A Time to Summarize: The Louisiana School Effectiveness Study

We can expect refinements in school improvement from research-based models, but schools and districts already have the means for creating effective schools at their disposal—starting with determination, dedication, and common sense.

In 1977, as part of Louisiana's first accountability mandate, the legislature directed the state department to undertake a thorough examination of conditions related to school achievement among Louisiana's elementary school children. We designed a long-term study to include data on socioeconomic levels of students; perceptions of teachers, students, and principals about their schools' climates; and frequency counts of teacher behaviors such as time on task and amount of assigned homework. Officially titled the Louisiana School Effectiveness Study, the investigation has progressed through three phases, with two remaining to be conducted.

During 1981-82, we conducted the pilot study (Phase I), field-testing questionnaires based on the work of Wilbur Brookover and his colleagues (1979), which we reported earlier (Teddlie, Falkowski, and Falk 1982). For Phase II, we selected a stratified random sample of 76 elementary schools from 12 districts representing urban, suburban, and rural areas of northern, central, and southern Louisiana. Then we administered questionnaires on school climate, self-concept, and other variables to the 76 principals, 250 3rd grade teachers, and more than 5,000 3rd grade students in those schools. The students also took a nationally normed achievement test. During on-site visits to the schools, we gathered additional information about school characteristics and secondary data about socioeconomic status (SES).

In the third phase of the study, we compiled detailed case histories of 16 schools. The 16 were selected to comprise eight locally matched outlier pairs. These pairs were selected to fulfill three criteria: they were from the same geographic region, they were located in similar economic contexts, and they were dissimilar in performance. In each pair, one school had had for two prior years significantly higher performance than would have been predicted, and one much lower. To conduct a more detailed analysis, we introduced elements of teacher effectiveness within a school effectiveness design. At each school in fall and spring, teams of observers collected low- and high-inference classroom observational data (time on task, questioning and response patterns, and the like) and schoolwide on-site data (qualitative data as to safety, cleanliness, orderliness, and the like). See Stringfield and Teddlie 1987b and Teddlie et al. 1984 for detailed presentations of the methodology, instrumentation, and findings of the three completed phases.

Phases IV and V are scheduled for completion by 1990; at that time we hope to construct data-based models for the development of effective schools. In this paper, we will present a summary of our conclusions to date and describe our impressions of the ways districts create effective or ineffective schools.

Significant Outcome Variance at the School Level

Clearly, there are differences among schools; what is important, if we are to improve schools, is to ask whether that variance can be attributed to readily alterable variables. In the first three phases of the study, the answer has consistently been "yes." First, we determined the percentage of school-level variance in 3rd grade scores on a norm-referenced achievement test. We found that 75 percent of the variance was between students within classes; in other words, it could be attributed to individual differences between students, not to conditions within the schools.

Of the remaining 25 percent, we found that 12 percent could be attributed to individual differences between teachers within schools, differences in teaching behavior patterns and the like. The final 13 percent, however, could be attributed to differences among schools, that is, to conditions within the individual schools: the alterable variables affecting motivation, engagement, opportunity to learn, and the like (Stringfield and Teddlie 1987a).

To say it another way, differences in schools have a slightly greater effect on student achievement than differences in teachers; both these effects show that schools and teachers, not just the socioeconomic status of students, do strongly influence achievement.

The Relationship Between Outcome and Process Measures

Before educators try to "install" in schools the attributes of school effectiveness, they need process/outcome relationships they can depend on, reflected in stable, predictable measures over time. (See Ralph and Fennessey 1983, Rowan et al. 1983). During the Louisiana study, many schools produced stable outcomes for three consecutive years. Our school climate surveys produced relatively stable factors during three separate phases of the study.

In our detailed study of the 16 Phase III schools, we found that test scores and climate measures were stable when school conditions were stable, and unstable where major changes were occurring. Not surprisingly, schools that were undertaking school improvement projects or adjusting to new principals often reflected those changes in unstable climate and outcome measurements.

The Influence of "Readily Alterable" Variables

Since "school climate" variables have so often been correlated with socioeconomic status (Brookover et al. 1979), we used second-order factor analysis to separate these variables. That is, the major factors from the students', teachers', and principals' questionnaires were entered into a single, cross-group second-level analysis. We found that factors involving teachers' and principals' expectations for students' long-term achievement were still highly correlated with socioeconomic status. However, several factors independent of socioeconomic status were associated with achievement, most notably: (1) student perception of positive academic climate, (2) principals' sense of school efficacy, (3) family commitment to education, (4) student sense of long-term educational achievement, and (5) absence of a negative school climate.

