DOCUMENT RESUME

ED 282 317 EA 019 412

AUTHOR Glickman, Carl D.; Pajak, Edward F.
TITLE A Study of School Systems in Georgia Which Have Improved Criterion Referenced Test Scores in Reading and Mathematics from 1982 to 1985.
INSTITUTION Georgia Univ., Athens. Dept. of Curriculum and Supervision.
SPONS AGENCY Georgia State Dept. of Education, Atlanta.; Georgia Univ., Athens. Coll. of Education.
PUB DATE 15 Jun 86
GRANT FE1-58-6001998
NOTE 71p.
PUB TYPE Reports - Research/Technical (143) -- Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Administrators; *Criterion Referenced Tests; *Educational Change; *Educational Improvement; Elementary Education; Interviews; Mathematics Tests; Office Management; Reading Tests; *School Districts; *School Effectiveness; School Personnel; School Policy
IDENTIFIERS Georgia

ABSTRACT

Studies that trace change over time are essential to inferring how people change. To add understanding to the change process in school systems in Georgia that demonstrated improved Criterion Referenced Test (CRT) scores for several consecutive years, this study was conducted. Interviews were held with 90 teachers, administrators, and supervisors in 15 elementary schools and 6 middle/junior/intermediate schools, and central office staff personnel from three school sysytems that have improved CRT performance of their students in fourth- and eighth-grade reading and mathematics for three consecutive years. Chapter 1 includes an introduction and description of the population and methodology of the study. The second chapter examines stories of CRT improvement by the school districts studied, giving the opinions and attitudes of faculty and administration, and the various approaches used. The third chapter describes results and conclusions, outlining eight general categories that explain commonalities across the school systems. Those categories are (1) awareness and alignment to CRT, (2) teaching and materials, (3) planning and sharing, (4) reviewing progress, (5) systemwide policies, (6) competition and cooperation, (7) influential persons, and (8) costs. Findings for each category are reported. Concluding the study are six references and two appendices (tables of CRT gains and interview forms). (WTH)

A STUDY OF SCHOOL SYSTEMS IN GEORGIA WHICH HAVE IMPROVED CRITERION REFERENCED TEST SCORES IN READING AND MATHEMATICS FROM 1982 to 1985

Co-Investigators

Carl D. Glickman

Edward F. Pajak

Research Team

Sally Boyett
Charles Franzen
Kay Mahar

Mary Phillips
Deborah Williams
Lance Wright

Department of Curriculum and Supervision
University of Georgia
June 15, 1986

The research reported in this paper was funded by grants from the Georgia Department of Education (FEI No. 58-6001998) and the College of Education, University of Georgia. The opinions expressed in this paper do not necessarily reflect the position, policy, or endorsement by either agency.

ACKNOWLEDGMENTS

We wish to acknowledge the work of several persons. Dr. Tom Holmes from the Department of Educational Administration developed the regression formula and determined adjusted mean scores on criterion referenced tests for each of the school systems. Ms. Robin Webb transcribed the taped interviews within a three-month period of time. Mr. Melvin Hunt served as a substitute for a research member and contributed valuable comments. Dr. David Payne, Director of the Educational Research Laboratory at the University of Georgia and his administrative assistant, Ms. Phebe Smith, coordinated the finances for the study. Ms. Gayle Rogers completed the editing of this report. Ms. Donna Bell did the final typing of this manuscript in her usual excellent manner. Dr. Stan Bernknopf, Coordinator of Student Assessment, and the staff of the Division of Standards and Assessment for the Georgia State Department of Education provided helpful guidance for our project. Finally, we would like to thank Dean Alphonse Buccino, Chairperson Gerald Firth, and posthumously, State Superintendent Charles McDaniel for sponsoring our study.

TABLE OF CONTENTS

Chapter I

Introduction

With the attention being given to increasing student achievement scores as measured by state criterion referenced tests (CRT), it was believed that a study of school systems that have shown consistent improvement on such tests would be of value to school personnel, educational policy makers, and researchers. Furthermore, to study school systems that have shown improvement as well as sustained that improvement at both the elementary and middle school levels would add significantly to the effective school research.

Fullan (1985) has pointed out in his extensive review of the effective school research that there are problems with generalizing the findings to other schools. Most of the effective school research is based on studying schools that demonstrated results of adjusted student achievement scores according to various socioeconomic and ethnic characteristics of the student population over a one-year period of time. Typically, each school studied was contrasted with other schools in similar community surroundings, or statistical adjustments were made in test scores to equate student populations of differing community surroundings. Those schools which then had student achievement significantly higher (or lower) than the others were investigated for particular variables. Researchers determined whether certain school variables correlated with and

discriminated between effective and non-effective schools. As a result, Fullan (1985) wrote:

> Effective schools research takes a highly complex phenomenon and represents it in a vastly simplified manner by citing factors such as strong administrative leadership focusing on instruction, high expectations for students, clear goals, an orderly atmosphere, a system for frequent monitoring of progress, ongoing staff training, and parent involvement as characteristics of effective schools. (p. 398)

Fullan (1985) goes on to write that the effective school research of a short-term and correlational nature does not explain the changes that have occurred over time in the schools:

> Above all, the existing research tells us almost nothing about how an effective school got that way; it tells us little about the process of change. We need to look at the issue of causality. In most all cases, it is not known how a good school got to be one. How did the characteristics of effective schools evolve in a particular school's context? Did certain factors exist before others? (p. 398)

Therefore, a contribution to the effective school research would be to study the change process in particular schools that have shown success <u>over time</u>. "In sum, understanding school success involves knowing how factors operate in particular context rather than merely labelling factors associated with higher student achievement" (Fullan, 1985, p. 398).

The focus on effective school research has been, logically enough, the individual school unit. Therefore, since the only variables and persons that are studied reside within the local unit, only within-school variables have been shown to correlate with effectiveness. However, schools exist as part of a school system and, again logically, if the school system were to be studied as the unit of change, then variables and influential persons might be found outside of the local school building.

