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Data-Driven Intervention: A High-School Case Study

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Statement of Purpose

The importance of linking research results to practice is widely acknowledged but rarely implemented. Recently, an attempt was made to improve school performance by analyzing school climate and as necessary developing techniques to improve climate and thereby improve school performance at Southeast High School, a pseudonym. This paper is intended as a guide to assist working administrators in using research in school improvement projects.

Theoretical Framework

Climate is defined as “a general concept that captures the atmosphere of a school . . . [and] is experienced by teachers and administrators, describes their collective perceptions of routine behavior, and affects their attitudes and behavior in the school” (Hoy, Smith & Sweetland, 2003, p. 38). From Halpin and Croft’s (1963) research in the 1960s to the organizational climate research today, the concept has been expanded and applied to school improvement (Hoy & Miskel, 2008). School climate is described as the “teachers’ perceptions of the general work environment of the school; the formal organization, informal organization, personalities of participants, and organizational leadership” (Hoy & Miskel, 2008, p. 198). An open school climate is evident when members of the organization are cooperative and respect each other. A principal in an open climate is more apt to consider the opinions and suggestions of teachers and treat others with professional respect (Hoy & Miskel, 2008).

Hoy and Miskel describe three levels of responsibility within the school that contribute to organizational health: institutional, managerial, and technical (Hoy & Miskel, 2008). The institutional level is one that links the school with its environment. The Board of Education is associated with this level and can help or hinder the school’s integrity, which, in this situation,

refers to the ability of the school to maintain its programs while adapting to the environmental pressures and interferences. The managerial level, consisting of the superintendent and school administrators, deals with the internal workings of the school. At this level, there are four key aspects: principal influence, consideration, initiating structure, and resource support. Finally, the technical level incorporates teachers, who are the most directly responsible for teaching and learning. This level deals with morale and academic emphasis.

A healthy organization occurs when the all three levels work together; the school is protected from outside pressures, teachers respect and trust each other and have high standards for achievement among their students, resources are available, and students are motivated (Hoy & Miskel, 2008). In contrast, an unhealthy organization deals with community and parent demands, there is little leadership and direction, morale is low, teachers do not trust or respect each other, and there is little push for academic excellence from teachers or students.

Organizational health, as measured by the Organizational Health Index (OHI), which identifies a healthy school as one that is successful in dealing with the environment and uses the resources it possesses to reach its goals, is a framework grounded in Parsonian theory (Hoy, et al., 2003). A second climate measure drawing solely on empirical description is the Organizational Climate Description Questionnaire (OCDQ), which captures climate as the interactions among teachers and between teachers and the principal. The metaphor of OCDQ is personality that is either open or closed. The Organizational Climate Index (OCI) was constructed to generalize across both climate measures (OCDQ and OHI). A second-order factor analysis was done on the subtests of the OHI and OCDQ and resulted in a more parsimonious conception of climate, operationalized as the OCI.

For this paper, climate is measured using the OCI, which encompasses four dimensions: collegial leadership, professional teacher behavior, achievement press for students, and institutional vulnerability. Collegial leadership combines structuring behavior with the maintenance of social relationships. Professional teacher behavior supports activities guided by an intellectual appreciation of the teaching task. Achievement press “describes a school that sets high, but achievable academic standards and goals.” Institutional vulnerability, also called environmental press, “is the extent to which the school is susceptible to a few vocal parents and citizen groups” (Hoy, et al., 2003, p. 42).

Organizational health can be improved by incorporating shared decision-making teams to elicit participative leadership among teachers. Many educators, however, are not accustomed to being involved in school-level decisions and need time to adjust to the process. “Involving others in making decisions is often a necessary part of the political process for getting decisions approved and implemented in organizations” (Yukl, 2002, p. 80). Yukl describes the advantages of participative leadership, which involves others in the decision-making process. “Four potential benefits include higher decision quality, higher decision acceptance by participants, more satisfaction with the decision process, and more development of decision-making skills” (Yukl, 2002, p. 83). Furthermore, Louis, Kruse, and Byrk promote the benefits of collective efforts “that are directed toward the improvement of their schools’ performance” rather than the efforts of individual teachers (Louis, Kruse, & Byrk, 1995, p. 10).

