

# **School, Classroom, and Student Level Indicators of Rural School Effectiveness**

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## **ABSTRACT**

*This paper compares school, classroom, and student level data from matched, high and low outlier schools in rural contexts. Rural data is contrasted with information gathered in urban/suburban schools involved in the same longitudinal study. Following quantitative comparisons from the 1984-85 and 1989-90 school years, three rural case studies are presented. The first is of a school which appears to have remained a stable positive outlier over the past five years. The second is of a stable negative outlier, and the third presents an improving rural school. These data indicate that the instructional processes necessary to obtain student achievement are context-free, but that the organizational and interpersonal processes required to obtain and sustain effective schools vary by context. Evidence of a minimal level below which rural communities do not appear to allow even their least productive schools to fall is interpreted as counter-indicative to a "rural deficit model" in elementary education. The paper concludes with a rural school effects research agenda.*

## **INTRODUCTION**

Three of the most important and most taxing areas of educational research intersect at the phrase "current rural school effectiveness research." There are few areas in which Alan DeYoung's (1987) observation that, "The history of American education has been primarily an urban history" is more clearly relevant than in school effectiveness research. Of the four major correlational school effects studies conducted in English speaking countries, two were conducted by the Inner London Education Authority (Rutter, Maughan, Mortimore, & Ouston, 1979; Mortimore, Sammons, Stoll, Lewis, & Ecob, 1988). A third, conducted in Michigan, offered separate samplings and analyses for urban schools, but no analyses specific to rural schools (Brookover, Beady, Flood, Schweitzer, & Wisenbaker, 1979). The fourth, the Louisiana School Effectiveness Study (LSES), contains a significant rural sub-sample, but contextual analyses to date has been restricted to effectiveness at

differing levels of socioeconomic status (Teddle, Falkowski, Stringfield, Deselle, & Garvua, 1984; Teddle, Kirby, & Stringfield, 1989). Moreover, the three best documented school improvement studies, Milwaukee's Project RISE (McCormack-Larkin & Kritek, 1983), New York City's C-SIP (McCarthy, Canner, & Pershing, 1983), and the San Diego County School Effectiveness Project (Chrispeels & Pollack, 1989), have all taken place in urban contexts.

Studies claiming to describe rural school effectiveness would need to examine teacher behavior within more and less effective rural schools. Good and Brophy (1986) observed that the next generation of school effects studies should nest teacher effects methods, especially extensive classroom observations, within schools. Yet they observed that

...to date not a single naturalistic study of effective schools provides basic data (means and standard deviations for each classroom)

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to demonstrate that the behavior of individual teachers in one school differs from the behavior of teachers in other schools (Good & Brophy, 1986, p. 586).

Perhaps the paucity of rural school effects studies explains the fact that surveys of rural educators have repeatedly identified rural school effectiveness at or near the top of rural educational research needs (see Nachtigal, 1982; Hubel & Baker, 1986). Systematic studies of rural school effectiveness, i.e., studies that nest extensive classroom observations within a school effects framework, would be even more expensive and time consuming than their urban counterparts. It is not surprising that studies which meld systematic school, classroom, and student level data gathering and analysis in rural contexts have been slow to materialize.

In the current paper, the methods and results of Phases III and IV of the Louisiana School Effectiveness Study (LSES-III and IV) are briefly described, and hypotheses specific to rural school effectiveness are examined in detail. Following quantitative analyses, five year case studies of three rural schools, a stable positive outlier, a stable negative, and an improving school, are presented.

The hypotheses of the LSES rural context analyses are as follows:

H1: The fundamental *schooling processes* which differentiate more- from less-effective schools in urban, suburban, and rural schools are the same. Student learning processes are geography neutral, as are the curricular and instructional steps necessary to support high levels of student learning. However,

H2: The *organizational* and more interpersonal adult processes through which rural schools achieve more (or less) effective schooling are differentiable from those of their urban and suburban colleagues.

### **Background: The Louisiana School Effectiveness Study, Phases I-IV**

LSES was conceived as a longitudinal examination of schooling related factors affecting students' academic progress. The first two phases (1980-1984) involved a pilot- and a macro-level examination of a stratified random sample of schools across Louisiana.

Methods and instruments used were similar to the Brookover et. al. (1979) efforts in Michigan; analyses and interpretations offered technical and theoretical advances (see Teddlie, Falkowski, Stringfield, Deselle, & Garvue, 1984; Kennedy, Teddlie, & Stringfield, 1991). Second-order factor analysis and Hierarchical Linear Modeling were used to extract meaning across principal, teacher, and student data bases. The differentiation of characteristics of effectiveness in middle versus low SES schools was informative (Teddlie, Stringfield, Wimpelberg & Kirby, 1989).

LSES-III was designed to provide more detailed, concrete information nesting teacher effects variables within a school effects design. Even excellent principals and teachers rarely think in terms of second-order factors or MANOVAs. They work in a world of concrete, daily problems on the order of, "Why haven't the new spelling texts arrived?" and "What should we do with Billy, who hasn't completed his math homework all week?" or "How can I get through these math skills in time for the competency tests in April?" LSES-III was designed to gather quantitative and qualitative data which might respond to at least the broader of those questions, and to advance contextual analyses begun in LSES-II.

LSES-IV is a five year follow-up of the schools in LSES-III, conducted during the 1989-90 and 1990-91 school years. Issues include: 1) the stability of processes and outcomes over a half-decade of (at least policy-level) turmoil in education, and 2) expansion of the study into the areas of teacher induction, compensatory education, and district support (Stringfield, Teddlie, Wimpelberg & Kirby, 1990).