For example, in one of the few studies of systemwide change, the Study of Dissemination Efforts Supporting School Improvement, the researchers found:

> . . .central office personnel-curriculum coordinators, program directors, and specialists-have emerged as significant actors in the process of change. In fact, central office staff may well be the linchpins of school improvement efforts, linking together the external assisters and the building level administrators and teachers. They appear to be the most appropriate local sources of assistance in actually using new practices. (Cox, 1983, p. 10)

The present study was conducted to add understanding to the change process in school systems that had improved test scores for several consecutive years. More specifically, the aims of the study were: (a) to determine the sequence and influence of events, factors, and persons in individual school systems, (b) to determine the commonalities across all school systems that had improved test scores, (c) to identify those factors unique to

individual school systems during their improvement process and, (d) to gather any other information related to consequences of using criterion referenced test scores as a measure of system and school success.

In sum, we, as researchers, tried to respond to Fullan's (1985) challenge:

> Studies that trace change over a period of time (even short periods) are essential to inferring how people change. Research needs to go beyond theories of change (what factors explain change) to theories of changing (how change occurs, and how to use this new knowledge). (p. 392)

Procedures for Selection of School Systems

The criteria of effectiveness were measured by student performance on statewide criterion referenced tests given to all fourth and eighth graders in reading and mathematics. Mean raw scores for each test for each school system in the state were obtained, and a linear regression formula was employed to regress these mean raw scores on the percentage of students who were below the federal poverty line (as determined by the number of students participating in the free or reduced price lunch program). The equation for the line of best fit could then be used to predict mean test scores for each district. Previous calculations have shown that over the past several years approximately 50% of the variation in CRT scores among these systems has been associated with variation in the percentages of

students participating in free and reduced price lunch programs (Glickman, Pajak, & Holmes, 1986).

Residual mean test score gains or losses could then be calculated by finding the difference from the actual raw mean score to the predicted mean score. Calculations were made for each of 187 school systems in one state from 1982 to 1985. With a display of scores for each school system, test score gains could be analyzed.

It was determined that a school system which showed an increase over their residual score for each consecutive year on all four measures (4th grade reading and mathematics, 8th grade reading and mathematics) would be initially placed into a category of improving school systems. Only one school system that evidenced yearly residual gains on all four measures was found.

Since the original plan was to study several school systems, a decision needed to be made on how to enlarge the initial criteria. It was decided that school systems that had shown residual gain improvement for each consecutive year on three out of the four criterion referenced tests would be labelled as an improving system. An additional ten school systems met such criteria. With a population of eleven improving school systems as identified through test scores, the next decision was made to screen those school systems through "expert informant" opinion.

Through informal contacts with experts on achievement tests, the researchers were aware that there might be some factors other

than instructional improvement in some school systems which influenced testing and achievement test results. Superintendents, curriculum directors, university researchers, and state officials were quite candid with us in our preliminary discussions that we should proceed with caution in selecting improving school systems. They told us not to assume that every high test score performance had resulted from improved instructional practices or that students were learning more than in previous years. They suggested that we take the time to check further on our eleven improving school systems to ensure that test scores were not the result of administrative manipulations, such as withholding the tests from poor test takers, relabelling students into a lower grade or class for test purposes, or teaching the test. Since real instructional improvement was to be the focus, then a verification check on initially selected school systems was in order.

Due to the obvious sensitivity of asking for such information about a school system's test results, three persons who had working knowledge of the school systems and testing programs were asked to provide confidential reports on the validity of each school system's test scores. This further review raised some questions about two of the eleven school systems, but those questions were not of sufficient gravity to eliminate a particular school system.

Finally, just as the final selection process began in the early fall of 1985 to select three systems, the spring of 1985 test scores for the eleven improving school systems were made

available. Since there was neither time (due to staff schedules to begin on-site visitations in school systems and time requirements imposed by funding agencies) nor complete data available on all 187 school systems to calculate the regressions, it was decided to use the raw mean scores from each 1985 test to determine how many of the eleven school systems had maintained or improved their raw test score results from the previous year on all four measures. Maintenance was defined as either an increase or a decrease of no more than two points from the previous year. With the additional data and maintenance criteria, seven of the eleven school systems were eliminated and four school systems remained that had shown consistent improvement from 1982 to 1984 and had maintained or improved their scores in 1985 (see Appendix A, Tables A-1 and A-2).

Three systems were then selected to study according to differences in school size and geographic placement in the state. One system, Eastview, showed improvement and maintenance in all reading and mathematics scores in the fourth and eighth grades. The two other systems showed improvement and maintenance in all reading scores, fourth and eighth grade levels, and in one of the two grade levels in mathematics. Northview continued to show mean score gains in 1985, and Westview had mixed results with two mean scores increasing and two decreasing (within the two point maintenance levels).

Population and Sample of the Study

Teachers and administrators from five schools within each school system as well as central office personnel from each school system were participants in the study. The schools within each system were chosen by the central office staff, guided by the investigators' request to visit those schools which would be most exemplary in test score improvement in reading and mathematics from 1982 to the present. Thus, the five schools within each system were chosen by design. The five persons within each school and the five persons from the central office were selected on the basis of particular knowledge that they possessed and on the basis that they had been in their positions or in the same situation for the past four years. This was easily the case with most participants, but there were a few principals, teachers, or central office personnel who had assumed their positions during the improvement period.

In total, the study was conducted on three school systems, with five persons interviewed from the central office, five persons from each of three elementary schools, and five persons from each of two middle schools. This added to thirty persons from each school system -- a total of ninety participants.

The three school systems identified as Northview, Eastview, and Westview were quite different from each other. Northview is a relatively moderate sized school system with approximately 280 teachers, seven elementary schools, two junior high schools, and one high school. It is located in a rural community in the northern mountain region with a predominantly white student

population. Achievement scores of students have traditionally ranked in the top quartile in the state. Eastview is a large urban school system located in the eastern section of the state with approximately 1300 teachers, 33 elementary schools, 8 middle schools, and 6 high schools. The overall student population is balanced in racial composition between black and white students, and achievement scores have been below state averages. Westview is a small school system located in the western section of the state, consisting of 150 teachers, two elementary schools, one intermediate school, a junior high, and a high school. The majority of the student population is white, and the community is primarily middle class. The students in the schools have scored among the highest in the state on achievement tests.

