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ABSTRACT

This paper addresses the long-term impact of a school improvement effort of the Milwaukee public schools known as Project RISE (Rising to Individual Scholastic Excellence). Each school replicated the following characteristics of effective schools: (1) strong leadership by the principal; (2) high expectations conveyed by the entire staff; (3) orderly school learning climate; (4) strong emphasis on teaching basic skills; and (5) frequent evaluation and on-going monitoring of pupil progress. Reading and mathematics test scores in city schools have improved over the years, most dramatically in RISE schools. Of the 16 RISE schools, two groups were identified for additional analysis: the "more successful" and the "less successful." Placement was determined by achievement and improvement. Demographic characteristics of the two groups are similar except that "more successful" schools have a significantly lower percentage of minority students and a higher mobility rate than "less successful" schools. This paper asks whether a distinct culture is at work in schools that are moving toward effectiveness. Results of teacher questionnaires and of a comparison of principals indicate a connection. Staff in "more successful" schools appear to have accepted responsibility for school improvement. However, it is impossible to untangle courses from effects and the direction of causality between achievement and school culture most likely goes both ways. (LHW)

# School Culture and School Improvement

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About four years ago, McCormack-Larkin and Kritek (1982) reported on a school improvement effort of the Milwaukee Public Schools known as Project RISE (Rising to Individual Scholastic Excellence). Project RISE was the outgrowth of a 1979 School Board directive to the Superintendent requiring him to make every effort to improve achievement in the 18 elementary and two junior high schools that ranked the lowest among city schools. Specifically, the Superintendent was to use "current successful approaches" to bring these schools up to at least the city-wide or national percentile averages within a three year period.

As described in the 1982 article, the school district based its program on the now well-known work of Wilbur Brookover (1979) and the late Ron Edmonds (1979). In essence, each school was to replicate the characteristics found in the so-called "effective schools":

--strong leadership by the principal
--high expectations conveyed by the entire staff
--an orderly school learning climate
--strong emphasis on teaching the basic skills
--frequent evaluation and on-going monitoring of pupil progress.

McCormack-Larkin and Kritek documented achievement gains in reading and mathematics after two years of the program and speculated on reasons for the early success. This paper will pick up where the previous one left off and will address the longer-term impact of Project RISE.

## Project RISE in 1985-86

Project RISE continues during the 1985-86 school year but there have been some changes over the years. Originally planned as a three year project, RISE is now in its seventh year, although the initial year was largely devoted

to planning. There have been three Project directors; the two junior high schools have been spun off to another program and two of the 18 elementary schools have been closed. Only six of the 16 RISE schools have the same principal as they did in 1979-80. (A couple of the schools have had three principals.) Teachers have come and gone as have students.

The school district has changed its standardized testing program, switching from the Metropolitan Achievement Test to the Iowa Test of Basic Skills. At the same time, the grade levels tested were changed from third and fifth to second and fifth.

Student achievement in the basic skills has changed also. Scores in reading and mathematics in city schools have improved over the years--and they've improved even more dramatically in the RISE schools. Figure 1 presents these data as a comparison between 1977-78 (prior to the start of the Project) and 1984-85. Students have not yet been tested in the current school year.

Figure 1
Project RISE Pupil Achivement
Compared with Citywide Standards,
1977-78 and 1984-85