## **METHOD**

### **Sample**

Twelve school systems comprised the LSES-II population. One additional large system was added to the sampling pool for LSES-III. Pairs of schools were selected using a multi-step procedure. As a first step, third grade school means on the Total Reading section of the state Basic Skills Test (BST), a criterion-referenced, minimum skills test administered in late March, were computed for the 1982-83 and the 1983-84 school years. Second, within each large school system, and among contiguous small systems, regression models were developed in which mother's education, father's profession, and student body racial composition were independent variables predicting mean BST reading scores.

A school was considered for inclusion in LSES-III if: a) the school scored above (or below) achievement prediction for two consecutive years; b) the school scored substantially above (or below) prediction at least one year; and c) a matching opposite directional outlier of similar economic and racial composition was identified within that system. Outlier pairs were selected within four additional constraints. The sample must include: three rural, three urban, and three urban-to-suburban; pairs from northern, central, and southern Louisiana; pairs of predominantly minority, predominantly majority, and mixed student populations; and no more than one pair of schools from any one school district would be studied. One exception was made to allow the study of a pair of extended day programs.

Nine pairs of outlier schools were chosen. The LSES study team invited the 18 schools to participate, and all agreed. No teacher refused to participate in the project, thereby sparing the study concerns related to volunteer subject effects.

During initial observations, the third grade situation in one school was determined to be anomalous within the school. The pair was dropped after the fall observations, leaving eight matched pairs in the sample. For the current analyses, the original three pairs of rural schools and one pair from each of the three largest urban to suburban districts have been contrasted.

### Instruments

During Phase III, data gathering in each school included the use of eight instruments plus extensive, qualitative field notes. The measures included low, moderate, and high inference measures at the student, teacher, school, and program levels. To the extent practical, measures employed in LSES-I and -II were carried over into Phases III and IV, providing continuity and allowing for more direct comparisons over time. However, as the study progressed, we refined some measures.

A total of 11 different school level data bases were gathered for LSES-III and/or IV, though not all of them will be discussed here. Third grade school mean scores on the BST test, and family demographic data were available from the State Department of Education. Semi-structured principal interviews were conducted during the fall and spring visits each year. These interviews typically lasted between one and two hours. Specific topics were addressed, such as methods used by the school to acquire and distribute human and material resources. Time was also scheduled to allow the principal to "tell his/her story." (Our experience has

been that most principals give the "right" answers to all questions which possess face validity [Wimpelberg, 1987]. Open-ended discussions are much more illuminating.) The interviews were balanced in LSES-IV by results of a questionnaire seeking teachers' perceptions of principal leadership.

Additional principal and school data were gathered through the School Observation Checklist (SOC). The SOC was developed for LSES-III and provides wide-ranging, moderate inference data on school characteristics ranging from yards to libraries and students' bathrooms. These were combined with extensive field notes to form an overall picture of the school.

The Hierarchical Dimensions Scale (12 HD) was new to LSES-IV, having been derived from an LSES-III analysis of qualitative data which distinguished positive from negative outlier schools. This scale represents an attempt to summarize much of the analyses of the Phase III analysis which focused on a search for variables which transcend context. Those analyses can be summarized as including 12 themes, each of which is represented in the Hierarchical Dimensions Scale. Seven are at the school level: a friendly but serious academic atmosphere; school-wide respect for academic time; thoughtful coordination of school events with classes; principals' knowledge of school strengths and weaknesses; recruitment, development and termination of staff; school-wide recognition for students making exemplary academic progress; and the centrality of the library materials and — where available — library staff. Classroom level indicators include: planned academic push; moderate-to-high rates of interactive teaching; and ongoing experimentation with new curricula and instructional techniques. Student level indicators include: moderate to high rates of time on task (TOT) and a perceived potential for students to make academic sense of schooling generally (Stringfield & Teddie, 1991).

A great deal of field time was spent gathering classroom level data. A questionnaire virtually identical to that completed by the principals was completed by all third grade teachers. This was designed to tap teachers' sense of school climate, self-concept, and locus of control. A shorter questionnaire obtained information relative to instructional pacing, curricular choices, and student grouping within and across classes. These data were supplemented by the gathering of sample classroom and homework materials.

LSES-III and -IV relied on the Stallings (1980) Classroom Snapshot (CS) for classroom level measures of student time on-task and teachers' rates of Interactive Instruction. In addition, during Phase III a

high-inference set of questions measuring direct instructing and classroom climate were employed (Teddlie et. al., 1989). Between 1985 and 1989, the content areas of that form were quantified and successfully field tested as the Virgilio Teacher Behavior Inventory (VTBI) (Teddlie, Virgilio, & Oesher, 1990). In Phase IV, the VTBI replaced the Phase III higher-inference measure of direct instruction. Over 1200 class period observations have been conducted in LSES-III and IV.

Final sources of classroom level data were semi-structured teacher interviews and extensive field notes. The former were obtained before and after school, over lunch, and during the LSES student-testing periods. The latter were gathered while obtaining CS and VTBI data.

Student level data came from two sources. The first was a questionnaire given to all third graders in each school. To the extent practical, it mirrored questions and factors in the teacher and principal questionnaires, and gathered information relative to students' self-concepts and locus of control. Because the respondents were third graders, the questionnaire was read aloud to classes.