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There are two implications of these findings. The first is that many concepts that look similar on printed questionnaires and on first-order factor analyses (for example, principal, teacher, and student educational expectation factors) are educationally separate. Although teachers' and principals' educational expectations for their students were highly correlated with socioeconomic status, students' educational expectations were not correlated with socioeconomic status. Our findings show that *student sense of current and future academic accomplishment* and *student sense of academic futility* added the greatest non-SES variance to the prediction equation. Second, when the second-order factors were entered into a prediction equation, both individually and as more or less easily alterable groups, the more readily alterable variables proved the better predictors of current levels of achievement. These relationships support the view that what schools do can dramatically affect student achievement, regardless of socioeconomic status.

Contextual Variables Leading to Effectiveness

The Louisiana study examined characteristics of effectiveness in differing contexts, capitalizing on the work of Stallings and Kaskowitz (1974) and Brophy and Evertson (1976, 1978), in which differing sets of teacher behaviors predicted high achievement gains in different socioeconomic contexts.

In Phase II, students were asked to rate the extent to which they felt teachers helped students who were having academic problems. In the high-achieving low-SES schools, students answered the question more affirmatively than did their peers in the "typical" low-SES schools, who in turn expressed a greater perception of teacher help than did students in the ineffective low-SES schools. Among middle-SES schools, no such trend was apparent.

The same pattern emerged when teachers were asked how often their principals helped them with academics. In low-SES schools, the most affirmative responses were from teachers in effective schools, followed by those in typical, and then those in ineffective schools. Again, no significant pattern emerged in middle-SES schools.

Sadly, teachers in the effective low-SES schools reported the greatest lack of perceived support from their communities and felt the least successful of any of the teacher groups. These teachers, who were doing an excellent job against considerable odds, reported no personal awareness of their own accomplishments. Neither their district offices nor their principals were providing them with clear rewards and recognition for their considerable, successful efforts.

Finally, principals in the effective low-SES schools were the most likely to report exerting personal influence on the teacher hiring process in their schools. For a complete report on our contextual findings, see Teddlie et al. 1984 and Wimpelberg, Teddlie, and Stringfield, in press.

Connections between Teacher- and School-Effectiveness

Logically, whatever the effects of schools, they are generated through teachers and curriculums. Recently, researchers have linked teacher-effectiveness and school-effectiveness (Barr and Dreiben 1983, Rutter et al. 1979, Crawford and Raia 1988, and Mortimore and Sammons 1987), indicating a teaching component (e.g., time on task, moving more quickly through the curriculum) in school effects.

In Phase III we gathered extensive classroom observational data in 16 schools over a complete school year. Our findings replicated and went beyond the above prior findings. As can be seen in Figure 1, significantly more "interactive instruction" (Stallings 1980), higher percentages of student time on task, and more "direct instruction" (Rosenshine 1983) were occurring in the effective schools. Our analyses are continuing, but we feel safe in saying that schools become more effective when students receive more effective teaching.

	Effective	Ineffective
From Low-Inference Classroom Snapshot		
% Time in interactive instruction	42%	34%
% Time off task	26%	31%
From High-Inference Classroom Observation System		
Coding system: 1 = clearly present/of high quality 3 = absent/of low quality		
Generally high student on-task rate	1.25	1.99*
Clear presentation of new material	1.30	2.00**
Student practice after presentation	1.52	2.12
Teacher conveys high academic expectations	1.25	1.80*
Classroom orderly but not oppressive	1.31	1.82**
Aggregated classroom process rating	1.29	1.74**

* $p < .050$ one-tailed Wilcoxon Signed Rankings Test
** $p < .025$ one-tailed Wilcoxon Signed Rankings Test

Fig. 1. School-Level Mean Rates of Selected Classroom Behavior Patterns

Leadership

We found that the quantitatively measured opinions of principals about their schools' effectiveness tended to be good predictors of students' aggregated, residualized achievement. We undertook extended interviews in 12 outlier schools, and on a variety of measures differences were found in principals' activities and attitudes.

We found that principals in the ineffective schools tended to define their role as limited, passive, and bureaucratic, while principals in the effective schools held multiple goals for schooling and considered the process of achieving those goals ambiguous, complex, dynamic, and personal. They were involved in ongoing classroom processes. By being in classrooms and being actively involved in academic decisions, they stayed close to children. Effective principals displayed a "bias for action" rather than "passing the buck." Not surprisingly, principals in the effective schools clearly focused on and/or facilitated the instructional purposes of their schools.

Internally Initiated School Improvement

At the time of Phase III four of the schools that had historically obtained much lower student achievement than would have been predicted were undergoing self-initiated school improvement efforts. Most of these efforts addressed needs to alter program processes of the school (the programmatic dimension [Stringfield et al. 1986]). At the most basic, they dealt with turning chaos into order. At this level principals and teachers concentrated first on eliminating acts of violence on the school grounds and then on providing an orderly environment within the school.

