knowledge . . .
19. teachers regularly share effective instructional strategies . . .
20. teachers regularly serve as mentors to other teachers . . .
21. diverse solutions to problems are actively solicited by the principal . . .
22. teachers willingly take on leadership roles as they arise . . .
23. teachers readily embrace new ideas and change that increases student learning . . .
24. teachers often try to turn dilemmas into opportunities to accomplish school goals . .
25. active experimentation is encouraged in the pursuit of school goals . . .
26. teachers are told how to teach . . .
27. the principal trusts only a few teachers to perform important tasks . . .
28. mistakes in pursuit of school goals are tolerated . . .
29. students readily volunteer their experience and knowledge with the class . . .
30. teachers encourage students to share their knowledge with other students in the class...
31. students volunteer to help each other . . .

LDI

(revised)

Leadership Density Inventory

Instructions:

This questionnaire contains a number of statements about things that occur in some schools. You are asked to judge **how often** these things occur in your school based on the following definition of leadership density. You should circle the number that best represents your belief regarding each item.

Scale

1	2	3	4	5	6	7
never			sometimes			always

Leadership Density Definition

Leadership density is defined as purposeful role taking on the part of organizational members, either individually or collectively, which moves the organization towards accomplishment of stated goals; the greater the collective and individual role taken in leadership activities by organizational members, the greater the leadership density.

STATEMENTS:

In this school...

1. the principal guides instructional decisions much like a conductor guides an orchestra. . .
2. the principal willingly allows and encourages teachers to assume leadership roles...
3. teachers assume many leadership roles. . . (measure continues)

4. the principal encourages experimentation and innovation in regards to teaching and learning. . .
5. diverse solutions to problems are actively solicited by the principal. . .
6. teachers willingly take on leadership roles as they arise. . .
7. active experimentation is encouraged in the pursuit of school goals. . .
8. students voluntarily assume leadership roles when opportunities arise. . .
9. students readily volunteer their experience and knowledge with the class. . .
10. teachers encourage students to share their knowledge with other students in the class. . .
11. students volunteer to help each other. . .
12. teachers implement cross curricular activities. . .
13. teachers recognize the contributions of other teachers to the overall accomplishment of school goals. . .
14. a tight chain of command is followed. . .
15. students regularly engage in mastery demonstrations of acquired knowledge. . .
16. teachers regularly share effective instructional strategies. . .