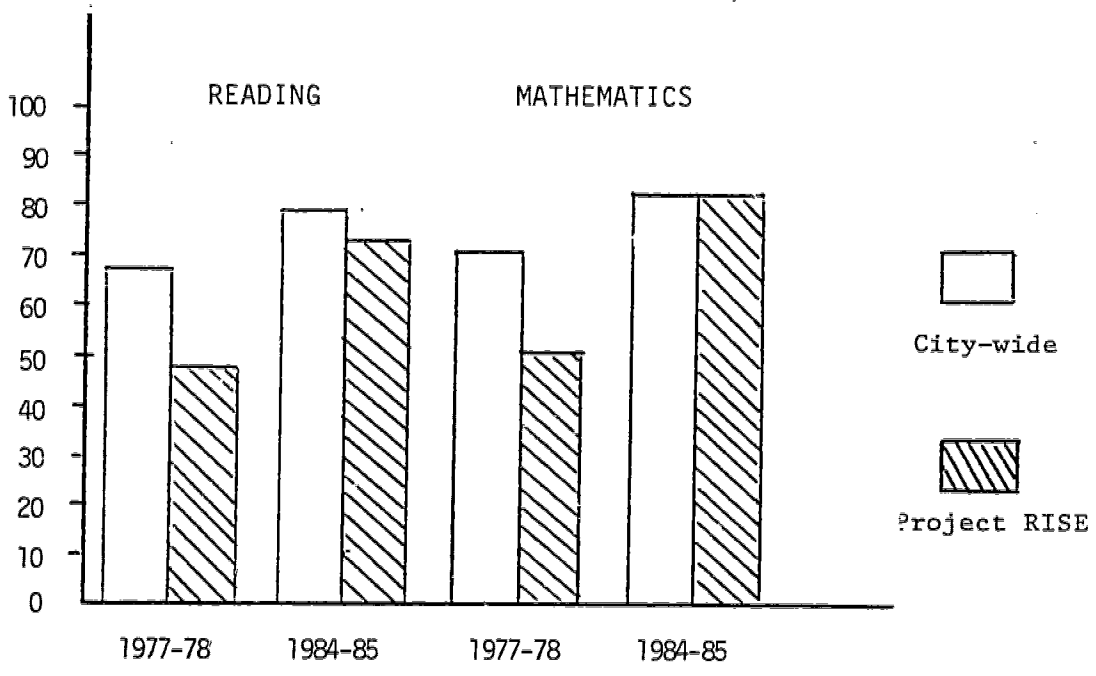

TABLE 1.

Percent of Students in RISE and Average Categories on Standardized Achievement Tests

Reading (3rd grade in first 3 years; 2nd grade in latter 4 years)

| Year | Test | City Average | RISE Average | Difference |
|---|---|---|---|---|
| 1978-79 | MAT | 74 | 53 | 21 |
| 1979-80 | MAT | 76 | 59 | 17 |
| 1980-81 | MAT | 77 | 64 | 13 |
| 1981-82 | ITBS | 69 | 64 | 5 |
| 1982-83 | ITBS | 76 | 70 | 6 |
| 1983-84 | ITBS | 81 | 74 | 7 |
| 1984-85 | ITBS | 80 | 75 | 5 |

Reading (5th grade in all 7 years)

| Year | Test | City Average | RISE Average | Difference |
|---|---|---|---|---|
| 1978-79 | MAT | 66 | 45 | 21 |
| 1979-80 | MAT | 68 | 48 | 20 |
| 1980-81 | MAT | 72 | 56 | 16 |
| 1981-82 | ITBS | 73 | 58 | 15 |
| 1982-83 | ITBS | 75 | 63 | 12 |
| 1983-84 | ITBS | 77 | 68 | 9 |
| 1984-85 | ITBS | 77 | 70 | 7 |

Mathematics (3rd grade in first 3 years; 2nd grade in latter 4 years)

| Year | Test | City Average | RISE Average | Difference |
|---|---|---|---|---|
| 1978-79 | MAT | 75 | 56 | 19 |
| 1979-80 | MAT | 81 | 73 | 8 |
| 1980-81 | MAT | 84 | 82 | 2 |
| 1981-82 | ITBS | 80 | 80 | 0 |
| 1982-83 | ITBS | 83 | 82 | 1 |
| 1983-84 | ITBS | 85 | 84 | 1 |
| 1984-85 | ITBS | 82 | 81 | 1 |

Mathematics (5th grade in all 7 years)

| Year | Test | City Average | RISE Average | Difference |
|---|---|---|---|---|
| 1978-79 | MAT | 70 | 58 | 12 |
| 1979-80 | MAT | 73 | 66 | 7 |
| 1980-81 | MAT | 80 | 77 | 3 |
| 1981-82 | ITBS | 83 | 79 | 4 |
| 1982-83 | ITBS | 82 | 79 | 3 |
| 1983-84 | ITBS | 83 | 83 | 0 |
| 1984-85 | ITBS | 82 | 82 | 0 |

The Milwaukee Public Schools reports scores for individual schools as the percent of students scoring in high, average and low achievement categories. Each category contains three stanines. One would expect 23% of all test takers, nationwide, to score in the low category, 54% in the average category and 23% in the high category. Table 1 elaborates on Figure 1 and provides the percentages of students, in all city elementary schools and in the RISE schools, who scored in the high or average achievement categories. An increase in the percentage from one year to the next indicates an improvement. The table makes note of the change in test and the changes in grade levels tested.