We asked the respective superintendents to choose the three elementary schools and two junior high/middle schools which would be the best examples of their improvement efforts. We further asked to conduct interviews with central office staff (superintendent, curriculum directors, assistant superintendents, directors, and supervisors) who could tell us about what had happened in the school system since 1982. We also asked for each principal of the five schools to choose at least two reading and mathematics teachers at the grade level closest to the tested level (either 4th or 8th grade) and three other teachers or school personnel who could provide a perspective on school improvements in regard to gains in achievement scores. We asked for teachers who had been in the same school since at least 1982 and preferably several years before. From an overall population

of 42 elementary schools and 12 intermediate/junior high/middle schools, 15 schools constituted the sample: five schools from each of the three school systems (three elementary and two intermediate/junior high/middle schools). Fifteen central office staff personnel responsible for instruction, five from each staffs were also interviewed.

Methodology

A team of six trained interviewers from a staff of nine investigators visited each school site on specified dates to conduct interviews with five different persons in each of the six locations: 3 elementary schools, 2 middle schools, and the central office. The interviewers developed and field tested a semistructured interview protocol at school system prior to standardizing a final interview schedule. As seen in Appendix B, the semistructured interviews consisted of open-ended questions that asked for contributing factors, persons, and events that would help explain the improvement in achievement scores. Each investigator was trained to ask probing questions and to elicit clarifying statements without influencing the interviewees' responses. Field notes were taken by the interviewers, and each interview was taped and later transcribed. Immediately following a site visit, the team of interviewers met together and held lengthy debriefing sessions to share first impressions on the improvement effort. Later, each investigator listened to selected tapes of interviews which provided information about a particular part of the improvement story. Parts of the story

were categorized as (a) reading, (b) mathematics, (c) elementary school (d) junior high school, (e) principal's role, (f) central office role, and (g) systemwide change processes.

Individual concept papers were written by each investigator according to his/her assigned topic. A second meeting of all investigators was held to listen to, discuss, and debate each concept paper and to fill in missing information about the overall story of achievement test improvement. At each of the three sites, the same methodology was employed: (a) on-site interviews, (b) field notes, (c) immediate debriefing, (d) concept paper development according to particular themes, and (e) concept paper discussions. The entire team of researchers held a final meeting to identify commonalities and differences in the stories of CRT improvements identified by the research in all three school systems.

Organization of Findings and Alterations of Identifying Information

In the following chapter, the story of CRT improvements for each school system as determined by the team of researchers through taped interviews with building level teachers, supervisors, and administrators and central office personnel will be reported. Exact chronologies of events are not detailed and some alterations in information about schools, sites, and persons have been made to ensure the anonymity of the schools and systems that have been studied. The following reports are the researchers' attempt to collect findings and provide a descriptive and generalized account of the story of improvement.

Chapter II

Stories of CRT Improvements by School Systems

The story of CRT improvement for each of the three school systems follows. The story was gathered by listening to teachers, principals, and central office staff and superintendents talk about what had happened prior to and through the improvement period of 1982 to 1985. Individual interviewees had different pieces of information and occasionally different versions of what occurred. The research team has tried to describe what has occurred through the composite thoughts of the professional educators. Where differences in accounts could not be reconciled, they also are reported.

Eastview County School District

Eastview school is a large urban school district that in 1982 had a multi-million dollar budget deficit. At that time, teacher supplements were eliminated, central office staff was reduced by more than half, and high school coaching and other specialized teaching positions were cut. A new superintendent who had been a former high school principal came into office and proclaimed that the schools were "in a mess" and that he would need all the help that he could get from the community, principals, and teachers. The superintendent pleaded for a "team approach" and a "spirit of togetherness," for "the kids in this district need your help."

The superintendent furthered his commitment to move the system into a new period by publically proclaiming to the school board that things were going to get better, that test scores were to be a measure of that progress, and that he would resign in three years if improvements had not occurred. He placed the same expectations on his school principals by telling them that their schools were to improve or they'd be leaving with him. Interestingly enough, he did not put the same expectations on the teachers. Teachers did not mention being held accountable for the achievement of their students or feeling that their jobs were on the line. Rather, the superintendent appealed to their sense of professionalism, asking them to work harder for students at a time when they were receiving less money and less planning time. The central office staff had involved teachers in making schoolwide policy decisions in the past and now asked them to work with their principals in developing their own classroom, team and department, and building level improvement plans.

Most teachers and principals mentioned the school improvement plans as a critical factor in their success. It would be misleading to think that improvement began solely as a result of a superintendent's exhortations to develop school-based plans. The central office staff played an active key role in helping schools develop their plans, providing staff development for achieving their plans, and providing coordination of systemwide policies. Additionally, instructional lead teachers in every elementary school and assistant principals at every

middle school engaged in the direct, day-to-day work with teachers to help make the plans a success.

The principal, with the lead teacher or assistant principal of each school, had been called to the district office by the superintendent to meet personally with him and with central office staff members responsible for curriculum, instruction and testing. The testing coordinator explained to them the school's most recent test results. The superintendent emphasized to each principal and lead teacher that they were responsible for improving test results in their school, but then asked, "How can we help and support you?" The curriculum staff then offered suggestions and scheduled help to each school in developing and implementing the plan.

Since 1982, this procedure has been repeated every year. Resources were directed where needs were greatest. Staff development, materials, and facilities improvements were directed toward schools with the greatest proportion of low achievers. Each individual school then is left free to decide the particulars of reaching its improvement goals. Each school, for example, develops its own goal statements and activities for reaching those goals. Goal achievement is then monitored mainly by principals and lead teachers at the building level. The central office asks that the plans address various areas of schooling: instruction (test achievement), school climate (student and teacher attitudes and perceptions), and community relations (parental involvement, business cooperation, volunteer programs). Although test achievement is important, all of these

areas are viewed as contributing to the instructional improvement effort. Very recently, school principals who have similar goals met together in clusters to share ideas and help each other with their plans.

Central office personnel visited schools once each academic quarter to meet with principals. These conferences dealt predominantly with two questions: How are things going? What can we at the central office do to help? If major problems existed, however, central office personnel were said to get directly to the difficulty immediately rather than "beating around the bush."

School-based planning has been the focus of districtwide efforts. The plans are made within the parameters of district-wide policies and programs. Such policies and programs were also cited by many participants as important contributors to the CRT improvements. For example, the central office curriculum staff began to focus on the criterion referenced tests almost ten years before when the exam was first introduced by the state in 1976. A "lead teacher" program was initiated in the elementary schools whereby an exemplary teacher was chosen to work full time on assisting teachers with instruction. This program not only survived the budget deficit but was expanded to every school. Similar positions, assistant principals for instruction, are provided at each middle and secondary school. Furthermore, in 1979, curriculum objectives and guides were developed and cross-referenced with criterion referenced test objectives. In 1980, a

promotion policy was established, and middle school programs were initiated.