A second group of school faculties struggled to increase the time available for instruction. At these schools the principals and staffs were going about the commonsense business of "getting their students to work hard."

Third, at one school, and to a lesser extent at a second, the staffs were making efforts to make maximal, creative use of the time available. Curriculums were being coordinated within and among grades. Concerted efforts were being made to get a wide variety of books into the hands of the often

quite deprived students. Each step involved an implicit evaluation of how the school could make each child's school day maximally valuable.

In our study, the schools attempting improvements were accurate in their assessment of the most pressing issue facing them. They were targeting their efforts appropriately; for example, in none of the four cases did we see an orderly school setting a goal to increase orderliness or a school in chaos trying to redefine its curriculum.

Other schools (those in Phase III not undergoing self-initiated improvement) defined their need to change in terms of a single outcome measure: aggregated test scores. They focused these "technical" improvement efforts on that measure exclusively. For example, we observed teachers instructing students for hours in "test-taking skills." In this case, the choosing among options "a" through "d" and the filling in of circles occupied time, for example, during regular mathematics lessons. This was time spent to increase math *scores* but taken away from learning mathematics. Similarly, the reassignment of two teachers (a strong teacher from 5th to 3rd grade and a weak teacher from 3rd to 5th grade), because a statewide test is administered at 3rd grade, was a strategy to improve test scores. Such changes will not affect overall school effectiveness but may well raise scores at the point of measurement.

In contrast to most previous studies of school change (for example, Huberman and Miles 1984), these four improving schools used external programs marginally or not at all. Their improvement efforts were not imposed by their local districts but were part of an internal drive to improve, often led by the principal. The projects were remarkably atheoretical and research base-free; they consisted largely of common sense, judiciously applied. While Huberman and Miles found that innovations "lived or died" by the amount and quality of technical assistance, these improving schools neither sought nor received external assistance. Their changes lived or died by dint of their own creativity, will, and work. The changes made were not elegant in design or implementation, yet they brought each school closer to the principal's and teachers' goals. (For further elaboration of the technical and programmatic dimensions, see Stringfield et al. 1986).

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Effective or Ineffective—It's Up to the School and the District

Virtually the entire study of change has taken place within the context of planned, often mandated, programmatic shifts (Berman and McLaughlin 1977, Fullan 1982, Hall and Griffin 1982, Rosenblum and Louis 1981, and Huberman and Miles 1984). But we have come to believe that schools often become more effective—or less effective—independent of such mandates.

In the final section of this paper we are going to reach a little beyond our research to date and describe our impressions of how ordinary schools become more or less effective. After six years of work in Louisiana, we see that these processes contain some parallels, although one is not the mirror image of the other.

How Schools Become Effective

In schools that eventually become effective, an instructional leader or leadership group, ideally though not necessarily the principal, arrives (or emerges). This person or group has a vision of what the school and its students could become, involving higher levels of learning and more humanistic processes than present realities would seem to justify. Though the leaders may not consciously know it in the beginning, they are prepared to work very long hours for years to achieve their vision.

Very early after arrival, the principal or group conducts an instructional audit of the school, either alone or with the staff. This set of steps resembles the following questions:

1. Is the school a safe place for children and staff?
2. Is the school a healthy and orderly place?
3. Is the school achieving "the basics"? Test scores are helpful in answering this question, but the emphasis is on preparing children for both the world of work and lifelong learning.
4. What is the status of the textbook series and supplemental materials within and across grades? Teaching and homework? Curriculum and instruction? If, from the perspective of a below average student, the lessons over a pattern of years don't follow logically (e.g., different teachers use different texts), then a move is begun to standardize the text series and supplement them with additional materials.

This scrutiny of materials provides one entry point for staff development. Several principals reported that most teachers exhibit no resistance when receiving inservice instruction on how to teach a new text and curriculum; yet the same teachers will take exception to someone's trying to teach them the same principles about the present curriculum. It is, they observed, less threatening and more productive to work toward changes in instruction at the moment of changes in curriculum.

5. Is the school providing additional enriching and stimulating activities for its students?

6. Is the school involving parents and the larger community in ways that are good for the students and for the community itself?

To make an intelligent choice of a beginning point for attaining the vision, the principals and the teachers must collect accurate knowledge of their schools' individual positions within the audit sequence. Then they know where to begin setting goals and marshalling resources to attain their goals.