When teachers and school leaders have similar concerns and work cooperatively, shared decision making can be effective. If teachers trust the principal, they will view their role in decision making as legitimate. Those who help in making decisions are more likely to support such decisions and encourage others to do the same. “People are more likely to perceive that

they are being treated with dignity and respect when they have an opportunity to express opinions and preferences about a decision that will affect them” (Yukl, 2002, p. 84). Moreover, as teachers perceive themselves to be valuable members of the organization, they are more apt to feel empowered and invested in the organization (Yukl, 2002).

Rationale for the Study of Southeast High School

The rationale for this study arose from concerns of the leadership team about low teacher morale and student disciplinary problems. Southeast High School was created eight years ago as a result of the restructuring of a mega-school into three smaller schools to promote smaller learning environments and thus increase student participation and performance. Led by the principal, a task force looked at the restructuring goal of creating smaller school communities and decided on a vision of students, faculty, and parents working together to produce graduates who are not only successful academically, but who exhibit character and leadership in a school that is the center of the community. Experience and the research literature led us to develop a shared vision of the school through visible symbols, rituals, and ceremonies. Through a common affiliation with the school, faculty, staff, students, parents, and others in the community participated in the spirit of the school. Because the school was new, a higher level of involvement might be expected; nonetheless, everybody had the feeling that the entire community supported the school.

Six years later obvious changes had occurred and the feelings of unity that had pervaded the school were gone. The population had grown, with the poverty level shifting from 40 percent the first year to almost 50 percent in the fifth year. The feeder middle school suffered several continuous years of leadership changes and turmoil, leading to the exodus of a number of middle-class families from the system. Additional turnover in faculty brought in new teachers

who had not experienced that initial bond and did not share the vision or the culture that the rest of the school did. Although efforts were made to include those teachers in the culture, they were not successful for all faculty members.

Furthermore, discipline problems increased. From the two students involved in the only fight the first year (SASI Discipline Report), the numbers grew to 35 students involved in fights the second year, to 56 students the third, and 88 the fourth (STI Office Discipline Report). Three consecutive losing seasons in football contributed to a reduction of school spirit. Fewer students earned advanced diplomas, moving from 71 the first year to 66 the second, even though the class was larger (SACS Self-Study). Increased accountability, especially the expectations and requirements for a school in school improvement, also contributed to teacher anxiety. Additional pressures and stresses placed on the school included severe financial challenges as a result of state-wide budget cuts, a reduction in administrators from four to three, and the increase in classroom accountability with weekly walk-through observations conducted by local school as well as central office personnel. All of these factors indicated that the positive culture established during the first year had changed, and that stakeholders needed to look at that culture of values and determine what actions should be taken.

In addressing the concerns identified by both the OCI and additional research, the principal and leadership team turned to three general strategies for changing culture and climate: the clinical strategy, the growth-centered strategy, and the normative procedure (Hoy & Miskel, 2008). The growth-centered strategy can be used at the beginning of the process to set assumptions and help stakeholders begin thinking toward change. The norm-changing strategy can identify how things are in order to determine how the stakeholders want things to be.

The most thorough of the three, in terms of clear steps that lead to action, is the clinical strategy, which can help the principal and leadership team create an action plan to deal with the areas identified as needs. In fact, the first step in the clinical strategy was to gain a thorough knowledge of the organization, information partially derived from results of the OCI. Additional information was gathered using student discipline reports, ACT, PSAT and AP assessment scores, and the numbers of students participating in extra-curricular activities. Southeast High School began to use this strategy in its effort to effect change in the climate of the organization, starting with a task force of teachers, students, and parents to determine potential trouble areas.

Methodology

As a response to an increase in disciplinary incidents and perceived lack of unity among the faculty, the principal and leadership team of Southeast High School wanted to assess the climate of the school. They selected the OCI, a 30-item climate scale developed by Hoy, Smith, and Sweetland, which was completed by the majority of the faculty. As a result, a clinical intervention strategy of diagnosis, prognosis, prescription, and evaluation was chosen to address the concerns identified by both the OCI and additional research (Hoy & Miskel, 2008). The OCI instrument was completed by the majority of the faculty in fall 2008, spring 2009, and fall 2009.

Diagnosis

The OCI surveys revealed an unsettling picture of collegial leadership, professional teacher behavior, achievement press, and institutional vulnerability, all of which were below the norm. Teacher professional behavior and achievement press fell into the bottom 14th percentile of schools. Furthermore, several areas were identified, including low teacher morale, high behavior problems, underachieving students, and poor parent/teacher interaction.