Individual teachers in the schools did not feel any external pressure to increase achievement. They saw themselves as being allowed to make their own plans with goal statements of improvement, but not as having to specify activities or strategies. Procedures used by principals to monitor teachers varied considerably from building to building. Teachers did consistently keep individual records of student progress in mastery of reading and mathematics objectives as stated in the curriculum guide. Several principals spoke of checking teachers' lesson plans for references to curriculum objectives, while others did not require written plans. All the principals interviewed, however, did mention that the frequency of classroom visits by themselves and by lead teachers had increased in recent years.

Instructional lead teachers and assistant principals seemed to play a more active role than the principal in helping teachers to improve, but again, no single model of teaching or instruction was advocated as best. Lead teachers were very much involved in insuring that teachers had the resources and materials they needed to teach well. Teachers consistently spoke positively and enthusiastically of the assistance offered by their lead teacher or assistant principal whom they viewed as a credible curriculum and instruction expert and facilitator. The lead teachers/ assistant principals spent much time meeting with individual

teachers and grade level teams to review curriculum objectives, diagnostic testing, and lesson planning.

In 1981, the central office instructional staff had been substantially trimmed from twelve positions to five, with most losses being subject area specialists. However, this represented more of a reallocation of funds than a cutback of instructional services, since the number of lead teachers at the local buildings was increased. The lead teacher/assistant principal's position was more clearly defined as being solely responsible for instructional improvement, not administration or teacher evaluation.

The curriculum objectives for reading and mathematics were broader than the CRT objectives but districtwide curriculum committees ensured that CRT objectives were covered. Teacher lesson plans were cross referenced to the curriculum guide, not to the CRT objectives. However, staff development sessions held by the central office testing department made teachers aware of which objectives were part of the CRT.

The districtwide promotion policy was seen as a major factor in CRT improvement. A student's performance on achievement tests became part of the criteria for promotion to the next grade (a student must be no more than two years below grade level). In 1981, when the promotion policy was fully implemented, some middle/junior high schools had a large percentage of students retained in the eighth grade. The message sent to students, teachers, and parents was that achievement tests were to be taken

seriously. In addition, districtwide committees established homework and attendance policies.

Over the three-year improvement period, other achievement scores, attendance, and parent/community involvement had all improved in the district. It was difficult for participants to separate the improvements in one area from others. The adopt-a-school program initiated by the central office had resulted in each school's having a business that contributed monies, materials, and often human assistance. Parent volunteer programs were begun with specialized training for parents in tutoring students and assisting teachers with clerical duties.

Efforts were taken to provide more resources and services to low achieving students in addition to the pullout remediation programs. A special program provided additional resources and reduced class sizes for teachers who wished to work with low-achieving students. Schools which had a higher proportion of low-achieving students received additional funds, materials, and assistance.

Data on student performance were used extensively throughout the year by each school. Personnel from the evaluation division of the central office visited schools and met with faculty, principals, and instructional lead teachers/assistant principals to explain test results and answer questions. The instructional lead teachers and principals analyzed the data further (again, often with central office assistance) and met with groups of teachers to develop targets for the following year. As a result,

teachers and administrators were constantly kept aware of their students' progress on tests.

It may be worth noting various test-taking "gimmicks" that many of the schools used. There were academic pep rallies prior to test dates, letters of recognition to students after the test dates, and specific class times for teaching test preparation skills prior to the CRT administrations.

Since 1981, when teachers became increasingly involved in developing improvement plans, keeping individual student record forms, and correlating lesson plans with curriculum guide objectives, the district appears to have made a conscious effort to compensate for the extra work by increased salaries, additional planning time, help with clerical duties, and lower classroom size.

All in all, the story of Eastview is one of a district that hit bottom in finances and morale, but at the same time, had an organization with specific instructional positions and policies in place to begin to improve. A new superintendent acted as the catalyst by establishing test improvement as a high priority and the decentralizing the effort to the individual schools. An active central office helped the individual schools develop their plans and provided technical assistance and staff development. Instructional lead teachers and assistant principals carried out the direct instructional work with teachers while principals supported the entire effort.

Northview County School District

Many of the professional educators interviewed in the Northview County School System attributed the district's consistent gains in test scores primarily to the current superintendent's extensive experience in education: He had been a teacher, special education director, and elementary school principal. This experience gave him credibility as an instructional leader with the professional staff and seemed to be a major source of his influence with them.

As a former principal of an elementary school in the Northview district, the superintendent was reputed to have had the school with the highest Criterion Reference Test scores in the county. While running for election, and upon entering office as superintendent, he consistently let people know that district-wide improvement of CRT scores was a very high priority. One of the central office staff said that the superintendent's goal was simply to have "the best school system in the state."

The superintendent expressed a personal philosophy that was very much child oriented and said that when he ran for office his slogan had been, "The only special interest group we have is children." He thought that it was crucial to a school district's success for people in the community to think less about political considerations and more about providing high quality instruction for students.

One of the first steps taken toward improving instruction in Northview district, according to the superintendent, was locating

additional local revenues. He had entered the office with strong support from the school board and had a personal vision which included some specific ideas for improving the district's schools. What he quickly learned, however, was that some of the changes he had in mind would cost more money than was available.

Consequently, the superintendent began spending much of his time speaking before various community groups and working closely with the local Chamber of Commerce and Farm Bureau to gain support for a one-cent local sales tax on wine and beer. This tax was said to provide approximately one-third of the revenue raised locally to support the schools. The money reportedly has been applied mainly to instructional improvement efforts such as providing instructional services to teachers, lowering the teacher-student ratio, hiring teacher aides, and purchasing instructional materials.

The superintendent commented that when he entered office the school system was already a "pretty good" one, mainly because of the quality of its teachers. He felt that in the past, however, the central office had not provided sufficient guidance or leadership in curriculum or instructional improvement. The superintendent observed that the district had been mainly lacking in cohesiveness and consistency. He sought to alter this situation through a series of structural and policy changes which were implemented throughout the district and which were designed to insure greater uniformity.

