School Characteristics Inventory: Investigation of a Quantitative Instrument for Measuring the Modifiability of School Contexts for Implementation of Educational Innovations

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The purpose of this study was to collect reliability and validity data on the School Characteristics Inventory (SCI), a quantitative measure based on Sternberg's (2000) theory of contextual modifiability. Data were collected from a national sample of middle school teachers and from teachers participating in a 3-year study investigating teachers' willingness to implement differentiated instruction or differentiated authentic assessments. Factor analysis indicated 6 factors (School Reputation, General School State, Staff Attitudes, Responsiveness to Change, General Perceptions of the School, and Administration Responsiveness), accounting for 42% of the variance. Reliability estimates of the factors ranged from a low of .76 (Responsiveness to Change) to a high of .94 (School Reputation and SCI Total Scale Score). Quantitative and qualitative data give credence to the reliability and validity of the SCI and tentatively support the organizational modifiability construct theorized by Sternberg.

Introduction

Research on school reform continues to grow as new innovations are proposed and evaluated for effectiveness. Researchers have engaged in ongoing investigations regarding the value of new practices, now numbering in the hundreds (Watson, 2000). Within the field of gifted education, innovations in instructional or service-

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delivery options, such as cooperative learning (e.g., Coleman, & Gallagher, 1995; Robinson, 1991), differentiated instruction (e.g., Abell, 2000), and problem-based learning (e.g., Stepien, Gallagher, & Workman, 1993; VanTassel-Baska, Bass, Ries, Poland, & Avery, 1998) or programmatic arrangements (e.g., Goodlad & Oakes, 1988; Kulik & Kulik, 1992; Oakes, 1985), are all options that have been considered in addressing the unique needs of gifted students. However, the results of these studies are often inconsistent, as school contexts vary widely, and a given intervention might prove to be effective in some school contexts, but not in others. In order to derive more accurate and consistent understandings of the effectiveness of an innovation with gifted students, researchers need to be able to measure and assess to what extent a given school context is modifiable prior to the innovation implementation. Without such assessment, we risk abandoning innovations that might prove effective for gifted students in healthy school environments because the innovations were implemented in environments inhospitable to change.

The question of how to bring about and sustain school change as it relates to better serving gifted students continues to be a topic of considerable concern to theorists, practitioners, and researchers. Researchers have delved deeply into this area, attempting to identify quality characteristics of schools that successfully implement particular innovations (e.g., Bulach & Malone, 1994; Johnston, Bickel, & Wallace, 1990; Schweiker-Marra, 1995; Stevens, 1990; Vesiland & Jones, 1998). Such factors as school climate, group (faculty and administration) trust, group (faculty and administration) openness, instructional leadership, parent involvement, and high expectations for student achievement have been cited as influential in the transformation of schools (Bulach & Malone, 1994; Peterson, 1997; Stronge & Jones, 1991; Watson, 2000). While research has recommended that schools must have these characteristics in order to be effective and successful in reform, Sternberg's (2000) theory of contextual modifiability proposed that successful change in a school *requires* that the school be modifiable in the first place, that is, prior to the implementation of an innovation. Because successful implementation of an innovation can be an expensive pursuit, draining a school's finances and person power, the issue of modifiability should be considered and determined prior to investment in the innovation efforts, particularly when it comes to addressing the academic needs of gifted students.

Sternberg's Contextual Theory of Modifiability

Sternberg (2000) proposed that attempts at school reform often fail because the schools undergoing the transformations lack the necessary modifiability to implement the reforms effectively, not necessarily because the reform plans themselves are inherently flawed. He argued that, before weak contextually modifiable schools can be changed, they must first be made more modifiable (Sternberg).

Extending Vygotsky's notions of individual modifiability and zone of proximal development (ZPD) as an index of individual modifiability, Sternberg (2000) suggestd that a comparable theory of modifiability should exist at the contextual level. Rather than assuming that variation across contexts constitutes "error" (e.g., an intervention works in one school, but not in another), he believes we should first examine the initial state of the school in terms of its modifiability.

The theory of contextual modifiability centers around assessing openness to two kinds of change: surface-structural change and deep-structural change. While Sternberg (2000) noted that this theory could be applied to many levels in the education system (i.e., from central office to classroom), he chose to focus on the school. In a school, surface-structural change refers to the mere addition of an innovation to the basic foundation of the school as it currently exists. The changes are superficial and reflect a school's desire for the *appearance* of change. In contrast, deep-structural change necessitates the complete rebuilding of organizational structures in the school. These changes are more profound and deeply impact the overall nature of the education program. Schools that are open to deep-structural change have a desire for genuine change, rather than merely the appearance of change. In addition to a school's openness to change, school efficacy, or the extent to which a school believes it can handle the educational process, influences the degree to which a school is modifiable.

Contextual modifiability is not a static school trait that is equal across all situations and in all areas. Rather, it is "an interaction between individuals and collectivities within the organization with the organization as a whole" (Sternberg, 2000, p. 13). Because it is based on individuals and organizations, some individuals or departments may be more influenced by changes (and may perceive changes differently) than other individuals or departments. Thus, modifiability cannot be viewed as any *single* property for an entire school. Rather, it should be viewed according to individual and group perceptions.

Sternberg (2000) described eight different types of schools using a mineralogy metaphor based on the various possible combinations of three main factors: Actual Change, Appearance of Change, and Self-Efficacy (pp. 13–18):

- Rusted iron: These schools are low in all three areas. There is a sense of hopelessness in these schools; therefore, the likelihood of either surface-structural or deep-structural change is low.
- Granite: These schools are low in their desire for actual change and the appearance of change, but high in self-efficacy. They do not believe change is needed; thus, the probability of surface-structural or deep-structural change is low.
- Amber (with internal insects): These schools are low in desire for actual change and self-efficacy, but high in desire for the appearance of change. They feel frustrated by the idea that the school is internally flawed, but don't believe any amount of real reform is possible. Thus, the prognosis for surface-structural change is medium low and low for deep-structural change.
- Opal: These schools are low in desire for actual change, high in desire for the appearance of change, and high in perceived self-efficacy. They believe that they "look good" and, therefore, do not need many changes. The likelihood for surface-structural change in these schools is moderately low and low for deep-structural change.
- Cubic Zirconium: These schools are low in desire for the appearance of change, low in self-efficacy, yet high in desire for actual change. They tend to ward off visitors (including researchers) lest their flaws be exposed. The prognosis for surface-structural change is moderately low, and for deep-structural change is low.
- Slightly imperfect diamond: These schools have a high desire for actual change, but a low desire for the appearance of change. They are also high in self-efficacy and generate a mood of denial. In these cases, the potential for surface-structural change is moderately high and for deep-structural change is moderately low.
- Lead: These schools exhibit high desire for actual change and the appearance of change, but are low in perceived self-efficacy. They are impatient, hoping for quick fixes and clear results with little or no research. The probability for surface-structural change in these schools is mod-

erately high; for deep-structural change, it is moderately low. If the school can be made to believe in its capability to effect change, the potential for change can be significantly greatened.