Prescription

The first step taken by the leadership team toward changing the school climate was the establishment of a faculty task force and eventually a student task force as well. To raise collegial leadership the principal developed the leadership team, known as the faculty task force, and held informal meetings to pursue educational aims. To improve professional teacher behavior staff development was changed to focus more closely on classroom performance. “We call this framework *professional community* to emphasize our belief that unless teachers are provided with more supporting and engaging work environments, they cannot be expected to . . . teach today’s students more effectively” (Louis, et al., 1995, p. 4). To promote professional community federal funds allotted for school improvement were used to provide teachers time for professional conversations about best practices, collaborative and reflective planning, and sharing of student progress.

To emphasize academic press faculty identified students who were struggling academically and provided additional support in the form of tutorials, peer support, remediation, after-school services, and where possible a more favorable student-teacher ratio. The goal of the student task force was to increase student involvement in extracurricular activities, recognition of achievement, and school pride and spirit. A peer mediation team, sponsored by faculty members but manned primarily by students, was established to help students resolve conflicts in non-violent ways.

Evaluation

Informal evaluations were conducted at each leadership team and task force meeting through discussion of members’ observations and data derived from discipline reports, standardized test scores, extra-curricular participation records, and classroom walk-through

observations. Two subsequent administrations of the OCI instrument provided additional data about the ongoing reform efforts.

Findings

The faculty, leadership team, and task force gathered data over two years to assess the influence of the strategies on school climate. Climate scores for collegial leadership increased from 480 in fall 2008 to 492 in spring 2009 and finally to 583 in fall 2009 (Figure A). This growth represented a standard deviation unit, which was significant. The score of 583 demonstrates that Southeast High School is higher than 75% of the schools. The second dimension measures professional teacher behavior (Figure B). The initial scores were in the bottom 10 % of the sample of high schools that made up the normative sample. Climate scores for professional teacher behavior increased from 329 in fall 2008 to 423 in spring 2009 and finally to 460 in fall 2009. Although improvement occurred, the school score is still slightly below the norm.