At approximately the time that the superintendent entered office, the district's curriculum director retired. This position was filled, and two new district level instructional leadership positions were created. Responsibility for curriculum and supervision were divided among these three individuals according to grade level, with one position responsible for grades kindergarten through 3, another responsible for grades 4 through 8, and the third responsible for the instructional program in grades 9 through 12. Each worked closely with a fourth member of the central office staff, the Director of Special Education.

The guiding philosophy of the Northview district seems to be a combination of a strong emphasis on improving test scores, tempered by what was described by the superintendent as "a sincere concern for children and their welfare." An interest was expressed among members of the central office staff in exceeding minimum state standards and "staying ahead of the game" by anticipating and implementing changes for school improvement well before they are mandated by the state. An example of this is full day kindergarten, which is already established and functioning.

The improvement process began, according to members of the central office team, by emphasizing the importance of the CRT objectives to principals and teachers. The superintendent, as mentioned previously, stressed testing results and established an environment of high expectations which permeated downward through the principals to the teachers. Higher expectations for students

were evidenced in the implementation of a uniform systemwide retention policy in 1981. This policy was begun in the first grade that year and required students to master the CRT objectives before moving into the second grade. Each subsequent year, the promotion standard was extended upward to another grade level.

A belief in diagnosis of student needs through testing, remediation through application of appropriate instructional strategies, and careful record keeping also apparently originated with the superintendent and the central office staff and filtered downward to the classroom level where these practices were enacted. The central office staff frequently expressed an awareness of the learning difficulties many students had and the extra attention they required in order to achieve. Early diagnosis and remediation were viewed as the best way of insuring that students' needs were met.

A test score goal was also established by the central office for each local building, with elementary schools targeted to score 10 percent higher than the state regional average and middle schools to score 5 percent higher than the regional average. Specific procedures and record keeping forms were devised, mandated, and published by the central office for use as a Principal's Handbook. Material resources were organized; and principals, instructional supervisors, and teachers were mobilized to work toward the goal of test score improvement. In the words of one central office staff member, "Everyone knows the expectations and that they will be inspected."

Another of the policies established was a specification of time to be allocated to various subjects by teachers in the classroom. An effort also was made to align the district's curriculum with the test's objectives. All teachers were required to complete lesson plans at least five days in advance of instruction, document the inclusion of CRT objectives on each plan, specify time to be spent on various subjects, and have these plans available for unannounced inspection by the principal or instructional supervisors at any time.

At all levels of the district, people spoke of the abundant availability of teaching materials. Enough textbooks were purchased, for example, so that every student had a personal copy in every subject. Textbooks were standardized throughout the district, with particularly close attention paid to how well the content coincided with the CRT. A single textbook series was selected to insure continuity, and supplemental materials were purchased from the same publisher. The local P.T.A. helped raise funds which supplemented those provided by the district so that teachers could order practically anything they needed for teaching their classes. A part of the principals' responsibility was to be sure that teachers had adequate resources.

Central office supervisors reported that their jobs involved a number of functions which included making expectations clear to principals and teachers, providing support to principals and teachers, being available at the building level for solving problems, and maintaining confidence. The supervisors said that they saw themselves as resources for teachers. Although they

formally observed each teacher in the district at least twice each year, the supervisors suggested that these observations served more often to validate and confirm a teacher's worth than to evaluate or criticize.

Central office supervisors reported spending the most time working with groups of teachers on developing curriculum and revising course guides. The central office staff also worked with groups of teachers in constructing idea booklets, through which teachers shared ideas with colleagues, and teacher-made materials that supplemented gaps identified in material covered by the textbooks. The central office staff was proud that almost all of them had completed advanced degrees in administration or supervision which they felt helped them perform their jobs well. They also reported attending workshops and conferences regularly to gain new ideas.

During the past five years, several new principals had been hired in the district as retirements occurred. From the perspective of the central office, principals were expected to be "instructional leaders." What this seemed to mean in practice was that they closely monitored teacher behavior. All teachers were formally observed at least four times annually, twice by the principal and twice by a member of the central office staff. However, principals were expected to be highly visible in their schools to maintain contact and provide support and encouragement to their faculties. The expectation was that at least half of their workday was to be devoted to instructional improvement.

Principals were expected to follow the lead of the central office, but were free to use creativity and ingenuity within the context of district goals. Teachers did not seem to be very much involved in decisions at the district level concerning specific changes which affected instruction. An example of a change about which teachers apparently were not consulted involved a mandate that teacher-centered instructional methods be used in place of learning centers at the elementary level. This policy was applied after it was noted that schools in which learning centers were prevalent had lower CRT scores than schools in which traditional teacher-centered instruction was more common.

Much of the responsibility for test score improvement was attributed by the central office directly to teachers and the hard work they did at the classroom level. Improvements in working conditions for teachers seemed to be viewed in the central office as adquate compensation for the lack of direct teacher participation in setting instructional policy. Among the general improvements in working conditions cited were smaller classes, planning time for elementary teachers, the addition of aides, greater availability and general upgrading of instructional materials, and a steadily increasing local supplement to the state salary schedule. The district also had a policy of issuing tuition grants which paid for up to ten hours per academic quarter to teachers who were working on advanced degrees. It did not appear that teachers were required to use any prescribed teaching strategies or methods to improve instruction. These decisions seemed to be left entirely to them. Teachers

were said to share and interact more with colleagues because of the emphasis on test score improvement.

An innovation implemented within the last year was a record keeping system in which the accomplishments of individual students relative to each CRT objective were charted. Teachers were required to track the progress of each student using an Objective Mastery Record Chart, which indicated the dates of introduction and mastery of each CRT objective. The charts were submitted to principals at six-week intervals, and the principals subsequently submitted reports to the county office. Detailed improvement plans were required of any grade level at any school which fell below regional state averages at the end of the year and were to provide the focus for the next year's improvement goals at a school.

Central office personnel recognized that initial dissatisfaction among teachers surfaced over what was viewed as unnecessary paperwork. The charting of objectives for each student had been originally initiated independently by a principal at a school with the lowest test scores in the district. Teacher dissatisfaction apparently appeared there as well. The belief was expressed, however, that teachers were beginning to appreciate the benefits that the system offered for students. That benefits also will accrue in schools where students are already doing well seems to be taken for granted.