- Diamond in the rough: These schools are high in desire for actual change, appearance of change, and perceived self-efficacy. They are optimistic and confident that change is not only possible in their school, but that change will make their school a better place. They are willing to do what it takes to make their school successful. Obviously, the prognosis for surface-structural and deep-structural change in these schools is high.

Clearly, schools and individuals within a school vary on these three factors (desire for actual change, desire for appearance of change, and perceived self-efficiency), and, in general, higher levels of these qualities result in greater potential for contextual modifiability. Hence, Sternberg (2000) suggested that those who plan to implement change in a school should ask three questions to assess modifiability:

1. How much desire is there for actual change in the school culture as a whole?
2. How much desire is there for the appearance of change in the culture of the school?
3. What is the self-esteem, or opinion, of the school culture as a whole?

To assess a school's modifiability empirically, a 116-item Likert-type scale, the School Characteristics Inventory (SCI) questionnaire, was developed by Sternberg. The purpose of this study was to conduct a reliability and validity study on the instrument. Because no data exist on the instrument, the first study focused on establishing the factor structure of the SCI.

Study I: School Characteristics Inventory Factor Structures and Reliability

Sample

Four hundred fifty-two middle-level teachers and administrators (N = 452) representing 60 schools across the nation participated in the initial development study. Ten copies of the survey, a cover letter explaining the purpose of the study, and self-addressed business reply envelopes were sent to a random sample of contact individuals listed in the National Research Center on the Gifted and

Talented (NRC/GT) Collaborative School District database. The NRC/GT Collaborative School District database is composed of 360 multiethnic and demographically diverse school districts representing every state and two territories (Guam and the Virgin Islands). The contact person was asked to distribute the surveys randomly to middle school teachers and administrators in his or her district. The response rate for completed and returned surveys was 75%.

Instrumentation: The Original School Characteristics Inventory

On the original SCI, survey respondents were asked how closely a series of statements described their school, the parents and community, the school's administration, the teachers, and the staff (other than administrators and teachers). The 116 items were rated on a 4-point Likert-type scale ranging from *not descriptive* to *very descriptive*.

Analysis of Factor Structure

Data were analyzed using a principal factors extraction with varimax rotation using SPSS for Windows 10.1.4 FACTOR subroutine on the original 116-item questionnaire. Prior to principal factor analysis, principal components extraction analyses estimated the number of factors, presence of outliers, absence of multicollinearity, and factorability of the correlation matrices. No cases were identified as outliers, and all other indications suggested the assumptions were not violated. In cases where there were missing data (less than 5% for any item), the mean response for that particular variable was substituted.

Results

Six factors (59 items) were extracted and rotated to simple structure. These factors, collectively, accounted for 42% of the variance across the factor solution. Item means, standard deviations, and structure coefficients are presented in Table 1. Using a minimum factor saliency criterion of ± 0.50 (25% of variance), six factors were identified and named by referring to those items most clearly defining each factor.

The School Reputation Factor. Items highly salient with Factor 1 reflected, as a whole, an overall pride about the school and its pro-

Table 1

Factors, Item Means, and Standard Deviations and Structure Coefficients for the SCI

	$\bar{X}$ (*sd*)	Structure coefficient
Factor 1: School reputation (accounted for 15% of variance)		
The administration in this school believes this school is one of the best in the state.	2.94 (1.00)	.73
Teachers in this school think highly of this school.	3.07 (0.86)	.70
Administrators believe this school provides genuinely high-quality education to students.	3.28 (0.69)	.69
Parents and the community believe this school has a creative educational program.	2.74 (0.84)	.68
Administrators in this school think highly of this school.	3.31 (0.81)	.68
Teachers in this school believe this school has a creative educational program.	3.03 (0.76)	.66
Teachers in this school believe this school provides a very solid education.	3.08 (0.83)	.66
Teachers in this school believe this school provides genuinely high-quality education to students.	3.07 (0.82)	.66
Administrators in this school believe this school provides a very solid education.	3.32 (0.75)	.65
Parents and the community believe this school provides a very solid education.	3.08 (0.71)	.65
Teachers in this school believe this school is one of the best in the state.	2.67 (0.94)	.64
Administrators in this school accurately recognize the strengths of this school.	3.10 (0.89)	.63
Parents and the community accurately recognize the strengths of this school.	2.82 (0.74)	.61
Teachers in this school listen to administrators and benefit from their suggestions.	2.82 (0.82)	.61
Teachers in this school believe this school is "on the way up."	2.83 (0.80)	.61
Parents and the community believe this school is one of the best in the state.	2.42 (0.93)	.61

Parents and the community believe this school is "on the way up."	2.82 (0.79)	.59
Staff members in this school believe this school works well as a system.	2.83 (0.79)	.59
Teachers in this school accurately recognize the strengths of this school.	3.03 (0.74)	.59
Administrators in this school believe this school has a creative educational program.	3.24 (0.76)	.58
Parents and the community think well of this school and are hopeful still for improvement of the school.	3.00 (0.74)	.56
Fundamentally, this school is sound.	3.19 (0.75)	.55
Administrators in this school believe this school is "on the way up."	3.13 (0.83)	.54
Administrators in this school think well of this school and is hopeful still for improvement of this school.	3.35 (0.77)	.54
The mood of this school is positive.	2.85 (0.87)	.54
Teachers in this school feel free to be innovative.	3.08 (0.83)	.51
Teachers in this school think well of this school and are hopeful still for improvement of this school.	3.08 (0.76)	.51
There is a sense of pride in this school.	3.13 (0.84)	.51
The staff in this school is very devoted to the education of the students.	3.07 (0.86)	.51
Teachers in this school listen to other teachers and benefit from their suggestions.	3.05 (0.77)	.50

Factor 2: General school state—negative orientation (accounted for 7.4% of variance)

There is great emphasis on the "quick fix" to make things better.	1.90 (0.91)	.64
Publicity for this school emphasizes show rather than substance.	3.07 (0.89)	.62
Despite dissension, little ever changes in this school.	3.13 (0.90)	.62
This school seems to lack a mission.	3.40 (0.82)	.59