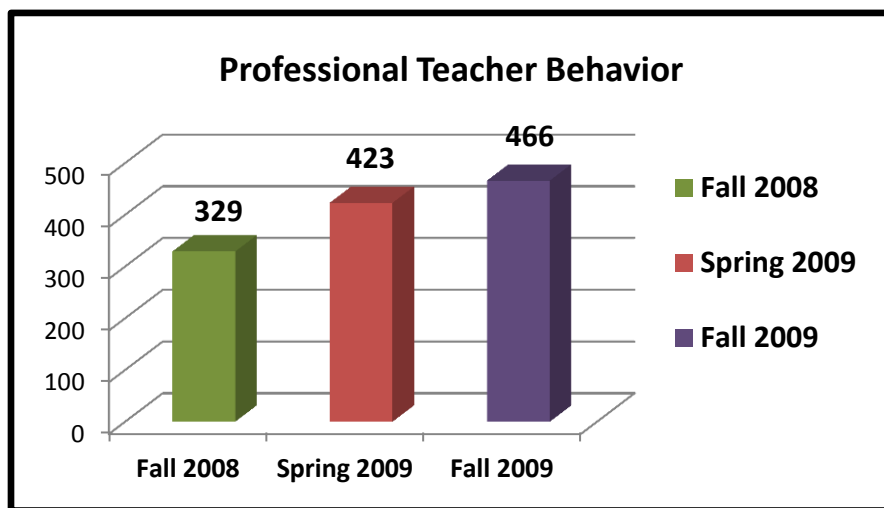


Figure A

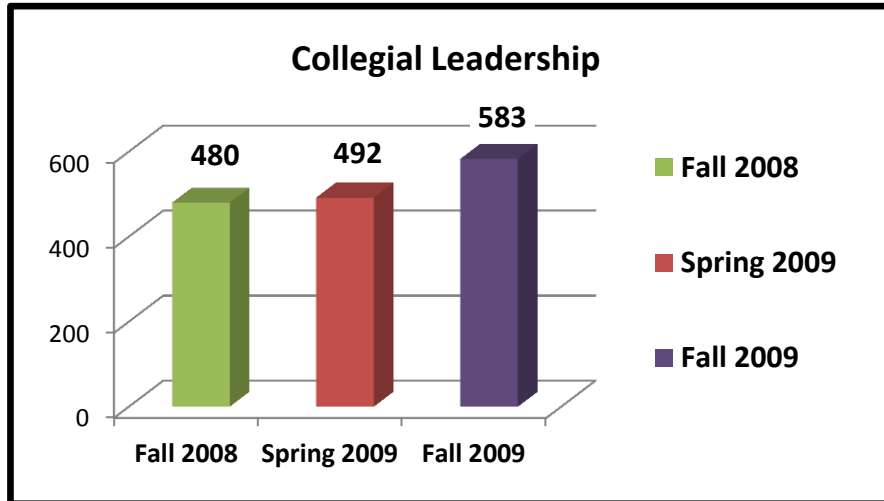


Figure B

Achievement press, the third dimension, demonstrates the degree to which teachers establish high academic standards for their students. Climate scores for achievement press increased from 370 in fall 2008 to 406 in spring 2009 and finally to 446 in fall 2009 (Figure C). The fourth dimension, institutional vulnerability, indicates how susceptible the school is to a small number of parents and citizen groups. Climate scores for environmental press increased from 488 in fall 2008 to 517 in spring 2009 and finally decreased to 375 in fall 2009 (Figure D).

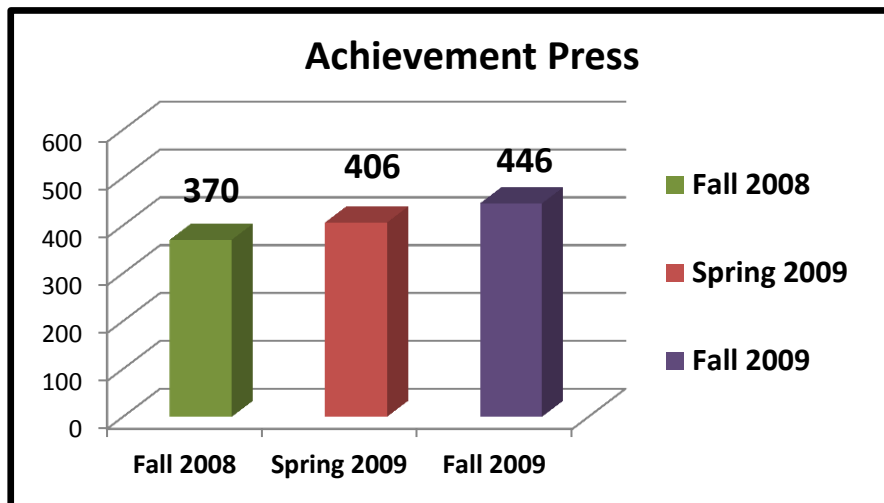


Figure C

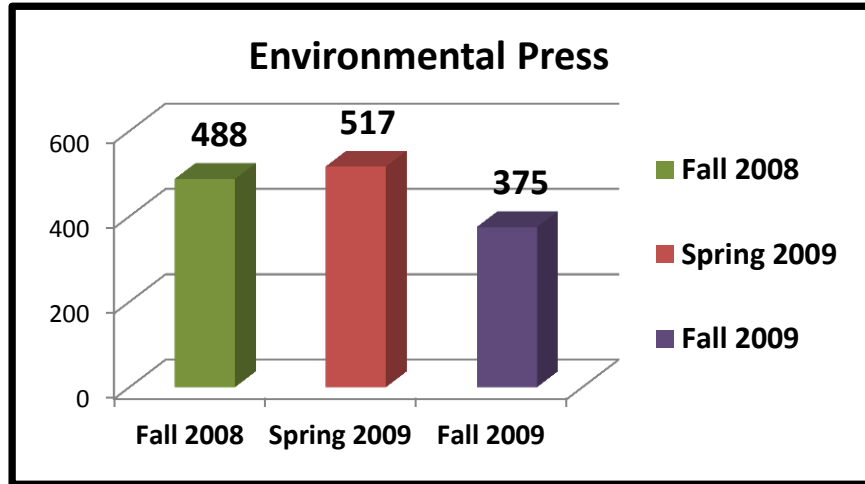


Figure D

Conclusion

Collegial leadership improved dramatically because of opportunities for leadership for faculty members. Teachers were involved in shared decision making through participation on the faculty task force, leadership team, professional development committee, and school improvement team. Members of the faculty task force were primarily instrumental in proposing and overseeing strategies to effect change in the school climate and culture. When faculty members spent more time focused on academic goals for students, achievement press increased. Empowering teachers through leadership and shared decision making may not be sufficient for reform to occur. “We contend that for empowerment to work to the advantage of students and teachers, a shared commitment to a fundamental change of teaching practice must emerge” (Louis, et al., 1995, p. 13).