The superintendent thought that a spirit of competition between schools was good and saw it as a major and important virtue of the "American way of life." He believed that

competitiveness was good for education and that the current reform movement on the state level, especially, would increase it even more. Interestingly, this belief in competition was balanced by a strong expressed concern for the weak and ill-equipped. The superintendent pointed out that not only had the district succeeded in raising test scores consistently for three years in a row but that the range between schools had been substantially reduced. This was due, he said, to careful attention to upgrading staff, materials, and facilities at what had been previously ignored isolated rural schools. Parent complaints about instruction, he said, were taken seriously, investigated, and worked through.

Relationships among professional staff members were generally described as positive and cooperative. The few cases of expressed dissatisfaction were in instances where teachers felt pressured because of increased paperwork caused by the recently added record keeping requirements and the emphasis on maintaining a previous year's level of achievement. There was also some concern that an overemphasis on the CRT excluded other possibilities in the curriculum and that time taken up by planning and record keeping limited teachers' opportunties to provide individualized attention to students. At both the classroom and central office levels the comment was made that perhaps the limit had been reached, that teachers had done so much in so short a time that they simply could not be asked to do any more.

Westview City School District

Of the three school systems that participated in the study, the teachers, supervisors, and administrators working in the Westview City District seemed to be the least concerned about studen performance on the Criterion Reference Test. Some of the teachers who were interviewed, in fact, expressed surprise when researchers told them that students in their district had shown consistent gains on CRT scores, and they sometimes had considerable difficulty immediately identifying particular events or people they perceived as being related to or responsible for the gains. Test scores seemed to be only one standard by which the quality of the instructional program was measured in Westview, and they did not appear to be emphasized to the degree that they were in the other two districts. Perceptions of performance tended to be more global and holistic, with responsibility for the improvements more often attributed to group instead of individual efforts.

Rather than emphasizing change, the superintendent of Westview Schools spoke of tradition and continuity. He said that the district had always been concerned with providing high quality educational opportunities for students and that he simply carried on a legacy which had been inherited from his predecessor. He described his faculty as very stable and said that the school system enjoyed a "family" atmosphere among its staff, students, and community. The superintendent pointed to specific examples to illustrate this point, such as an extensive network of curriculum committees, nearly 100 percent parental

involvement in grades kindergraten through six, and overlapping membership on the executive boards of the school, city government, civic organizations, and local college.

The single most notable feature of the Westview District, in fact, was its heavy reliance on group participation at all levels. This pattern possibly contributed to the feeling of "family" mentioned by the superintendent, as well as providing continuity and stability, but it seems that extensive participation and overlapping membership also made the district adaptable and responsive to its environment when a need for change was anticipated.

During the 1970's the district had been heavily invested in the educational movements of that era such as individualized instruction and open classrooms. Toward the end of the decade, however, a high school principal in the district became concerned about falling S. A. T. scores and the small number of students enrolling in advanced mathematics courses. He approached the former superintendent with his concern, and a meeting of all mathematics department heads in the intermediate, junior, and senior high schools was called to formulate a plan for improvement. It was decided at that time to establish greater coordination of the mathematics curriculum and to utilize a single textbook series from grades 5 through 12 in mathematics. Elementary teachers were told that they must teach mathematics each day; formerly, the decision of when and how much math to teach was left entirely to them.

Shortly thereafter, according to the recollection of a number of people interviewed, the state department of education began emphasizing test scores as a measure of student achievement. Workshops which focused on the CRT were held for teachers in the lower grades. The purpose was primarily to develop an awareness of the test among teachers. The format was relatively informal, with each teacher assigned an objective which they presented to their colleagues. The group then brainstormed ideas for teaching the objective, while a recorder took notes. These meetings were apparently the beginning of more formal curriculum committees. Several years later the superintendent retired, and the high school principal who had initiated the change in mathematics instruction was appointed in his place. The current superintendent said that after five years he continued to consult with his predecessor.

Just prior to the time the new superintendent took office, the central office instructional support staff was expanded from one to two; then later three full-time supervisors of instruction, plus a full-time special education director were added. A recent drop in enrollment, however, resulted in the elimination of one of the regular supervisory slots. These central office supervisors were initially involved with organizing committees of teachers to write curriculum guides which were aligned with CRT objectives. Course guides were later developed for use in the junior and senior high schools in all subjects. In 1984, the teacher committees became involved in

writing more complete and comprehensive curriculum guides as part of the five-year curriculum review cycle.

The central office staff gave credit to everyone for the improvements in CRT scores. School board members were described as being aware, supportive, educated, and interested. The superintendent was praised for encouraging high expectations and providing support as well as being extremely interested in making sure that teachers were provided with the materials and tools they needed to do their jobs well. No one could recollect the superintendent's ever issuing an ultimatum or directive to "go out and raise test scores," but he was said to talk about test scores "a lot" and to let people know that he considered them to be important.

The central office staff described each other in very favorable terms, such as conscientious, friendly, outgoing, visible, and approachable. Most of their time was taken up working with committees of teachers on curriculum, developing instructional materials for teachers to use, and writing reports. Teachers were aware that the district office staff thought test scores were important and that support and assistance were available from that office. But the perception of a common goal of improving skills among teachers themselves was seen as more influential in accounting for gains than any one person's efforts.

In 1982 and 1983 the central office instructional support staff developed packets of activities relating to the CRT and disseminated these to teachers. In 1983 six sample tests were

also developed that were used by teachers in class along with the activities. Students were said to occasionally complete a page or two between classroom assignments or when they had finished their regular work. Teaches regularly used activities from resource files, kept progress reports for each student, and informed parents weekly of their child's progress. We were told that teachers were expected to record the data of mastery of minimum skills by students in gradebooks and on report cards. There did not appear to be close monitoring of teachers by administrators or supervisors, however, to insure that resource files were utilized or records kept. The district seemed to rely substantially on self monitoring and peer monitoring by teachers, with some involvement of team leaders and department heads.

Test score results were released to individual teachers. Grade level teams and academic deparmtents reviewed scores and met at least once a month to examine what they were teaching and where they were in the curriculum as the year progresses. Again, participants said that they were not aware of any external monitoring or required record keeping in this regard.

A number of policies were also implemented during the last five years which the superintendent and central office staff believed made a difference in test scores. The district attempted to identify learning problems of students as early as kindergarten and the first grade, with close cooperation between special and regular education teachers throughout all grade levels. An attempt was made to reduce student-teacher ratios, especially in the early grades. Students were grouped by ability

from the third grade on, and a promotion policy tied to mastery of CRT objectives had been in place for four years. A single textbook series and management system in both mathematics and reading were introduced two years ago.