Table 1 continued

	$\overline{X}$ (*sd*)	Structure coefficient
The instructional program of this school has obvious flaws.	3.07 (0.83)	.57
There is a lack of flexibility in this school.	3.09 (0.83)	.56
Parents and the community believe this school once was okay, but now is not nearly as good.	3.36 (0.78)	.52
Parents and the community are frustrated with this school.	3.32 (0.66)	.51
The mood of this school is one of self-righteousness.	3.36 (0.75)	.51
This school has many resources, but they are underutilized.	2.92 (0.86)	.51
There is an emphasis in this school on doing rather than on reflecting about what is done.	2.21 (0.84)	.51
Factor 3: Staff attitudes/state of mind—negative orientation (accounted for 6.7% of variance)		
The staff in this school is burned out.	3.07 (0.88)	.62
The staff in this school is reluctant to talk to outsiders.	1.77 (0.86)	.60
The staff in this school is frustrated with the school.	3.12 (0.88)	.60
The attitude of the staff is grim in this school.	3.47 (0.93)	.58
The staff in this school believe there are obstacles in the system that they just can't get around.	3.00 (0.91)	.51
The staff in this school is pretty much indifferent to the well-being of the students.	3.58 (0.71)	.50
Factor 4: Responsiveness to change—negative orientation (accounted for 6.2% of variance)		
Administrators in this school are apathetic about this school.	3.67 (0.70)	.61
Administrators in this school believe that change would only make this school worse.	1.47 (0.77)	.58

Parents and the community believe that the prognosis for this school is bleak.	3.55 (0.70)	.57
Administrators in this school are despondent about the situation in this school.	3.53 (0.78)	.55

Factor 5: General perceptions of the school—slightly flawed orientation (accounted for 5.0% of variance)

Teachers in this school generally praise this school, except for one major imperfection.	2.39 (0.91)	.73
The staff in this school believes that the school has the potential to be really good if only a major problem with it could be solved.	2.14 (0.91)	.66
Administrators in this school praise this school, except for one major imperfection.	1.94 (0.92)	.63
Parents and the community praise this school, except for one major imperfection.	2.23 0.84)	.58

Factor 6: Administration responsiveness (accounts for 2.2% of variance)

Administrators in this school listen to teachers and benefit from their suggestions.	2.98 (0.93)	.66
Administrators in this school act on teachers' suggestions.	2.75 (0.87)	.62
Administrators in this school accurately recognize weaknesses of this school.	2.60 (0.90)	.56
Administrators in this school are available to talk with.	3.26 (0.88)	.53

grams. Items focused on alignment between the staff's beliefs about the school emphases and their efforts for students.

The General School State Factor. Items most highly salient with Factor 2 reflected a negative orientation concerning the school's imperfections. Items focused on providing excuses as to why such things as a mission, resources, or community support were not in place in the school.

The Staff Attitudes and State of Mind Factor. Items most salient with Factor 3 also reflected a negative orientation surrounding frustration with the school and the obstacles in the school. Items focused on staff apathy and acceptance of conditions. Items sug-

gested an indifference to the well-being of students and staff despondence and resignation to subpar educational programs.

The Responsiveness to Change Factor. Items most highly salient with Factor 4 also reflected a negative evaluation of administrators and parents. Items were reflective of apathy and despondence about the school by the school's administration and parent community.

The General Perceptions of School Factor. Items salient with Factor 5 reflected a slightly flawed orientation about the school's programs, with the exception of one major imperfection.

The Administration Responsiveness Factor. Items salient with Factor 6 generally reflected a positive description of the administration in terms of support, responsiveness, resources, and availability.

SCI Item Analysis

To assess the reliability of the identified six factors, internal consistency estimates were obtained for each factor, as well as the total scale, using the SPSS for Windows 10.1.4 RELIABILITY subroutine. Results of the analysis are presented in Table 2. From the table, it can be seen that coefficient alpha ranged from a low of .76 (Responsiveness to Change scale) to a high of .94 (School Reputation scale and Total scale), and the standard errors of measurement ranged from 1.2 (Administrative Responsiveness scale) to 6.0 (Total scale).

Study II: Validity Evidence for the SCI

According to Cronbach (1970),

> We cannot ask the general question "Is this a valid test?" The question is to ask is "How valid is this test for the decision I wish to make?" or "How valid is the interpretation I propose for the test?" (p. 122)

The intent of this study was to collect validity evidence of the SCI based on the degree that scores obtained from it could be interpreted appropriately. Thus the major question was "What kinds of interpretations can one make based on the results of administration of the SCI?"

Table 2

Reliability Analyses for the SCI Scales

Scale	*k*[a]	$\overline{X}$	*sd*	Scale range	α	SEM
School Reputation	30	88.2	16.9	30–120	.94	4.1
General School State	11	27.5	5.6	11–44	.83	2.3
Staff Attitudes	6	19.1	4.5	6–24	.88	1.6
Responsiveness to Change	4	10.0	2.6	4–16	.76	1.3
General Perceptions of the School	4	8.4	3.0	4–16	.78	1.4
Administration Responsiveness	4	11.5	3.0	4–16	.84	1.2
Total scale	59	156.2	24.3	59–236	.94	6.0

[a]*k* = equals number of items.

Criterion Concurrent Validity

Both quantitative and qualitative data were collected in the schools to assess validity. The larger study (Brighton, Hertberg, Moon, Tomlinson, & Callahan, in press) was designed to follow the same set of teachers (n = 160) in six schools over a 3-year span across two treatment groups: differentiated instruction or differentiated authentic assessment. These 160 teachers completed both the SCI and the Trouble Shooting Checklist (TSC; Manning, 1976) instruments prior to the study implementation in order to assess evidence of criterion concurrent validity of the SCI. The TSC, another paper-and-pencil instrument designed to measure an organization's potential for successfully adopting and implementing educational innovations, is comprised of seven scales that focus on a school's communication patterns, innovative experience, school-based staff, central administration, school and community relations, organizational climate, and students. Table 3 provides a description of the TSC scales.

Pearson product-moment correlations between scales on the TSC and the SCI are presented in Table 4. Of the 56 correlations displayed in Table 4, 37 were significant, although small, at the .05 level, suggesting that there was a relationship between the teachers' responses on the SCI and their responses on the TSC.