Efforts to improve the quality of instruction included training and implementation of several state-sponsored initiatives that promoted best practices. In order to determine the impact of these strategies, the leadership team organized walk-through observations, data meetings, professional conversation targeted to specific school needs, and peer coaching and modeling.

At Southeast High School professional teacher behavior increased as a result of collaborative decision making and school-wide efforts. “Perhaps collegial leadership and professional teacher behavior play supporting roles in the development of faculty trust, but institutional vulnerability is likely to inhibit the development of such trust” (Hoy, et al., 2003, p. 43).

In contrast to the first three constructs, environmental press decreased, which suggests that teachers and principals felt protected and relatively insulated from community pressures (Hoy & Miskel, 2008). We interpret this to mean that as the school gained confidence in its programs, it was less subject to community opinion. Instead, the administration and faculty felt they were on strong professional grounds in the decisions. The substantial change in environmental press probably means that the school is establishing its own legitimacy in making educational decisions. Hoy and Miskel argue “that organizational health is positively related to student performance; in general, the healthier the school climate, the higher the achievement levels . . . of high school students” (Hoy & Miskel, 2008, p. 206).

After two years of implementation, Southeast High School has had more faculty socialization, celebrations of student achievement, and ceremonies to promote school programs. The most important feature of our work is that school improvement guided by survey data is achievable. “Healthy schools are likely to have committed teachers who trust each other, who trust the principal, who hold high academic standards, who are open, and who have students who achieve at high levels” (Hoy & Miskel, 2008, p. 206). The OCI provides the diagnosis, while the clinical intervention process acts as a prescriptive guide for improvement. We offer this study as a model in which data are used to frame a better school climate for all stakeholders.

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OCI

Directions: The following are statements about your school, Please indicate the extent to which each statement characterizes your school from **rarely occurs** to **very frequently occurs**.

	Rarely Occurs	Sometimes Occurs	Often Occurs	Very Frequently Occurs
1. The principal explores all sides of topics and admits that other opinions exist.	1	2	3	4
2. A few vocal parents can change school policy.	1	2	3	4
3. The principal treats all faculty members as his or her equal.	1	2	3	4
4. The learning environment is orderly and serious.	1	2	3	4
5. The principal is friendly and approachable.	1	2	3	4
6. Select citizens groups are influential with the board.	1	2	3	4
7. The school sets high standards for academic performance.	1	2	3	4
8. Teachers help and support each other.	1	2	3	4
9. The principal responds to pressure from parents.	1	2	3	4
10. The principal lets faculty know what is expected of them.	1	2	3	4
11. Students respect others who get good grades.	1	2	3	4
12. Teachers feel pressure from the community.	1	2	3	4
13. The principal maintains definite standards of performance.	1	2	3	4
14. Teachers in this school believe that their students have the ability to achieve academically.	1	2	3	4
15. Students seek extra work so they can get good grades.	1	2	3	4
16. Parents exert pressure to maintain high standards.	1	2	3	4
17. Students try hard to improve on previous work.	1	2	3	4
18. Teachers accomplish their jobs with enthusiasm.	1	2	3	4
19. Academic achievement is recognized and acknowledged by the school.	1	2	3	4
20. The principal puts suggestions made by the faculty into operation.	1	2	3	4
21. Teachers respect the professional competence of their colleagues.	1	2	3	4
22. Parents press for school improvement.	1	2	3	4
23. The interactions between faculty members are cooperative.	1	2	3	4
24. Students in this school can achieve the goals that have been set for them.	1	2	3	4
25. Teachers in this school exercise professional judgment.	1	2	3	4
26. The school is vulnerable to outside pressures.	1	2	3	4
27. The principal is willing to make changes.	1	2	3	4
28. Teachers "go the extra mile" with their students.	1	2	3	4
29. Teachers provide strong social support for colleagues.	1	2	3	4
30. Teachers are committed to their students.	1	2	3	4

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