Second, all third grade students took the research version of the 3-R's Test (Riverside, 1983). The 3-R's is a norm referenced measure of reading, math, and language arts skills. The 3-R's Test was originally chosen because it had attractive psychometric properties, was new (in 1984), and was not being used by any of the school districts in Louisiana. By good fortune, it has still not been used by any of the districts in the study. This reduces the probability of a phenomenon which has become disquietingly familiar in the U.S.A.: teaching (to) the test. While most measures were obtained once or twice per study phase, during Phase-IV, the 3-R's data was gathered during October-November 1989, April-May 1990, and October-November 1990.

### **Procedure**

Each school was visited by a two person team, for three full school days, during the fall and spring of the 1984-85 school year and the fall of the 1990-91 school year. Teams visited the 16 schools for a total of two days per school during the spring 1990 visits, and one day during the fall 1990 term.

Principal and teacher questionnaires were administered during the three-day fall visits, student questionnaires during the three-day spring visits of the 1984-85 school year, and again during the fall 1989 cycle. At every school, the 3-R's Test was administered to all third graders during the morning of the final day of each

site visit, including the fourth grade follow-up during the fall of 1990.

During each site visit, field teams devised an observation schedule which included 12 classroom visits per observer, such that each observer visited every third grade class for at least one class period each day. Other classrooms were scheduled for observation as time permitted. During the three days, each third-grade class was observed during every hour listed as an academic period. During spring 1990 visits, each third grade class was visited on three occasions, all first year teachers were visited, and other observations were conducted as time allowed.

Louisiana elementary schools are under state mandate to provide a specific number of minutes of instruction in reading, language arts, and mathematics. Observers were instructed not to code behaviors during times between periods, but to begin coding one minute after any designated academic time had begun.

### **Analyses**

Not all of the data or analyses are quantitative, and not all quantitative analyses could fit into a single, all explaining computer run. Many of the data sets are qualitative. Those were analyzed through procedures described by Patton (1980, 1990) and Miles and Huberman (1984).

The Results section presents three sets of data. The first examines LSES-III quantitative, classroom data from high- and low-outlier, urban/suburban and rural schools. Those data address the question of classroom differences between more and less effective schools in the two contexts.

The second set of analyses presents data from the five year follow-up of three pairs of historically outlier rural schools, and contrasts them with data from the three largest urban/suburban districts in the study. School, classroom, and student level data are from the moderate inference Hierarchical Dimensions instrument.

Finally, three rural case studies are presented. The first looks at a small school which had been a stable high outlier at the beginning of LSES-III and which appears to have remained a high outlier throughout the study. The second describes a stable low outlier. The third discusses a formerly stable low outlier which, over the five years, appears to have made significant academic strides. Hierarchical Dimensions data are presented for each school.

## RESULTS

Table 1 presents Phase III classroom observational data from three pairs of rural, and three pairs of urban/suburban outlier schools. These data tell three important stories. First, in both rural and urban contexts, there were significant classroom process differences between historically high and low achieving schools. Focusing on the rural schools, the positive outliers scored higher in mean student time on task (TOT), teachers' effectiveness in dealing with student discipline issues, and on a measure of teachers' expression of high expectations for students' academic progress.

Second, the rural positive outliers were rated as slightly more effective than their urban/suburban positive outlier peers. Moreover, the rural negative outliers were rated as moderately more effective than their urban/suburban peer schools. Finding that both high- and low-outlier rural school processes were seen as more effective than high- and low-outlier urban/suburban schools directly contradict any claim of a need to

invoke a "rural deficit model" in discussing elementary schooling.

Third, the LSES-III data indicated that even in stable negative outlier schools, rural students' rates of TOT, plus teachers' effective discipline strategies and high expectations were in a moderate range. This suggests that unstudied features of rural communities typically limited the depths to which a rural school was allowed to sink.

The development of the Hierarchical Dimensions instrument during the late 1980s allowed for a more integrative, yet still quantitative, presentation of differences between the same sets of rural and urban/suburban schools. The initiation of LSES-IV in the fall of 1989 also provided an opportunity to study evidence of stability and change in the historically stable rural and urban outlier pairs.

As can be seen in Table 2, two findings from LSES-III were replicated and expanded in LSES-IV. Student, teacher, and school level indicators continued to favor historically positive outlier schools, and rural schools continued to be rated more favorably than their urban/suburban peers.

*Table 1*  
**1985 LSES-III Mean Classroom Observation Scores on Three Dimensions  
 Related to Teacher Effects\***

Outlier Status:	Positive Outlier Schools			Negative Outlier Schools		
	Instructional Dimension:	High TOT	Effective Discipline	High Expectations	High TOT	Effective Discipline
<b>Context:</b>						
Mean for Rural Outlier School Pairs <sup>b</sup>	2.85	2.77	2.86	2.36	2.40	2.56
Mean for 3 Urban Outlier School Pairs <sup>b</sup>	2.59	2.65	2.68	1.71	2.03	2.15
Difference (Rural-Urban)	0.26	0.12	0.18	0.65	0.37	0.41

\*All cells based on a minimum of 24 class-period observations/school, 3 matched pairs of rural schools, 3 matched pairs of urban schools.