Table 3

Trouble-Shooting Checklist (TSC) Scale Definitions

Scale	Scale definition	α
School-based staff	Focused on personality and leadership styles of principals, teachers, and counselors.	.79
Communication	Focused on communication activities throughout the entire school system.	.89
Innovative experience	Focused on a school's experience with innovations and attitudes toward innovations.	.92
Central administration	Focused on relations among the central offices, school, and school board.	.84
Community relations	Focused on such variables as the amount and sources of funding, degree of interest and involvement of community groups in the school system, and attitudes of the community toward the school.	.82
Organizational climate	Focused on the work climate and organizational structure of both the school and the district.	.87
Students	Focused on student behavior, attitudes, and demographic characteristics.	.89
Total		.97

The largest correlations were between the TSC Students scale and each of the SCI's scales, as well as the total TSC scale and each of the SCI scales. The School Reputation scale of the SCI correlated significantly with every scale of the TSC. (Tables 5 and 6 provide means and standard deviation for the SCI and TSC, respectively.)

Table 4

Correlations Between the SCI and the TSC Scales

		TSC							
		I	II	III	IV	V	VI	VII	Total
SCI	I	.336*	.360*	.267*	.228*	.315*	.256*	.595*	.571*
	II	.166	.172*	.140	.114	.010	.138	.363*	.326*
	III	.121	.182*	.102	.115	.111	.078	.422*	.374*
	IV	.209*	.232*	.252*	.220*	.237*	.187	.358*	.301*
	V	.009	-.033	-.057	-.009	-.056	-.015	-.208*	-.232*
	VI	.240*	.422*	.119	.168*	.227*	.131	.408*	.499*
	Tot	.325*	.329*	.236*	.245*	.312*	.252*	.548*	.507*

Note. SCI: I = School Reputation; II = General School State; III = Staff Attitudes; IV = Responsiveness to Change; V = General Perceptions of the School; VI = Administration Responsiveness. TSC: I = School-based staff; II = Communication patterns; III = Innovation experience; IV = Central administration; V = Community relations; VI = School climate; VII = Students.
*$p < .05$, $n = 160$.

Criterion Predictive Validity

As part of an NRC/GT project investigating teachers' willingness to implement differentiated instruction or differentiated authentic assessment (see Brighton et al., in press), evidence of the SCI's validity was collected by assessing each participating school's readiness for adapting an innovation as measured by the SCI and the teachers' subsequent actual adoption of an innovation during the course of the study. The results of analyses of qualitative data collected measuring the actual implementations of the innovations are described along Sternberg's (2000) three salient dimensions over the 3-year period of the larger study. The qualitative descriptors used to categorize schools and presented in Table 7 according to Sternberg are the original descriptions of school types in his theory of contextual modifiability.

Qualitative Data Collection

Target teams, one per grade level at each school, were selected by researchers, school administration, or both to serve as the primary point of study for each school. Criteria for selection of the target teams included racial diversity of teachers, gender diversity, representation of core content areas, and teachers' willingness to partici-

Table 5

Means and Standard Deviations on the School Characteristics Inventory

School	School reputation $k = 30$	General school state $k = 11$	Staff attitudes $k = 7$	Responsiveness to change $k = 4$	General perceptions of school $k = 4$	Administration responsiveness $k = 4$	SCI total $k = 60$
Greene	97.55	36.83	23.41	14.42	8.14	12.29	192.81
	(4.17)	(1.05)	(3.51)	(2.91)	(3.28)	(1.87)	(11.21)
Howard	92.67	36.57	24.64	15.66	6.93	12.89	189.35
	(7.36)	(0.45)	(1.99)	(2.17)	(2.63)	(1.80)	(10.22)
Franklin	87.15	35.58	23.00	15.27	8.40	12.36	180.34
	(8.40)	(0.85)	(3.43)	(1.19)	(2.90)	(2.66)	(14.90)
Cleveland	85.19	36.08	24.07	15.72	8.48	11.70	178.22
	(12.44)	(1.02)	(3.17)	(1.33)	(3.27)	(2.45)	(28.21)
Marshall	85.15	35.88	23.41	14.42	8.14	12.29	177.57
	(9.80)	(1.28)	(3.51)	(2.91)	(3.28)	(1.87)	(20.57)
Langley	82.67	35.95	24.36	14.71	9.00	11.71	176.28
	(7.58)	(0.89)	(1.99)	(2.31)	(2.26)	(2.52)	(13.39)
Haden	80.98	35.83	19.18	14.53	10.38	8.50	169.40
	(6.53)	(0.97)	(3.73)	(1.73)	(2.13)	(2.94)	(10.31)
Parkway	74.87	35.23	18.92	13.87	9.00	9.60	161.49
	(7.66)	(0.55)	(5.26)	(1.82)	(1.41)	(1.95)	(12.10)
Rockford	79.92	36.27	20.57	13.38	7.50	12.18	156.92
	(13.55)	(0.73)	(4.95)	(3.51)	(3.32)	(2.93)	(43.77)

Note. Scale ranges: School Reputation = 30–120; General School State = 11–44; Staff Attitudes = 7–28; Responsiveness to Change = 4–16; General Perceptions of the School = 4–16; Administration Responsiveness = 4–16; Total scale = 60–240.

pate in the study. Varied degrees of qualitative data were gathered from each teacher on the team, depending on his or her willingness to admit access to the classroom and depending on needed information to further develop, refine, or revise the developing themes from the ongoing data analysis. For the purposes of research, all teachers were observed and interviewed at least twice per year for 3 years.

Teacher Interview and Observation Protocols

Semistructured protocols were used to guide all interviews and observations. Areas of focus included: (a) teacher planning, class-