Looking specifically at the high category reveals relatively little movement in reading but substantial progress in mathematics. The change in test, of course, confounds the data. Table 2 presents the percentage of students who scored in the high category for both grades and for both subjects.

Table 2

Percent of RISE Students in High Category
on Standardized Achievement Tests

| | | Vocabulary & Reading | | Mathematics | |
|---|---|---|---|---|---|
| | | Grade 3/2 | Grade 5 | Grade 3/2 | Grade 5 |
| 1979-80 | MAT | 6 | 3 | 9 | 7 |
| 1980-81 | MAT | 6 | 4 | 16 | 9 |
| 1981-82 | ITBS | 5 | 4 | 20 | 12 |
| 1982-83 | ITBS | 7 | 4 | 20 | 16 |
| 1983-84 | ITBS | 8 | 4 | 17 | 17 |
| 1984-85 | ITBS | 7 | 4 | 22 | 18 |

Taken together, the tables provide a picture of RISE schools chasing a target that gets more difficult to attain each year. Nevertheless,

progress has been made and, in mathematics, the gap has been eliminated. The Project has not reached its goal in reading, but progress has obviously been made. In fact, over the past four years RISE schools have improved more dramatically in reading than in mathematics.

A Closer Look. Hidden within the overall averages are differences among the sixteen Project RISE schools. In order to sort out these differences, two groups of schools were identified for additional analysis. The first group of four schools will be called here the "more successful" RISE schools and the second group will be called the "less successful" RISE schools. Placement in one group or another was determined by an index that was constructed as follows.

First, the percent of students scoring in the high and average categories was determined for each school for each of grades one through six for reading and mathematics. (Students in Project RISE schools are tested every year; students in other city schools are tested in grades 2 and 5.) This was done for each year of the project, from 1979-80 through 1984-85. Then an average score was computed across the last five years and across all grades and both subjects. This average became one element in the index. To arrive at the second element in the index a measure of improvement was computed by comparing the 5 year-2 subject-6grade average with the 1979-80 score which was itself an average across six grades and both subjects.

Averaging across the five years of the Project seemed necessary because the schools have not improved consistently from year to year. In fifth grade mathematics, for example, a school may have had 9% score in the low category in 1982-83, 13% in the low category in 1983-84 and 5% in the low category in 1984-85. In fact, a look at all the possible year to year changes such as

those in the example shows tht 59% have been an improvement. While this number of improvements is unlikely to happen by chance, picking any single year can be misleading.

Averaging across grades and across the two subjects of reading and mathematics was dictated by the nature of the Project as a school improvement effort. That is, the school was to change as evidenced by principal leadership, high expectations for student success and an orderly climate. As indicated in Table 1 there are differences between the grades and between the subjects. These differences also exist within schools and the patterns change from year to year.

There can be little doubt that some portion of the achievement gains must be attributed to teaching improvement as distinct from school improvement. There has been a deliberate attempt to encourage teachers to use a direct instruction approach and specific techniques such as the Missouri mathematics strategy have been adopted by some teachers in some schools. The early and rapid improvement in mathematics achievement supports the importance of classroom and teacher contributions. For this paper, however, the focus is on the school and thus a measure of school improvement was generated.

Returning to the index, the intention was to isolate four schools that had relatively high achievement and that had improved substantially over the course of the project. That was easy for the top three schools. These were among the top five in both average achievement and in improvement. There was a tie for fourth place and an additional four schools were very close. The tie was broken by placing a premium on achievement level.

Picking the four "less successful" schools was very difficult. Only two schools were among the lowest on both achievement and improvement.

Again, a premium was placed on achievement, in part, because larger gains are possible when schools are initially very low. Two schools that had low improvement scores were among the top six in average achievement. These were eliminated. As a result, the four "less successful" schools are the lowest in achievement over the five years as well as the lowest in 1984-85. Two have made substantial improvements in achievement over the life of the Project. As a group, however, the improvement has slowed down over the past four years. Table 3 summarizes the achievement and improvement of the "more successful" and "less successful" schools.