<sup>b</sup>3 = clear evidence of desired behavior  
 2 = contradictory or weak evidence  
 1 = absence of desired behavior

*Table 2*  
**1989 LSES-IV Mean Differences Between Three Rural and Three Urban Pairs of Historically Stable Outlier Schools on the Hierarchical Dimensions Scale**

School Context:		Rural		Urban		Difference (Rural-Urban)	
Outlier Status:		Positive	Negative	Positive	Negative	Positive	Negative
<i>Obs. Level<sup>a</sup>:</i>							
Student <sup>1</sup>		4.4	4.2	4.2	2.4	0.2	1.8
Teacher <sup>2</sup>		4.0	3.4	3.0	2.1	1.0	1.3
School <sup>3</sup>		4.4	4.2	3.4	2.5	1.0	1.5

<sup>a</sup>*Each dimension scaled 1 to 7 where 1 represented "clearly absent" or unacceptable, and 7 represented "exemplary." Scores represent a team rating, averaged over the dimensions at each level.*

<sup>1</sup>*Variables include Time On Task, and perceived potential for students to make academic sense of their schooling.*

<sup>2</sup>*Variables include planned academic push, interactive teaching, and experimenting with new curricula and instructional techniques.*

<sup>3</sup>*Variables include friendly but serious academic atmosphere, respect for academic time, coordination among programs, a principal actively involved in the curricula and instruction of their school, a principal who actively improves staff quality, high library use, and systematic recognition and rewards.*

The one significant quantitative change, a change which was mirrored in qualitative data, was that on average the rural, historically ineffective schools improved. In two cases the improvements were dramatic. By the fall of 1989, changes were such that, on average, the three historically low scoring rural schools were rated equal or superior to the three historically high scoring urban/suburban schools at the student, teacher, and school levels. On aggregated measures which included, among others, student TOT, teachers' degree of academic push and interactive teaching, and schools' levels of respect for academic time and program coordination, two of the three formerly negative outlier schools had made significant progress.

The urban positive and negative outliers had, on average, made no progress. In terms of their academic programs, two of the urban/suburban schools appeared to have deteriorated.

In order to put "a more human face" on these data, three multi-year, rural case studies are presented below. The first case, Harry Truman Elementary School, presents a stable positive outlier. The second, Garfield/Arthur presents an academic context in which a great deal had been changed, yet the academic offerings

remained unimpressive. The Theodore Roosevelt Elementary case describes a formerly negative outlier school which had "boot strapped" its way to parity with its positive outlier sister school. (All school names are pseudonyms.)

## A POSITIVE OUTLIER: HARRY TRUMAN ELEMENTARY SCHOOL

The road to Truman was not easily navigated. Leaving the small airport at the nearest small city, a prospective visitor would follow the interstate highway for about two miles, a four lane road for a mile, a two lane farm-to-market road for less than two miles, and a smaller farm-to-market road for twelve miles. The visitor would then turn right at an unmarked intersection (having distinguished this turn from the previous unmarked intersection), turn left after three miles onto a smaller road, turn right after another two miles, and would find him or herself at the community of Truman. Historically a small commercial area for local farmers and tenant farmers, in the current age of agribusiness Truman is a school, a few houses, a branch library and

a convenience store. A traveler who found Truman could not miss Harry Truman Elementary School. The large sign out front read, "Truman High School."

Truman was a twelve year school until the 1960s. It included a junior high, complete with football team until 1986. (The female football coach, who had an excellent win-loss record, was something of a local legend.)

### ***Truman during the 1984-1985 school year***

Truman's physical plant was old but comfortable. Designed to provide the full 12 years of education, the school included an adequate library, a small gymnasium, and ample outdoor sports fields. The grounds were neatly maintained. In 1985 the school featured one teacher at each grade, K-8, plus special education and Chapter 1 offerings.

The principal was a genial, late middle-aged educator. He had been raised in rural schools in a neighboring state. In his quiet way, he expressed a long-standing commitment to the ideals of public education. He was not a man who attempted to dominate conversations. Interviews with him were easy in the sense that conversations flowed naturally. However, obtaining detailed information required time and regular probes into the particulars of Truman. It slowly became clear that the principal was knowledgeable about his community, school, students, and quality teaching. His geniality and seeming acceptance of a great diversity of teaching styles had a firm bottom line. "I will not," he informed an LSES team member, "allow anyone to hurt one of our students."

In practice that meant that teachers were required to perform their functions in such ways that students demonstrated clear gains on both local and nationally normed tests, he expected to see teachers and students at work. Neither rule was written, but both were well understood.

If a teacher was having trouble with classroom discipline, or with teaching a particular reading concept, the principal would allow the teacher time to work out the problem without interference. But if the problem was not resolved, he would quietly intervene. Intervention consisted of discussions, modeling by the principal and other staff, bringing in district curricular specialists, and, on rare occasions, the removal of a staff member. He always spoke softly, but neither teachers nor parents doubted his firm commitment to the education of every young child.

Truman ran quietly and ran well. Classes began promptly, and students tended to remain engaged

throughout their tasks. The level of discipline problems was the lowest in the entire study. At Truman, all teachers actively taught. During the 1984-85 observations, levels of student TOT and teachers' Interactive Teaching (IT) were among the highest and most uniform in the study.

Serving an extremely disadvantaged population, Truman received large amounts of Chapter 1 services. In that district, federal compensatory education funds translated into one teacher who managed records, coordinated and conducted quarterly testing (the district had a large and complex testing program), and supervised other compensatory education staff, plus three full time aides. The aides provided a variety of support services to regular classroom teachers, and worked with small groups of children who were falling behind. Chapter 1 worked so well at Truman that teachers did not group children. Rather, the teacher instructed the whole class at grade level, then teacher and aide worked with individual students needing assistance.

It was a simple, common sense system. Serving a 98%, 90+% free or reduced lunch population, Truman produced achievement test scores among the highest in the district, extremely high student and teacher attendance rates, and a generally pleasant ambiance.