Table 6

Means and Standard Deviations on the Trouble-Shooting Checklist

School	School-based staff $k^{\star}$ = 13	Communication patterns $k^{\star}$ = 15	Innovation experience $k^{\star}$ = 16	Central administration $k^{\star}$ = 14	Community relations $k^{\star}$ = 13	School climate $k^{\star}$ = 15	Student $k^{\star}$ = 14	TSC total $k^{\star}$ = 100
Rockford	33.08	36.92	30.17	20.75	34.08	30.00	39.25	325.54
	(12.27)	(14.66)	(17.13)	(13.48)	(15.35)	(12.94)	(15.11)	(107.61)
Haden	38.94	37.94	41.81	25.94	35.50	41.00	37.00	321.90
	(8.98)	(12.75)	(10.66)	(10.43)	(13.04)	(8.11)	(7.94)	(43.51)
Howard	41.93	44.07	44.22	30.93	41.78	38.89	51.33	369.25
	(8.31)	(11.84)	(14.39)	(17.80)	(13.73)	(11.50)	(8.43)	(34.21)
Marshall	44.43	41.67	38.29	25.86	36.52	36.38	45.48	359.90
	(9.99)	(9.71)	(11.41)	(10.68)	(8.80)	(9.27)	(9.33)	(39.67)
Langley	36.61	42.28	37.17	32.33	37.67	39.00	42.22	345.03
	(10.92)	(13.14)	(14.00)	(13.16)	(10.18)	(10.50)	(8.50)	(34.02)
Cleveland	37.43	43.48	31.81	28.05	38.48	35.90	40.14	347.99
	(12.03)	(12.34)	(14.38)	(12.52)	(12.63)	(11.60)	(15.10)	(50.82)
Franklin	39.58	42.25	40.17	28.25	41.38	38.29	41.33	338.39
	(8.51)	(8.41)	(13.11)	(15.05)	(11.06)	(9.20)	(6.68)	(32.78)
Parkway	40.60	36.20	45.80	27.40	39.60	35.60	34.00	322.29
	(8.08)	(7.33)	(7.01)	(4.04)	(12.66)	(7.64)	(6.16)	(27.14)
Greene	48.71	46.76	48.94	31.35	41.35	44.41	61.76	402.31
	(5.72)	(7.87)	(14.63)	(15.27)	(8.02)	(9.64)	(4.01)	(15.49)

Note. Scale ranges: School-based staff = 0–65; Communication patterns = 0–75; Innovation experience = 0–80; Central administration = 0–70; Community relations = 0–65; School climate = 0–.75; Student = 0–70; Total scale = 0–.500.
$^{\star}k$ = number of items in scale.

room organization, and management; (b) curriculum, instruction, and assessment beliefs and practices; (c) teacher knowledge of content and pedagogy; (d) administrative support and district-imposed influences; (e) student issues (academic, cultural, social, or any combination of the three); and (f) contextual factors, events, and circumstances (e.g., schoolwide concerns, local events). Other topics emerged and were investigated based on individual teacher's experiences, beliefs, and contexts.

Data Analysis

Data were analyzed using a grounded theory approach, including three levels of data coding: open coding, axial coding, and selective coding with a constant comparative method of data analysis (Glaser &

Table 7

Eight Types of Schools in the Theory of Contextual Modifiability

Description	Desire for actual change	Desire for appearance of change	Self-efficacy
Rusted iron	L	L	L
Granite	L	L	H
Amber (with internal insects)	L	H	L
Opal	L	H	H
Cubic Zirconium	H	L	L
Slightly imperfect diamond	H	L	H
Lead	H	H	L
Diamond in the rough	H	H	H

Note. L = Low; H = High.

Strauss, 1967; Strauss & Corbin, 1990). During open coding, the transcribed interviews, observation notes, observer field notes and journal entries, and varied documents (teacher materials and student products) were read for the purpose of determining open, general categories that described, conceptualized, and categorized these data. After an initial reading of each observation, interview transcript for general comprehension, or both, a more careful second reading was conducted, during which each notable incident, idea, belief, action, or combination thereof were noted and initial category labels were assigned.

Following this open coding of the transcript, the researchers generated a written reflection paper about the teacher, the classroom, and the school context, elaborating on the themes and patterns as they emerged. At this phase, initial data labeling and categorization were supported with identified quotes and scenarios in these written reflections. The basic unit of analysis was each individual classroom event, observation, interview, or document.

Lists of general categories were amassed across source and type of data (schools, treatment condition, and teachers) to note repetition and contradictions. Additionally, lists of unanswered questions about individual teachers and school sites were generated.

In the next phase of analysis, axial coding, the researchers configured the emerging themes, attempting to discover relationships

between categories and the subcategories, seeking the context and the conditions of each category. During this phase, the researchers reread the initial data and recategorized and collapsed original labels into more global and refined concepts based on these new insights. Using the more global concepts and particular illustrative examples, the researchers created essays reflecting general descriptions of cause-and-effect paradigms and the conditions necessary to bring about change. These essays, presented below, transcended individual teachers and schools.

Qualitative Descriptions of Schools

Langley Middle School: Softened Granite. The majority of teachers and the administration at Langley Middle School exhibited little desire for actual change in their beliefs and attitudes about teaching and learning. The leadership at the school changed twice during the 3-year connection with the school. Lou Osborn, the first principal, as well as his assistant principal-turned-replacement, Ron Connor, placed little importance on the project as evidenced by words and actions. Connor admitted to "putting the project on the back burner" (Interview, Y3, #2, p. 1) in lieu of other, more pressing issues such as bureaucratic paperwork and walking the halls maintaining order and control. The teachers at Langley were largely independent of administrative influence, and they interpreted their teaching assignments through the lens of the state tests. An observer described the influence of state testing at Langley:

> Attention to the test permeates everything like ecclesiastical incense in a cathedral. It is in the instruction (pervasive [test-like] writing prompts). It is in the teachers' conversations ("This is the kind of problem you will see on [the state test]"). It is in the décor ([state test] posters displayed in each classroom). (Exit Interview, Y3, #1, p. 6)

Some teachers in the school seemed to value the perception of change and wanted affirmation for their meager efforts. However, in response to feedback about their individual attempts to create or implement authentic assessments, some teachers became angry and hostile:

> Rhonda's tone vacillated between very defensive and very angry. She seemed frustrated and took a defensive posture (arms crossed in front of her body, moving backwards as [I] spoke to her.) I heard Rhonda mention that she had given us tasks that she had done with her students on several occasions

> and that we had never shown any interest in them. She claimed to have produced an enormous amount of material for us that we had never pursued. (Field notes, Y3, #2, p. 2)

This teacher's dramatic reaction, characteristic of others at Langley, seemed further evidence that the school's emphasis was more on the appearance of change than on enduring the discomfort associated with actual change. While some individuals seemed focused on gaining attention for their efforts, equal numbers of others resisted change efforts and believed that their existing methods were effective enough. The traditional teaching and assessment behaviors were largely executed in whole-group format with an emphasis on maintaining classroom control.

Because of these attributes, Langley could be described as a softened granite school. It was low in desire for actual change, variable in its desire for the appearance of change, and high in its sense of self-efficacy.