Emphasis on CRT objectives in the junior high school is particularly evident with the low achievement level of students. Since Westview is a predominately well-educated community, the vast majority of students can master the CRT objectives prior to the eighth grade test. However, students who are two or more grade levels behind in mathematics and reading are placed in compensatory mathematics and English classes in addition to their regular mathematics and English classes. The compensatory classes emphasize the skills tested by the CRT.

There was considerable feeling among the professional staff at Westview that a major reason for the district's success was that the emphasis on high quality instruction was a settled issue, and everyone, therefore, knew where to invest his or her energy. Teachers made certain that students mastered basic skills but said that they went well beyond them. Teacher committees were said to be constantly involved in upgrading and refining the curriculum. Staff development for teachers was based on needs assessments, and attendance at workshops was related to modest increases in salary. Close communication and cooperation between teachers and parents were strongly encouraged.

The system was described by one staff member in the central office as "not being overly specialized," and as having a "lot of

cooperation." While there did not seem to be a clear consensus among everyone about what specific responsibilities were assigned to the building and district levels of leadership, the impression conveyed was that the roles of central office supervisors and principals were very different in terms of contributions to instructional improvement. Principals were said to be "kept informed," which suggested that they were not actively involved in actual planning on issues relating to instruction. Principals were described as being "supportive" and "interested in students."

The district level staff said that principals were active in observing and monitoring time on task and the teaching of the curriculum, and that they regularly reinforced staff development themes and integrated them into faculty meetings, but there seemed to be some variation among principals in the extent of their involvement. Very few principals were identified by their teachers as the instructional leader in the school. Lesson plans were not required, and principals relied more on short informal visits to classrooms than on formal observations. Principals were described as being very cooperative and supportive of instructional improvement, however, and as being willing to allow teachers to be released, for example, for curriculum and staff development activities. When teachers had specific performance problems, central office staff were sometimes called in as consultants by the principals.

The instructional leaders at the school building level tended to be team leaders or department chairs who worked

collaboratively with their teachers for the most part and who were assisted in their efforts by the central office staff. Because of the involvement of teachers in decisions affecting instruction, several accomodations were made to ease their workload. An effort was made to lower the teacher-student ratio by limiting class size to approximately 25 students per class. Half-time aides were available to all teachers in the primary grades, and the district implemeted a computerized record keeping system.

The superintendent empahsized that the selection of high quality new teachers had always been a top priority in the school system. He said that there was little turnover among faculty and administrators, and boasted that 75 percent of his professional staff had received advanced degrees. Teacher curriculum committees were credited by the superintendent and other central office staff membes as having been a significant force in the improvement of test scores and other measures of achievement. Teachers were described as being knowledgeable, caring, and committed, and as having highly developed communication skills which enabled them to talk to one another professionally.

Principals unanimously felt that hiring and training good teachers was a major contributor to CRT improvement. One principal stated that teachers were working harder than ever before by increasing student time on task, paying more attention to students' progress, and cooperating more in exchanging teaching strategies with each other. Several mentioned that school climate and teacher morale had improved in recent years.

Most teachers who were interviewed expressed positive attitudes and seemed to be proud of their schools. They felt that they had achieved improved test scores without sacrificing their autonomy in the classroom to use creative instructional methods that they believed were appropriate. Some negative feelings were recalled as having been experienced during the initial development of curriculum guides because of what were described as "enormous time and energy commitments," despite the fact that the district had tried to compensate teachers by granting inservice credit, release time, and cash payment. These ill feelings were said by teachers to have passed and that most now found the guides very useful.

Overall, the district was portrayed by central office staff as being primarily interested in improving academics overall, not simply in terms of test scores. The superintendent described the improvement effort as "grassroots-up." He himself was encouraged by the school board to become substantially involved in community affairs. It appeared that he delegated responsibility for instructional improvement to a competent and committed central office staff who worked well together as a cohesive team. Principals acted for the most part as supporters and monitors of the instructinal improvement effort. Teachers were treated as professionals whose opinions were valued. They believed that they were actively involved in making decisions affecting the school improvement process and felt a sense of ownership in the changes that had taken place.

Summary

Three school systems had shown consistent improvements in student achievemnt on the CRT in fourth and eighth grade reading. The stories of each system had some commonalities such as curriculum alignments, lesson planning, and record keeping, but the change approaches were quite different. The approaches ranged from a top-down approach with initiatives and requirements emanating from the central office to an approach where the central office set the general goals and decentralized planning to the local schools, to a bottom-up approach whereby the teachers largely controlled the directions of goals and curriculum/instructional policies. In the next chapter, common findings and differences will be noted with attention to general concepts evident in all the change strategies.

Chapter III

Results and Conclusions

Commonalities as well as differences are evident in the stories of CRT improvement in the three school systems. After describing the change story for each school system, the investigators wrote an independent analysis of commonalities and differences across all systems. The researchers then met as an eight-member team to corroborate the findings. After reviewing the findings, eight general categories were derived that explained most of the specific commonalities. The categories are (1) awareness and alignment, (2) teaching and materials, (3) planning and sharing, (4) reviewing progress, (5) systemwide policies, (6) competition and cooperation, (7) influential persons, and (8) costs. Under each category particular findings will be reported.

Awareness and Alignment

Awareness of CRT: Teachers, principals, and support personnel were made aware of the criterion referenced tests. In each school system, at the beginning of the improvement effort, the importance of the CRT as a measure of school and systemwide success and as a measure of individual student progress for promotion in the fourth grade and eighth grade was stressed.

Data on CRT Performance: In all school systems, educators were informed of how students performed on each objective of the CRT by school system, school, and grade level. Decisions on what to

teach, when to teach, and what to emphasize were based on the student scores from the previous year.

Aligning Curriculum to CRT Objectives: At the beginning of the improvement period, teachers, principals, and central office personnel were asked to review CRT objectives and correlate those objectives with the existing curriculum. In cases where there was no coverage of a CRT objective, the curriculum was revised to include all of the objectives.

Coverage of CRT Objectives: With curriculum alignment to CRT objectives, sequencing of curriculum content and reordering of text materials were done so that students were taught all CRT objectives prior to the spring test administration.