### ***Truman in 1989-1990***

In the five intervening years, the trek required to reach Truman had not shortened, and one stretch of road had been torn up all year for widening. As a result of district consolidation efforts, the school had lost its seventh and eighth grades and its football team, but held its generally solid teaching staff and principal. A new special education teacher had proven inadequate for the task, and was quietly counseled out of education. New fourth and sixth grade teachers were still learning their craft, but showed promise.

The new sixth grade teacher had just graduated from college in the Spring of 1989. Teaching a cohort that the principal had regarded as "a hand full" throughout their elementary years, she was being severely challenged. During the fall semester, the principal had provided assistance, and had brought in district personnel to be of further help. He regarded her as having potential, but by Christmas it was clear that his sixth graders were falling behind in reading. His solution was to have his fifth grade teacher provide reading instruction to both fifth and sixth grade, and have the sixth grade teacher teach math to both groups.

This simple intervention provided the rambunctious sixth graders with reading instruction from a person they already knew to be an excellent and firm teacher. They quickly began catching up. It also provided the first year teacher with a new experience in one subject in a new class. At year end it was not clear to the principal, or to the sixth grade teacher, whether she should remain in education. It was clear to both that she had been offered a full opportunity to develop skills in the profession in a way that minimized costs to students. For the 1990-91 school year, she chose to teach first grade, a decision which necessitated her leaving Truman.

A similar difficulty was quietly handled in third grade during the 1989-90 school year. The school's excellent veteran third grade teacher had suffered a complex bone fracture in one leg, and was out for several months. The principal responded by hiring a retired teacher as a long term substitute, and, to the extent scheduling allowed, replacing the Chapter 1 aide with the Chapter 1 certified teacher during reading and math hours.

In both situations students were at risk of falling behind. In both situations the principal quickly and quietly addressed the potential problem. The school, with its sign still reading "Truman Senior High," remained an academically solid elementary school on both district and LSES-administered tests.

A quantitative summary of LSES-IV observations at Truman can be seen in Table 3. Students remained on task a majority of the time, and their assigned tasks allowed reasonable opportunities for them to make academic sense of their schooling. Teachers pushed forward on the district curriculum, displaying an "average" level of interactive teaching. The principal and staff established an atmosphere which was at once academically focused and friendly. Academic time was well protected; the coordination of regular and special programs such as Chapter 1 was virtually seamless. The principal was seen regularly around the school, and remained highly conscious of the strengths and weaknesses of his program. He continued to hire, develop, and, as necessary, remove staff from his school. The adequate library, which received the 1/2 day per week services of a professional librarian, was used moderately, if not creatively. The school made modest efforts to recognize or reward students' academic progress. The school's greatest weakness, one which local educators may well view as a strength, was a relative absence of efforts to bring new ideas and new curricula into the school.

## A STABLE NEGATIVE OUTLIER: GARFIELD/ARTHUR ELEMENTARY SCHOOL

### ***James A. Garfield Elementary School in the Early 1980s***

Garfield has been one of the schools visited by the LSES research team during the studies of LSES-III observation instruments, so that classroom observations and schoolwide interviews were conducted at the school since the late Spring of 1983. Built by the local community more than a half century earlier, Garfield Elementary was located near the end of a paved state road several miles from the nearest small town. The principal, near retirement, enjoyed describing how the local people went into the woods to chose the finest cypress trees for the floorboards of their school. Originally built as a first to twelfth grade comprehensive school, Garfield was changed into a K-6 center via school consolidation and court-ordered desegregation.

The old building reflected the high esteem in which its founders held public education. Broad front stairs rose gracefully to large central doors. The office was at the top of the stairs, on the second floor of the three story structure. Garfield was the tallest building for miles in any direction. The fundamentally sound physical plant was difficult to maintain due to its age. The likeable principal and janitorial staff had essentially abandoned efforts to keep the boys' bathroom smelling fresh.

The library was large and physically attractive, but the curt, brusk librarian generally viewed students as aggravating, potential book despoilers. The students appeared to like the idea of going to the library, but wiggled uncomfortably once within the librarian's realm.

Many of Garfield's classrooms were huge. With twelve foot ceilings and tall windows they were nearly double the size of "modern" classrooms. Teachers often organized all the desks in one end of a room, and used the remaining area for less structured tasks. This gift of space proved in some respects to be a hindrance. The district was not affluent, and its elected board did not provide air conditioning for the old schools. The district would, however, pay the electric bills for any teacher who bought an air conditioning unit for the classroom. At Garfield, a window unit capable of providing even marginal relief from Louisiana's heat and humidity cost over \$1000. This was a prohibitive sum for a first year teacher with a \$13,000 salary. For observers to watch nine year olds fall asleep at their

Table 3

## LSES-IV Observation Team High Inference Ratings\* of Three Schools in Three Levels of School Effect

Potential Levels of Effect		Truman	Arthur	Roosevelt
<b>Student Level<sup>1</sup></b>				
St1	Time on Task	6.0	4.0	5.0
St2	"Sense Making"	4.5	3.0	5.0
	<b>AVERAGE</b>	<b>5.2</b>	<b>3.5</b>	<b>5.0</b>
<b>Classroom Level<sup>2</sup></b>				
T1	Academic Push	5.5	2.0	5.0
T2	Interactive Teaching	4.0	2.0	5.5
T3	New Curricula	2.0	1.0	4.0
	<b>AVERAGE</b>	<b>3.8</b>	<b>1.7</b>	<b>4.8</b>
<b>School Level<sup>3</sup></b>				
S1	Academic Atmosphere	6.6	2.5	5.5
S2	Academic Time	6.0	3.0	6.5
S3	Coordination	7.0	2.0	6.5
S4	Principal Awareness	6.0	1.0	7.0
S5	Hire/Dev./Remove Staff	6.0	1.0	7.0
S6	Library Use	3.0	2.0	4.0
S7	Recognition/Reward	2.2	2.0	6.0
	<b>AVERAGE</b>	<b>5.2</b>	<b>1.9</b>	<b>6.1</b>

\*Each dimension scaled 1 to 7 where 1 represents "clearly absent" and 7 represents "exemplary" Scores represent a Team rating, averaged over the dimensions at each level.