Marshall Middle School: Granite. The school culture at Marshall Middle School reflected little desire to enact deep and substantial change. Melina Wood, the principal, communicated the unimportance of the project objectives through her words and actions. When scheduled to speak at one of the project in-service days, she was absent, later citing off-campus meetings as the reason. She did not participate in professional development sessions and was repeatedly unavailable for project-related interviews and informal discussions. The assistant principal, Cleveland Conroy, served as an informal liaison between the faculty and the principal, and he often sat in on professional development sessions to better support and assist teachers. Despite the limited change in their actual behaviors, the teachers at Marshall believed they provided a sufficient instructional program and that the students were well prepared to take state tests. Classroom instruction was largely traditional: teacher directed, whole group, and focused on basic skills. Despite its disinterest in changing their practices, teachers believed they served children well, maintaining a strong sense of self-efficacy.

Marshall was a granite school. It was low in its desire to enact actual change, low in its desire for the appearance of change, yet strong in its sense of self-efficacy.

Rockford Middle School: Rusted Iron. Located in a neighborhood notorious for its gangs, drugs, and troubled families, Rockford Middle School served a population of students from mostly economically impoverished backgrounds. Teachers assigned to teach

at Rockford were, by and large, assigned there because of various failures in the district's other schools. For the most part, administrators, teachers, and students at Rockford expressed an awareness of the problems inherent in their school. Teachers and administrators seemed acutely aware of the school's low status, attributing this to the school's consistently low scores on standardized testing relative to other schools in the district. As a result, teachers believed that Rockford was the "low man on the district totem pole," with its needs consistently being met last. To support this claim, one teacher cited the fact that the Internet was down at the school for 6 months before it was repaired.

Students' low test scores weighed heavily upon the school, particularly during the years of the study, as the state in which Rockford was located transitioned to a high-stakes testing environment. Pressure to raise student test scores was particularly heavy at Rockford, and many teachers expressed feelings of hopelessness and frustration about their students' chances of passing. In general, teachers at Rockford seemed to perceive the majority of the student population as troubled or at-risk. Teachers talked about the struggle of working with this particular population, mentioning the difficulty they faced in trying to teach students who came from troubled home situations, were involved in drugs, or had turned to prostitution during middle school. Rockford teachers seemed to perceive their jobs as more difficult than those of teachers in other parts of the district; however, they did not seem to view this distinction as a mark of pride or as a challenge, but, rather, as an insurmountable obstacle.

Administrators reacted to Rockford's poor status and poor test scores by clamping down on teachers. The principal of the school sought to hold the reins of power tightly. She oversaw all of her teachers' decisions and emphasized the importance of the high-stakes testing, but the exercise of her power was random and inconsistent. Teachers grumbled about the principal's inconsistencies and expressed insult at her obvious distrust of their abilities.

The attitude that Rockford was a troubled school pervaded the halls and classrooms, as well as the teachers' lounge. Student interviews were riddled with comments about the frequency of fighting in the hall, the general "toughness" of the population, and the resulting necessity of "keeping quiet" and "keeping to yourself" in order to avoid conflict. Students did not appear, however, to be outwardly unhappy at Rockford or even overly negative about the conditions in the school. Rather, they appeared to accept the problems they saw as an inevitable part of school.

The result of these negative attitudes toward the school as a whole was a general sense of apathy. Both teachers and students seemed to live by an unspoken code of mediocrity, of keeping excellence under wraps. As noted above, students spoke of the necessity of keeping a low profile, and teachers, in general, did not seem eager to outshine one another. Members of the Rockford school community did not seem to feel that change was impossible; rather, they did not seem to consider changing and did not seem willing to make the sacrifices necessary to do so when presented with the opportunity to change. In fact, the ethos of the school discouraged teachers from rising above the standard of mediocrity that seemed to be almost a pact among them. Observers noted that a particularly able teacher consciously hid his knowledge of the change initiative when in front of his colleagues and refused to work at a high level with the initiative (even though he repeatedly demonstrated to the observers that he understood the initiative on a deep level) in order to shield himself from his colleagues' censure. In staff-development sessions, he played the class clown, downplaying his intelligence and teaching skills in order to fit in with the rest of the teachers. In class, his teaching performance varied from brilliant and lively to complete chaos.

In summary, Rockford Middle School could be categorized as a rusted iron school. It appeared to be low in desire for actual change, low in desire for appearance of change, and low in self-efficacy. While the general mood of the school could not be described as despondent, it certainly could be described as resigned to both its self-perceived and actual problems.

Howard Middle School: Semiprecious Opal. Howard's school culture seemed to value actual change, with administrators, teachers, and the larger school community joining in the dialogue. Eric Waters, the principal of Howard, established a school culture that supported learning. He described his efforts as enacting a learning culture. "We are always learning. We are never satisfied. What else can we do to make ourselves better for kids?" (Field notes, Y1, #1, p. 1). While the principal worked hard to establish the culture, he did little to support the teachers directly in changing their instructional practices. In the spirit of professionalism, he allowed teachers a great deal of independence and autonomy to make instructional decisions. The result of the principal's hands-off approach was a mixed reaction from teachers regarding the desire for actual change. Some teachers worked through the ambiguity by seeking actual change, reexamining current practices, and learning new instruc-

tional skills. Other teachers seemed less interested in the hard work and discomfort associated with deep change in the school.

Yet teachers at Howard seemed interested in the appearance of change in their building and maintained a high degree of self-efficacy. Observers to Howard frequently commented on the welcoming school environment and the receptivity of teachers to the project researchers:

> That is something I notice about the community at Howard. It embraces new people wholeheartedly and continues to nurture the alliance. Sally [a project teacher] is welcoming and excited to share what her students will be doing in class. (Field notes, Y1, #1, p. 1)

> Teachers recognized and articulated the importance of Howard's reputation. "I was curious about being here, a top-notch place. It's got a good reputation." (Morgan interview, Y2, #5, p. 12)

Howard could be described as a semiprecious opal school. It varied in the desire for actual change, yet maintained a powerful image of involvement in the project. The school had a desire for the appearance of change and maintained consistently high self-efficacy among individual teachers, as well as the collective faculty.

Franklin Middle School: Flawed Amber. The teachers and administration at Franklin Middle School exhibited little desire to enact deep and enduring change. The faculty identified a fatal flaw to their system—state tests—that, if eliminated, might increase their ability to enact more substantial change:

> I think that, if we had one big thing that caused us difficulties, we would say it was the testing part of things because we have so many other tests and mandates in the district that, when we throw other things (like asking for substantial change) on teachers, that just gets unreal. (Principal interview, Y3, #1, p. 3)

Many teachers in the school rejected even the appearance of change, resisting professional development opportunities, and some withdrew consent to participate in the study.