Table 3

Average Percent in High and Average Categories
(all grades, both reading and mathematics)
and
Percent Improvement

| | More Successful | Less Successful |
|---|---|---|
| 1979-80 | 61.2% | 51.5% |
| 1980-81 | 73.2% | 61.1% |
| 1981-82 | 73.2% | 66.6% |
| 1982-83 | 76.1% | 66.7% |
| 1983-84 | 78.0% | 68.4% |
| 1984-85 | 80.2% | 67.4% |
| Average (last 5 years) | 76.1% | 66.0% |
| Improvement: 1979-80 to average | 24% | 28% |
| Improvement: 1979-80 to 1984-85 | 31% | 31% |
| Improvement: 1981-82 to 1984-85 | 10% | 1% |

Additional comparisons must be made between the two sets of schools before looking at the nature of school culture. These comparisons will indicate other differences between the two sets of schools that may be influencing achievement and improvement. Table 4 provides averages for 1984-85 for a number of school characteristics. Note that some of the figures are averages of percents.

Table 4
Average School Characteristics for
More Successful and Less Successful RISE Schools

| | More Successful | Less Successful |
|---|---|---|
| Number of students | 639 | 687 |
| Student/teacher ratio | 19.1 | 18.5 |
| Percent student minority | 78% | 98% |
| Percent students who receive free lunch | 72% | 79% |
| Percent student mobility | 36% | 60% |
| Percent staff minority | 21% | 28% |
| Percent staff turnover | 16% | 12% |
| Percent 1984-85 teachers who were on staff in 1979-80 | 50% | 59% |

While the schools are roughly the same size and have similar staff characteristics, two characteristics of the student group stand out. These are the percent of minority students in the school and the percent of student mobility. The set of "more successful" schools contains one school with 50% minority students and two others that are between 80% and 90% minority. In the other set, virtually all the students are members of a minority group. In the "more successful" set of schools, only one has a mobility rate higher than 35%. In the "less successful" set, all the schools have mobility rates higher than 55%. Both of these characteristics could have an effect on

teacher expectations and the higher mobility of students in the "less successful" schools obviously decreases the opportunity for some students to profit from the classroom and school improvements that have taken place.

School Culture. Within the past couple of years attention has been focused on the culture of an organization as a significant component of excellence. No doubt some of this attention is due to the popular acclaim of the Peters and Waterman book, In Search of Excellence: Lessons from America's Best Run Companies. Other studies, such as that of Deal and Kennedy (1982), and the entire September, 1983 issue of the Administrative Science Quarterly which was devoted to organizational culture, attest to the new-found importance of the "culture" concept.

The school effectiveness literature during this same period has tended to rely on lists of characteristics such as that provided earlier in this paper. The two streams may have much in common. The "strong" and "high" and "frequent" adjectives of the effectiveness lists may be indicative of a more general, but more powerful, variable: the culture of the school.

Purkey and Smith (1983) note the importance of school culture in their theory of school improvement. In particular, they cite the following as elements of a productive school culture: 1) collaborative planning and collegial relationships; 2) sense of community; 3) clear goals and high expectations; and 4) order and discipline. Firestone and Wilson (1985) point to cultural linkages as a mechanism for improving instruction: "Strong cultures with appropriate content can promote school effectiveness and principals can contribute to such cultures" (p. 11).

The author has worked with the RISE project as a member of a coordinating committee and as a consultant to the principals since the program's inception.

Field notes have been kept and relevant documents have been collected since the start of the program. Formal interviews have been conducted with teachers, principals, central office administrators and school board members. Questionnaire data, collected at several points over the years, are also available.

This paper is a preliminary investigation into the question of whether a distinct culture is at work in schools that are moving toward effectiveness. By way of foreshadowed problem, I focused on culture conceived as shared key values and beliefs (Smircich, 1983). A school's success may be influenced by the underlying normative structure that provides a sense of commitment and identity for the staff.