<sup>1</sup>Variables include Time On Task, and perceived potential for students to make academic sense of their schooling.

<sup>2</sup>Variables include planned academic push, interactive teaching, and experimenting with new curricula and instructional techniques.

<sup>3</sup>Variables include friendly but serious academic atmosphere, respect for academic time, coordination among programs, a principal actively involved in the curricula and instruction of their school, a principal who actively improves staff quality, high library use, and systematic recognition and rewards.

desks in 95 degree, humid Louisiana spring afternoons, and to want to join them, was to understand the observation that, "The 'New South' is built on air conditioning." Most classes at Garfield did not have it.

The principal was an easy going former professional baseball player. He viewed himself as a solid manager, a shrewd judge of character, and a peacemaker within the racially divided community. In the overall study, interviews with some principals moved smoothly toward discussions of students, curricula, and instruction. Interviews with Garfield's principal inevitably drifted toward the minor and big leagues of nineteen

forties and fifties baseball. On the occasions when interviewers were able to redirect the discussion toward academics, he expressed concern over what he saw as a confusing mismatch between modern curricula and modern students. He described his frustrations with attempting to raise test scores and, specifically, with students comprehension of math. At one point he had taken over a sixth grade math section for several months, but felt that his intervention made little difference. "The students," he said, "still couldn't use the lengths of a yardstick's and a flagpole's shadows to calculate the height of the flagpole."

His staff, almost all of whom he had hired, offered a mixed picture. One of the third grade teachers was a tireless worker, an innovative educator, and a joy to her students. Another simply sat behind her desk, issuing reading, writing, and ditto-sheet completion instructions, mixed with behavioral reprimands. By mid-afternoon, this teacher's class had invariably degenerated into chaos. The principal seemed comfortable with the contrasts, accepting both as inevitable.

At the end of the 1984 spring term, this principal retired. The superintendent and board settled on a new man, who was not sure he wanted to be principal of so rural a school. The fellow negotiated an agreement with the board which, he said, gave him "carte blanche" to improve the school. In extended interviews at the school and elsewhere, LSES research team members became impressed with his style of dress and his ability to "talk a good game." However, in six days of site visits he was never seen in classrooms, or discussing curriculum or instruction with teachers.

Instruction at Garfield remained a hodgepodge. Observers described classes in which all meaningful instruction ended by 1 p.m. Some teachers did nothing but sit behind their desks, make ditto-sheet and "from the book" assignments, and shout at children. The one superb third grade teacher pushed onward.

Throughout the 1980s, the local school board had sought ways to build new, more modern schools. During the later part of the decade, they succeeded in passing a bond issue, built Chester A. Arthur Consolidated School, and closed Garfield.

### **Chester A. Arthur Consolidated School 1989-90**

Arthur was a "modern", attractive facility. The new principal, a survivor of heart bypass surgery, had previously run a K-12 school. He viewed upper grade schools as inherently stressful, and had been quick to agree to becoming Arthur's first principal. He observed that elementary schools were relatively trouble free. His goal was to preside over Arthur for "two more years and then I'm out of here!" Retirement, he thought, could hardly come too soon.

The LSES teams visiting Arthur did not see this third principal venture near an elementary classroom. Based on extensive observations and two interviews, it appeared that he was even less aware of the academic content of the school, and attended even less to hiring and staff development than his two immediate predecessors.

In 1983, 1984-85, and 1989-90 observers at Garfield/Arthur noted that the school had two recesses

plus 30 minutes of physical education per day. This was 30 minutes more than that printed on the schedule. Most classes began late and ended early.

Reflecting the transfer of faculty from Garfield, there was great variability in the quality and intensity of teaching at Arthur. Many teachers regularly taught only to those students who listened and chose to interact with the curriculum. Most teachers ignored students who ignored academics. A tacit understanding between adults and children in many classes seemed to be, "Don't bother us and we won't bother you." Whole days were fragmented. Virtually the entire school seemed to be a place in which a discussion of "academic push" would have been foreign. During the 1990-91 observations, just as in the Spring of 1983, and 1984-85 visits, the librarian was heard yelling at students. In stark relief, the one superb third grade teacher and a few other competent educators continued working hard in their new environs.

As can be seen in Table 3, observers perceived student TOT at Arthur to be moderate, and the potential for students' "academic sense making" to be somewhat below average. This was not surprising given that teachers were seen as providing very modest amounts of planned academic push, interactive teaching, or new curricula or instructional interventions.

The school was rated below average in its respect for academic time, its academic atmosphere, and its level of coordination among programs. The principal was almost actively ignorant of the academic events of the schools, and unusually passive in hiring, developing, and evaluating teachers. The library remained unused and disliked, and examples of recognition or reward for students' academic effort were restricted to the actions of a few isolated teachers.