While the faculty at large seemed to reject measures that promoted change in the school structure, a small pocket of teachers banded together to enact their interpretation of new instructional behaviors. Some of these efforts were shallow and misguided, but

these participating Franklin teachers found a route to change in spite of the tests. These efforts, they believed, put them well on the road to change. An observer at Franklin described this subgroup of the faculty as supportive of each other and the study objectives. "This project group has a group identity, and the project is valued by the teachers as a real avenue for professional growth" (Field notes, Y3, #2, p. 2). Franklin's principal, Rita Shepard, emphasized the divide between the faculty by awarding additional planning time and material resources to participating teachers, resulting in hostility and cries of inequity from the nonparticipating faculty members. Her actions signified support of the project objectives, but at the expense of the culture of the school.

Franklin's subgroup of participating teachers highly valued the appearance of change. They enthusiastically discussed differentiated instruction with observers and instructional coaches and were quick to share how much they believed in the new ideas. Classroom activities, however, emphasized show more than substance—efforts that were affirmed by their instructional coach without corrective feedback regarding their misconceptions. In general, Franklin's participating teachers maintained a high sense of self-efficacy, and the nonparticipating teachers remained mired in their unconquerable obstacles.

For these reasons, Franklin could be classified as a flawed amber school. It was low in its desire for actual change and divided in its pursuit for the appearance of change, as well as in its sense of self-efficacy.

Greene Middle School: Opal. Greene Middle School, a magnet school located in a suburb of a major eastern city, was large and modern, with stretching halls and a good deal of open space. The general atmosphere at Greene was one of friendliness and order. Students were well behaved in the halls and moved without incident from one class to another. Greene emphasized the importance of structure, and both teachers and students seemed to work well within this structure. As a result, teachers and students shared the belief that Greene was a good place to be. Both teacher and student interviews were full of references to Greene's excellence. Students were clearly proud of their school. Teachers commented on the high caliber of the student body and expressed feeling "privileged" to work there. However, teachers also noted the large amount of pressure they felt in teaching at Greene. Administrators regularly observed the teachers, and such observations were weighted heavily in their annual evaluations, causing newer teachers great anxi-

ety. Additionally, the interdisciplinary curriculum at Greene demanded that teachers teach at least one subject outside of their content areas. Having to learn new content while teaching it caused many teachers to leave Greene after only a few years at the school. While teachers were quick to say that the pressures at Greene were counterbalanced by the considerable resources available to them and the strong students with whom they worked, the large number of teachers who left the school during the time of the study indicated that this may not be the case. (Note: Greene had a 90% teacher attrition rate in the larger project.)

Despite the pressures of teaching at Greene, teachers agreed that Greene was an excellent school. Most believed that their interdisciplinary focus made them a truly innovative school. Most seemed quite protective of their school, frequently mentioning that the school's test scores were, by far, the highest in the district. One teacher did indicate that he was concerned that Greene's reputation for innovation was being threatened by a new attitude of entrenchment. He expressed anxiety that Greene was "resting on its laurels" and resistant to change.

Surprisingly, at a school where resources were abundant and the student population was largely gifted and talented, school members, including the faculty and the second principal, were not, as the above teacher indicated, supportive of change. Initially, the school, including the first principal, appeared supportive of the study; but, in reality, nearly everyone in the school eventually abandoned it. With the appointment of a new principal, teachers, claiming overload, began to avoid staff-development sessions and the coach. The new principal, while verbally expressing support for the initiative, did little to facilitate the coach's work at the school.

Greene Middle School could be classified as an opal school. Based on the school members' resistance to the change initiative, it was clear that the school was low in desire for actual change. However, the school culture was partially based on the belief that it was an "innovative school," and, therefore, it seemed of great importance that the school be perceived as willing to change and capable of change. Additionally, the school was very high in perceived self-efficacy; clearly, nearly all members of the Greene community felt strongly that their school was one of the finest in the district.

Haden Middle School: Rusted Iron. Haden served as a comparison school and, as such, did not actively participate in professional development or coaching until after the data-collection period was

completed. Between the 2nd and 3rd years of the study, a new principal was appointed at the school, the fifth new administrator in 7 years.

> The new principal's inaccessibility was reminiscent of Haden's earlier administration. Her attitude was condescending. The faculty was beaten up and bitter. Lydia Esmont, the new principal, came in fighting. It was a tactic the school did not need. . . . The faculty is a regiment seasoned with years of infighting. (Field notes, Y3, #1, p.1)

From the beginning of the study, the faculty and administration of Haden seemed hostile toward new ideas. An observer commented on the adversarial relationship between the teachers and the new principal.

> In a site-based management meeting, the principal told the teachers their lesson plans were crap. In a faculty meeting, Esmont's response to a teacher's concern about the continual negative feedback from the principal was, "If you would listen to me, I would help you." She also told the faculty that, if they did not like what she was doing, she would get rid of them. She told one teacher that he was an embarrassment to her as an administrator. Esmont asked another teacher if she had ever written a lesson plan. Such comments can only be interpreted as direct threats to teachers. (Field notes, Y3, #1, p. 3)

Although Haden was eligible to receive professional development services following all data collection, it expressed little interest in the opportunity. When pressed, Esmont agreed to an after-school session for teachers. Prior to the beginning of the in-service, she summoned teachers to the session through a public address system in the school. "You have exactly 5 minutes to get into the library for the differentiated instruction workshop. I will be taking attendance at the meeting. Those teachers not present will be written up" (Field notes, Y3, #5, p. 1). Teachers grudgingly arrived and passively listened to the presenter.

Haden was a rusted iron school. It was low in its desire for actual change, low in its desire for the appearance of change, and consistently low in self-efficacy.

Parkway Middle School: Lead or Rusted Iron. The school's atmosphere was one of unrest and turbulence. The school's halls echoed with the shouts of teachers from inside classrooms and the retorts of angry students. In general, the relationship between students and

teachers seemed to be a battle of wills. Teachers commented on the confrontational attitude of students toward authority figures. Student-to-student interaction in the halls, too, appeared characterized by exchanges of insults. One of the school's administrators noted that, between classes, the halls were filled with turmoil, a turmoil she noted as a contributing factor to Parkway's discipline problems.

Teachers also felt that Parkway was an example of a "problematic school," citing problems with attendance and with discipline as the school's two biggest issues. They perceived student achievement as medium to low, noting that their student population was mostly on grade level, with many below grade level and only a few above. Teachers felt that Parkway needed to focus more on improving student achievement by improving the school on the instructional level. However, most felt that the school first had to address the discipline issues prevalent in the school before that could be accomplished.