Although their awareness of research on teacher effectiveness varied from moderate to nonexistent, all principals in the Louisiana study exercised the commonsense notion that hard work leads to success. Regardless of the words used to describe the desired state, all expected to see students on task when they visited classrooms. And they were active in teacher selection, classroom observation, employment, and dismissal. From the beginning, these leaders chose new teachers and aides with great care. They looked for "spark" or "energy" and were often unconcerned with years of teaching experience or advanced degrees.

Wherever resources were available, effective principals became increasingly active in targeting staff development for some, occasionally all, of their teachers. This targeting was largely based on interests and needs they identified from their frequent in-class observations and subsequent conferences with teachers.

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In addition, teachers who did not meet reasonable instructional standards were put on probation and provided assistance; they then either exhibited improvement, or were transferred to another school or district, or were fired.

The leaders emphasized instruction in other ways. For example, most effective principals had developed a minimum daily homework expectation. Also, programs such as Chapter 1 and special education were thoughtfully coordinated with the regular program. The teachers became aware of each other's practical specialties and viewed each other as resources on those topics. Teachers were often encouraged and sometimes required to visit each other's classes.

An interesting attribute of these principals is that they were never satisfied. They wanted more for their students, and they were continually looking for it. Growth for its own sake seemed to become one of the school's overall goals.

How Schools Become Ineffective

By contrast, the ideal principal for the development of an *ineffective* school may very well mouth platitudes about child-centered education but actually became a principal in order to get out of the classroom. Occasionally this person had been a principal at another, probably a middle-SES school. If that were the case, the situation had become sufficiently unappealing to the staff or the parents that the superintendent transferred the principal to a different school, often a low-SES status school, where the parents may not complain as much.

This kind of principal envisions the job responsibilities as bureaucratic, more or less going through the motions of administration without commitment to any sort of vision. This principal may speak at length about the quality of the teaching staff, but in fact has not regularly visited the classes and actually judges teachers in terms of how little trouble emanates from their classrooms. Such a principal takes little interest in curriculum

The ineffective principal envisions the job responsibilities as bureaucratic, more or less going through the motions of administration without commitment to any sort of vision.

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Ineffective teachers usually like working for ineffective principals, because they are left alone in their rooms to do as they please.

and avoids activities that have the potential to "stir up trouble." This passive stance usually rules out instructional leadership.

This type of principal accepts whatever prospective teachers are sent to him or her, often not even interviewing the new hires before they arrive for work. When interviewed, these principals reported having little or no voice in staff hiring. In our study the greatest variance in principals' self-reported perceptions of control over hiring was not between districts but within. That is, two principals from a single district would often give dramatically differing accounts of the degree of latitude the district allowed them in hiring. This perception was an excellent predictor of school effectiveness, especially in low SES-schools.

In addition, principals at ineffective schools almost never fired a staff member or even forced the transfer of one, despite the annual "floating" of ineffective teachers from school to school, called the "dance of the lemons" by Bridges (1986). Since highly effective principals do not accept their share of these teachers, a disproportionate share of them eventually come to work at an ineffective principal's school. Ineffective teachers usually like working for the

ineffective principals, because they are left alone in their rooms to do as they please. Working with increasingly ineffective colleagues proves discouraging to the more effective teachers, who in time request transfers or drop out of teaching.

In time the school develops a reputation as an unpleasant place in which to work. Such a reputation can develop quite rapidly if the building serves an economically disadvantaged neighborhood. At that point, competent teachers within the system will actively resist transferring to the school.

In a low-SES context, the staff develops an elaborate set of rationalizations for their behavior and for the school's performance, such as "Nobody could teach these kids" and "With parents like these, what do you expect?" These excuses serve to justify consistently poor performance. The principal reinforces these norms by writing "good" evaluation reports on all the teachers.

In an upper middle class ineffective school, teachers and principals observe that their students are scoring above the national average and congratulate themselves on a job well done. They do not compare performance to potential.

In all but the most productive districts, the presence of ineffective schools serves a valuable function. With these schools tacitly accepted as "dumping grounds," the central office staff are spared the arduous effort and the risks of dealing with incompetent teachers and principals, their unions, lawyers, and the courts.

Finally, the process of remaining ineffective is relatively resistant to school improvement efforts. In the absence of a strong internal support system, including norms for excellent performance and hard work and an emphasis on growth, any externally imposed improvement project will eventually disappear.

More to Come

The Louisiana School Effectiveness Study is proceeding along a thorough, reflective path. In this article we have reviewed several conclusions from our investigation so far; and we have speculated beyond the quantitative grasp of the study into the makings of effective and ineffective schools. As the research evidence accumulates, we will continue to publish our findings and conclusions. A clear conclusion to date is that broad-based effectiveness in elementary education is as close as our willingness to work toward its achievement.□

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