The results of a questionnaire completed by teachers in 1983 provide one indicator of a difference in culture between the two sets of schools. The instrument contained items that dealt with instructional techniques, curriculum content, time allocation, in-service training and other aspects of the project. Nine of the items were concerned with teacher attitudes toward the school (including an assessment of building discipline) and teacher expectations of student academic success. The nine items are listed in Table 5. On eight of the items, the mean score favors the "more successful" schools. One possible interpretation is that the "more successful" schools have developed a culture where teachers have helped to establish a disciplined environment, where they like their work, and where they expect their students to achieve.

A second indicator of culture differences between the "more successful" and "less successful" schools comes from a comparison between principals. Since early in the project, one or two principals have been members of the coordinating committee. Principals from three of the four "more successful" schools have been members of the coordinating committee; no principals of the

Table 5.
Means of the "more successful" schools and
"less successful" schools on culture-related questions

Strongly Agree 5 ——— Strongly Disagree 1

| | | More Successful | Less Successful |
|---|---|---|---|
| 1. | Since 1979, the amount of disruptive student behavior in this school has decreased.* | 3.31 | 2.65 |
| 2. | The discipline in this school is very good. | 3.42 | 2.28 |
| 3. | The school spirit in this building is high.* | 3.76 | 3.38 |
| 4. | I enjoy teaching more now than I did in 1979.* | 3.60 | 2.94 |
| 5. | At least 90% of the students in this class will complete high school. | 3.33 | 2.95 |
| 6. | We often meet as groups of teachers to discuss ways of improving student achievement. | 3.97 | 3.51 |
| 7. | I get strong support in my efforts to improve the achievement levels of my pupils. | 3.83 | 3.29 |
| 8. | In a typical week, I record two or more evaluations of mathematics achievement of each student. | 3.90 | 3.40 |
| 9. | I feel very much pressure as a result of the monitoring of pupil progress and the emphasis to get pupils up to grade level. | 3.46 | 3.46 |

*The phrasing of these questions has been changed in order to make higher means consistent.

"less successful" schools have been members. (Two principals of other RISE schools have also served on the coordinating committee.)

Whether the principals' leadership ability has been recognized or whether the schools' success has resulted in the principals being selected for the committee cannot be determined. In either case, however, the selection rewards and reinforces the school improvement efforts going on the schools. A similar reinforcement comes form being featured in media reports of the project. For example, a recent special section of Education Week featured two of the "more successful" schools and their principals. A third school and its principal have been featured in local news stories. Articles in the New York Times and Christian Science Monitor have also used the "more successful" schools as examples. Media coverage serves to maintain the motivation of principal and teachers to work toward improved student achievement. Further, such coverage serves to confirm the schools' claims to substantial improvement. A self-fulfilling prophecy may have been set in motion.

A third indicator of a different culture at work in each of the two sets of schools comes from teachers' responses to questions asking them to identify reasons why their schools have been generally successful or unsuccessful at raising student achievement.

Teachers in all four "more successful" schools noted staff co-operation, a high level of staff enthusiasm, uniformity of goals and agreement among staff with regard to program philosophy and policies as reasons for the success. Teachers in two of the "more successful" schools indicated that they had been motivated by their principals and identified strong administrative leadership as a reason for their success.

In contrast, most teacher respondents in the "less successful"

schools realized their schools had fallen short of the project goals. The reasons given were, for the most part, focused on forces outside the school: classes were too large; parents were unconcerned about their children's lack of progress and discipline; there were high absentee rates. Teachers from two of the schools felt stronger leadership was needed.

Again, the pattern is significant. Staff in the "more successful" schools appear to have accepted responsibility for school improvement while those in the "less successful" schools attributed their lower levels of success to extrinsic factors.

Summary. Obviously, there is no conclusive evidence pointing to one set of variables as responsible for substantial school improvement. Demographic characteristics of the schools, as well as changes in the instructional behavior of individual teachers confound the data pointing to a unique culture as responsible for improved achievement in the "more successful" schools.

It is also impossible to untangle causes from effects. Has the culture in the "more successful" schools led to higher achievement, or vice versa? Most likely, causality goes both ways. In essence, success breeds self-confidence and, ultimately, more success.

If this is the case, however, why have the "less successful" schools been relatively stagnant over the past four years? Why were they unable to capitalize on early achievement gains in the manner of the "more successful" schools? It appears that a "culture of success" is necessary to sustain additional gains. But if early improvement alone is not sufficient to establish this culture, what else is needed? The answer to that question remains to be found.

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