One of the school's administrators believed that Parkway was not a high priority in the district and cited the school's general lack of resources as an example of inequities in education based on economic lines. She identified the majority of the student population at Parkway as at-risk and expressed great consternation at the dearth of resources available to them at the school. She felt that the school's largely at-risk population was a deterrent to good teachers and noted that, as a result, her faculty was largely inexperienced and poorly prepared for dealing with student needs. Generally, the administrator seemed very frustrated—and unhopeful of change—by the conditions at Parkway. She did, however, appear deeply committed to the students and was the only administrator who made efforts to accommodate the study. The assistant principal was less willing to meet and discuss the school with observers. Despite their often-busy schedules, Parkway teachers were quite cooperative in terms of meeting with observers.

In general, teachers were not considered part of the decision-making process at Parkway. Instead, the first principal, who was present during the 1st year of the study, and the assistant principal made policy decisions without teacher input and expected teachers to follow. Additionally, this principal and assistant principal took away team planning time and assigned faculty additional duties. These types of top-down decisions angered and frustrated teachers, and, as a result, the principal was not well liked by the faculty. When news spread that she had resigned as principal, the faculty seemed to breathe a sigh of relief.

While the faculty felt that the school climate was much improved under the new principal, he was less cooperative with the study than the previous principal. He did allow teachers more input in the decision-making process. Teachers, however, perceived the atmosphere at Parkway as being much more orderly under his watch. Teachers attributed this change in atmosphere to the new, stricter discipline policies the principal initiated. As a whole, the school community seemed to believe that it had undergone significant change because of the departure of the old principal and the installation of the new. Teachers cited the fact that they wanted to remain at Parkway as evidence of the shift in the school's atmosphere. There was a lingering sense that the school was riddled with so many problems that even these significant changes (as perceived by teachers) did not make Parkway a "good" school, but the atmosphere in the 2nd and 3rd years of the study was more positive than in the 1st year.

Parkway was a school that was high in desire for actual change and high in desire for the appearance of change. All stakeholders were eager to make adjustments to the school that would result in a more comfortable school environment and better instructional practices. However, Parkway appeared to be low in perceived self-efficacy, as nearly all school members mentioned the numerous problems plaguing the school.

Parkway, in some respects, appeared to be a lead school. The changes that occurred at Parkway were not gradual changes evolving out of careful planning. Rather, the changes were surface-level, as a result of the change in principals. While the climate of the school did alter significantly with the principal switch, no major changes occurred on the instructional level, although they were needed desperately.

In other ways, however, Parkway appeared to be more like a rusted iron school. Teachers and administrators did not seem to think that a quick fix was what their school needed; rather, they recognized that deep-structural changes were needed. But school staff seemed uncertain that deep-structural change could be accomplished. While school personnel did not seem to feel that the prognosis for the school was hopeless, they were realistic about the level of changes—and about the amount of time it would take to make the changes the school required before it was functioning as a good school.

Cleveland Middle School: Diamond in the Rough. Cleveland Middle School served students from diverse socioeconomic backgrounds and of varied academic readiness levels in heterogeneous classrooms. Although the school employed a security officer, the

school's halls were orderly and calm, and neither violence nor disruption were usual occurrences.

Cleveland teachers seemed content with their jobs and their school and, like their principals (there were two different principals over the course of the study), seemed to hold a positive view of both the school and the students. The first principal appeared supportive of change and open to innovative ideas. However, she was not an instructional leader and gave her faculty a wide berth in making instructional decisions. The second principal was more involved in teachers' classrooms, conducting regular observations and discussing possibilities for improvements in teacher practice. The second principal appeared knowledgeable about the innovations she suggested. She was eager for her faculty to receive the "treatment," continually seeking opportunities to learn more about the innovation and making plans for staff development at the conclusion of the study. She seemed confident that her faculty had great potential for mastering the innovation and held continual teacher learning in high esteem. During the course of the study, the school was involved in ongoing staff development in applied learning, an innovation about which teachers frequently talked. While she certainly had a high opinion of the potential of her faculty, the principal was also very realistic about how far they had to go.

Teachers at the school also seemed willing to change, although, as in most schools, some were more eager than others. In general, the school's veteran teachers appeared to be more resistant to innovation than the less-experienced teachers.

Cleveland appeared to be a diamond-in-the-rough school. The culture of Cleveland was one eager to implement real change, desirous of the appearance of change, and possessing high self-efficacy. The mood at the school was positive and energetic; both teachers and administrators were open to changing their practices. The principal seemed confident that continual change and progress were the keys to the school's success.

Comparison of SCI Qualitative Descriptions and SCI Quantitative Results

Quantitative data collected from teachers in the completion of the SCI and the qualitative data collected over the 3-year study were used to examine predictive validity of the SCI. While the original SCI survey was modified based on the factor-analysis results, we were interested in the degree to which total scores on the SCI rank-ordered schools on the continuum of rusted iron (low capacity for modifiabil-

Table 8

Project Schools Contextual Modifiability Classifications

Description	Desire for actual change	Desire for appearance of change	Self-efficacy
Greene (opal)	L	H	H
Howard (semi-precious opal)	V	H	H
Franklin (flawed amber)	L	V	V
Cleveland (diamond in the rough)	H	H	H
Marshall (granite)	L	L	H
Langley (softened granite)	L	V	H
Haden (rusted iron)	L	L	L
Parkway (lead or rusted iron)	V	V	V
Rockford (rusted iron)	L	L	L

L = Low; H = High; V = Variable.

ity) to diamond in the rough (high capacity for modifiability) as originally presented by Sternberg (2000). Table 8 displays each school's description based on qualitative data and the mean total SCI scores.

Based on total SCI scores and the qualitative descriptions, the classification of the type of schools generally aligned with hypothesized theory (Table 8). That is, schools with the lowest mean SCI value were also the schools that were classified as rusted iron schools. The only exception to this was the classification of Cleveland. Based on Cleveland's SCI scores, they would have been classified as a granite school. However, based on qualitative data, a diamond-in-the-rough classification was assigned.

Discussion

The present data analyses give credence to the reliability and validity of the SCI and tentatively support the organizational modifiability construct theorized by Sternberg (2000). Obviously, these results are only tentative and are in need of replication in other school settings considering adopting an educational innovation. The SCI seems promising as an instrument for measuring the modifiability

of a school in regards to adopting and sustaining an educational innovation. Such an assessment could inform district or school administrations of particular areas of a school culture that are fragmented or that need to be attended to prior to undertaking school reform. However, it is advisable to continue to gather data to gauge these same indicators over time, since interactions between individuals and their context likely affect continued capacity and willingness to adopt and sustain an educational innovation.

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