During the Spring 1990 visit to Garfield, one positive change was noted. The principal had hired a new assistant principal, whose job was to coordinate elementary grade activities. This new person was likeable and appeared to have gained the confidence of the principal. However, it was too early to determine what changes she might bring. The school had demonstrated a very small increase from fall to spring on the achievement tests, and the emphasis at the school remained heavily on discipline and contained little focus on academics.

The 1983 visit to Garfield had been enjoyable in the sense that observers were regaled with old baseball stories. Otherwise the visit had been depressing. The 1984-85 observations, at the old school but with a new principal, and the 1989-90 observations, at a new physical plant and with a third principal, were uncannily similar, but lacked the baseball.

## AN IMPROVING SCHOOL: THEODORE ROOSEVELT ELEMENTARY

### *Roosevelt in 1984-1985*

Roosevelt stood on a gentle rise at the edge of a small town. Outside the front door was a flagpole, and beyond that a fallow field. A large play yard, most notable for its lack of children's play equipment was behind the school building. Beyond a fence at the back of the play area stood the regional fire departments' outdoor training facility. The school building was a low-budget, 1950s single story structure. In the rear, and off to one side stood "temporary" buildings, which appeared to be more than 10 years old. Classrooms were small, crowded, and dark. Roosevelt bore the stark look of a dirt-poor southern elementary school.

In 1984 Theodore Roosevelt School had a new principal, a soft spoken man with a reputation for toughness. For several years he had been assistant principal at a local secondary school. When the superintendency became open, several influential community members asked him to apply for the position. A man in his thirties, he decided instead to take the principalship of Roosevelt.

Roosevelt had no library, but did receive an allotment of elementary school library books each year. The principal described coming to Roosevelt his first day and finding the teachers lounge virtually inaccessible due to boxes of books. He learned that the former principal had simply stored all incoming library books in the teachers' lounge; the staff had done nothing to distribute them. His first action as principal was to distribute hundreds and hundreds of library books to classrooms. A small library was created in each classroom; teachers were encouraged to trade books among rooms; students were to be encouraged to read widely. The literal and symbolic meanings of that first step were not lost on Roosevelt's teachers: A new day had dawned; academics, especially reading, were going to be stressed.

A new discipline policy was implemented at Roosevelt. Laissez faire was no more. The bell was to mean that all students should be in their classes, working. The principal instructed the faculty to push forward academically. If a student did not achieve, he was called in for a talk with the principal. Students who made the principal's newly installed honor roll found their names printed on a bulletin board outside the school office and listed in the newspaper of the nearest small town.

Two separate research teams observed the implementation of the new principal's policies in the fall and spring and agreed with the majority of the teachers that the new changes were improvements. Several teachers reported that for the first time in years their classes were going to finish their texts.

The data gathered in classrooms did not yet reflect the improvements. Classes began on time, and teachers had tasks before the students at all hours. The measure of student engagement and of teacher rates of interactive teaching were, however, not impressive. While the observers did not doubt the teachers' reports that they and the students were working harder, observers noted that the quality of teaching left much to be desired. Teachers put work in front of students more than they interacted with them. Teachers at Roosevelt did not ask as many questions as teachers in their matched positive outlier school, and questions were focused at a factual level. Introductions to new topics were brief, lectures were rare, and drills slow paced.

The observers' sense was of a school that had made substantial progress, yet had distance to go. Children were being put through their paces more than challenged. Similar to Lightfoot's (1983) description of George Washington Carver High School, the quantitative and qualitative data from Roosevelt documented a tightly run, greatly improved school, but one without a clear vision for instructional excellence.

### *Roosevelt In 1989-90*

Revising Roosevelt proved a rewarding yet confusing task. The confusion derived from the fact that very little of the physical environment had changed. Minor smoke damage from a small fire in the school kitchen resulted in a pleasant new coat of paint for the cafeteria and office, but otherwise the physical plant, and the arrangement of most adults within it, was identical. The same flagpole stood unadorned in the front yard, and the playgrounds remained dusty. There was still no library. School lunches remained excellent. The Chapter 1 and special education programs were housed in the same "temporary" buildings. The same principal continued to work earnestly with his faculty and students. Two of the three third grade teachers taught in the same rooms as five years earlier. Yet Roosevelt was a different place.

In 1990, the teachers assumed that virtually all students would finish their texts each year. Several complained that the district curriculum coordinators sometimes "hold the teachers back" from moving as rapidly as they felt some students were capable of

progressing. (The district's rationale was apparently that the classes would get too far ahead of the district tests and "mess up the system.") Teachers asked students more questions; fewer ditto sheets were seen. In many classes, time was set aside each day for sustained silent reading. During schoolwide reading days, students, parents, and community members read books to each other.

The Roosevelt data in Table 3 depict a school in which students were on task most of the time. Their academic lives appeared to make moderate amounts of sense to them. Teachers were pushing forward, and were interacting with their students much more than in 1985. Academic time was protected at Roosevelt. The principal was aware of many of his school's strengths and weaknesses, worked the personnel system aggressively, and kept academics front and center in the lives of his faculty and students.

The school had not solved all of its problems. A small number of the faculty, including two of the most senior members, continued to not prepare for classes or to actively instruct; local youths continued to vandalize the outdoor basketball goals; and both teachers and students might have benefitted from a revitalization of the curriculum if the district would have allowed it. However, the battle for a fundamental academic mission at Roosevelt had been won.

## DISCUSSION

The evolution of a modern rural school effectiveness research base is necessarily a long term undertaking. Gathering quality student, teacher, and school level process and outcome data in any context is a difficult undertaking. To gather such data in multiple rural schools and school districts is additionally taxing. It is understandable that progress in this important area has been much awaited, yet difficult to obtain.

Phases III and IV of LSES offer evidence that progress in this area is possible. They indicate the presence of clear variance within rural schools on academic achievement and on variables logically associated with student achievement gain. Concrete data connecting rural education to the larger school effects field has been long overdue.

Moreover, LSES rural data demonstrate that rural schools can remain "effective" (or "ineffective") for at least five to seven years; that efforts to improve rural schools can produce dramatic long term changes; and that the sources of various effectiveness levels are no more mysterious or esoteric in rural than in urban

contexts. Regarding the initial hypothesis of the article, LSES data confirm that the schooling processes associated with higher student achievement are essentially identical in urban, suburban, and rural contexts.

There are two more aspects of the analyses that merit discussion. The first has to do with urban-rural comparisons. The sampling scheme identified schools on the basis of outlier status on a statewide basic skills test for a two year period. It was not designed to identify "flashy" or uniquely "innovative" situations; rather, the goal was to identify schools scoring exceptionally well, or poorly, within their local socioeconomic bands. With that caveat, the clearest urban-rural comparison within the data base concerned negative outliers. LSES-III data from three low-inference classroom measures consistently favored the rural negative outlier schools. In both Time On Task and levels of classroom time spent dealing with discipline problems, the lowest measure at any rural school was above the highest urban/suburban negative outlier score. In the area of student expectations, only the highest negative outlier urban school was above the lowest rural school.

Between 1985 and 1989, two of the three rural negative outliers had improved significantly, and the third had not deteriorated. Among the urban/suburban negative outliers, one had actually deteriorated, one remained stuck, and one had made modest gains. To the extent that generalizations from a modest data base are justified, LSES appears to indicate that the floor below which the community will not allow a school to fall is considerably higher in rural than in urban contexts.

A final aspect of this data base has to do with the qualities affecting school effects in rural schools (the second hypothesis of the study). The literatures on "school restructuring," the "effective schools movement" and other essentially urban phenomena are often couched in terms of "bold initiatives," "new programs," and attention-grabbing "hooks" and "sound bites." In LSES urban/suburban schools, principals and teachers oftentalked about Madeline Hunter (in 1984-85), "Whole Language" (in 1989-90), and "assertive discipline" (throughout). Those discussions were conspicuously absent in the rural LSES schools.

Rather, principals either thought or did not think about curriculum and instruction. They spent more (or less) time recruiting, developing, nurturing and, when necessary, removing teachers from their schools. They either spent time in classrooms learning how their teachers were teaching and how their students were learning, or they didn't. School days were or were not structured to maximize instructionally available time.

Teachers worked together or were isolated. The ground-level curriculum was driven by the district, or the

text series, or available ditto sheets, or the creativity of an individual. Teachers actively taught or passively distributed worksheets.

Academics made sense to students in some schools; in others the students did not appear to consider the possibility that academics might ever make sense to anyone. But in none of the rural schools were the choices and actions by a program, label, or fanfare.

Our rural school observers were repeatedly struck by the non-flashy, catch-phrase-free, atheoretical nature of rural schooling. Rather, adults and children appeared to be going about the logical activities of schooling in more or less active, and more or less common sense fashions. The typical rural school had a more reflective, more even-paced approach to its students, faculty, and community.

This fundamental conservatism buffered the rural schools from many of the worst aspects of educational fads. Our only reservation was that it appeared to simultaneously block out some of the more thoughtful movements in education. Rural schools appear to offer many opportunities for students to experience more extended study of the natural sciences, reading of whole books, cooperative learning, and other, less faddish changes. Yet we saw almost none of these.

## A RESEARCH AGENDA

There are at least five areas of rural school effectiveness which need further study. The first concerns simple replications. While we have confidence in the LSES findings, they represent two studies in a total of six rural schools. A scientific basis for educational improvement requires much more hard data.

Second, the relationship between fairly isolated rural schools and their school boards and superintendents deserves study. How do central offices control the curricula? More importantly, how do they facilitate or constrict the search for new teachers and fresh ideas? As a clear example of an educationally destructive relationship, the principal at one rural negative outlier informed us that his school was required to take the cast-off teachers from the neighboring small town's schools. Fine educations can not be constructed by teachers previously identified as having at best marginal competence. Other schools were able to be creative in their recruitment and hiring processes. At least in Louisiana, the most severe teacher shortages appear to be in the inner cities, not the rural areas. How are districts facilitating the flow of personnel, curricula, and ideas?

Third, there is a shortage of well-controlled rural school improvement studies. Not since Rosenblum's and Lewis' (1981) *Stability and Change* has rural school improvement received large scale third party attention.

Fourth, research is needed on creative methods for obtaining and using scarce resources. The rural schools of LSES all had fewer books, materials, and technology than their urban peers. It is possible to use these very disadvantages to some advantage. Chapter 1 funds, for example, can be used in a variety of creative ways. Schools choosing the Chapter 1 "schoolwide projects" option have wide latitude in using their compensatory education funding. Yet we met no rural principal who knew about this two-year-old change in the federal law.

Finally, the field needs better models of school effects generally, and of rural school effects specifically. As such models evolve, refinements that reflect the more common sense, human qualities of rural life will be necessary.

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