Teaching and Materials

Selection of Textbook and Teaching Materials: Alignment of CRT objectives with textbook series in reading and mathematics was conducted. Decisions on future adoption of textbook series were made based on adequacy of coverage of CRT objectives. All of the school systems eventually adopted a single textbook series for both elementary and middle schools.

Procurement and Development of Teaching Materials for Particular CRT Objectives: Whenever certain CRT objectives were judged to be inadequately covered in the textbook, the school systems provided additional teaching materials. Files of activities coded to objectives were developed by and shared among teachers.

Instructional Time Organized to Reflect Content Importance: More time was allocated for the teaching of reading and mathematics. Teachers were clear on the purpose and sequence of each daily lesson and the instruction was tightly sequenced and more teacher-centered.

Test Taking Practice and Preparation: Prior to the CRT administration, students were prepared on how to take the test, i.e., following directions, filling in answer sheets, and practicing on sample tests. Students were instructed to be well rested and fed. Parents were notified of the days of the tests and given hints on how to prepare their children.

Planning and Sharing

Coordination of Teaching With Compensatory Teachers: Those students who received additional mathematics and reading instruction as part of the school's compensatory education program received instruction closely related to the work that they were doing in the regular classroom. As a result, the students were retaught and reinforced on CRT objectives in both classroom settings.

Plans for Improvement: In all three school systems, action plans identifying targets for CRT improvements and related activities and resources were written. In most cases the plans were written at the school, grade, or department levels. (At one school, in one school system, the plans were developed at the individual classroom level).

Exchanging Classroom Materials: Teachers identified materials in their possession to share with each other and created materials that would be useful for other teachers in teaching CRT objectives.

Staff Development Time for Planning: Part of contracted inservice days during the school year were used for teachers to review CRT results, to meet together and plan improvements, to review progress, to organize their lesson plans, and to complete individual student records. In none of the school systems was staff development time used to train all teachers in particular teaching behaviors.

Reviewing Progress

CRT Objectives Noted in Lesson Plans: All teachers of reading and mathematics either noted on their daily lesson plans and/or were conscious of the CRT objectives that they were covering.

Reviewing CRT Lesson Coverage and Progress: In each school system, teaching of CRT objectives was reviewed during the school year either by, or a combination of, principals, central office supervisors, building level supervisors, or by peers.

Recording Keeping on Individual Student Mastery: Mathematics and reading folders were kept for each student. The forms noted the CRT objectives to be taught and when the student had mastered each. In middle schools, this record keeping was not kept for students who were above average in reading and mathematics achievement.

System Wide Policies

Promotion Standards: In each school system, standards for promotion into the fifth or ninth grade were based in part on the performance of individual students on the CRT test in the fourth or eighth grade.

Attendance Standards: Stringent attendance policies were developed and enforced. Excessive absences and tardiness were noted as part of the promotion policy.

Accountability: Students and parents were informed that the CRT tests were to be taken seriously and promotion would be based on a student's performance. Teachers also knew that their students would be required to pass the tests if they were to progress. It should be noted that CRT performance wasn't the sole criterion for promotion and there was discretionary judgment for promoting low-achieving students.

Competition and Cooperation

Competition Among Schools and Systems: Test results by school were distributed among school personnel and systemwide results on CRT tests were compared to surrounding school systems and published in the newspapers. As a result, there was a heightened awareness of how one's school and system measured against others.

Collective Spirit Within Schools: Teachers spoke frequently of what they were doing as a team for their students and of how they helped and shared instructional concerns with each other. They often mentioned the great satisfaction that they received in

seeing how well the students were doing on achievement tests as a result of their collective efforts.

Influential Persons

New superintendents who emphasized CRT Test Scores: In all three school systems a new superintendent came in to office just prior to 1982 and communicated to staff and public that test score results were to be a measure of systemwide success.

Central Office Supervisors Coordinated Systemwide and School Instructional Efforts: Each system employed central office personnel whose primary responsibilities were devoted to curriculum and instruction. Their positions were generalists rather than content specialists (i.e. director of instruction, secondary supervisor, elementary coordinator). The generalists worked with personnel in individual schools as well as representative committees of the system as a whole to make decisions in regard to improving CRT scores.

School Principals as Resource Persons to Teachers: Principals in all three school systems were seen largely as supporters and resource facilitators to teachers. They were not seen as doing the actual work of CRT improvement, such as committee work, curriculum revisions, arranging inservice, or developing record keeping systems. Rather, they encouraged other people (teacher groups, central office personnel, building level department heads, grade chairs, and head teachers) to do the "hands-on" work. There were a few exceptions, but principals mainly were

seen by teachers as persons they could turn to who would supply extra materials for them, who would try to relieve them of extra nonteaching burdens, and who would offer throughout the year praise and encouragement to them.

With-in School Professionals: Common to many of the schools were the existence of in-house personnel, who functioned in a staff position to teachers, who had largely instruction and curriculum responsibilities, and who did not evaluate teachers for contract renewal purposes. In some schools, these persons were classroom teachers who had additional responsibility as grade level or department chairpersons. In other schools, it was a full-time assistant principal for instruction or an instructional lead teacher. In other schools, it was a combination of both classroom teachers and assistant principal/lead teacher. These in-school professionals often functioned for their peers as the initiators, reviewers, and implementers of instructional improvement plans.

Teachers Themselves: Principals, central office personnel, and teachers frequently mentioned that teachers themselves were most influential in CRT improvements. Teachers shared ideas freely with each other, exchanged materials, wrote curriculum and lesson plans together, and at times even helped teach each other's students a particular skill or objective.

Costs

Increased clerical help: As teachers were asked to increase record keeping, ways to lessen the time spent on other duties were found. Some schools used a computer assisted program to record and analyze student test performance and to record progress; other schools trained parent volunteers or hired additional aides to assume more of the clerical burdens of record keeping.

Lower Classroom Sizes: In all three systems, there had been a reduction of class size since 1982. In some cases, class size had dropped from 33 students to 23 students per classroom.

Increased Planning Time: Over the three-year improvement period teachers were given more time to meet and plan as part of their normal school day. Inservice days were used for teacher planning; lunchroom, recess, and monitoring duties were reduced, and specialist teachers (P.E., music, art) were employed to give classroom teachers additional released time for meeting and planning.

Increased Materials: In all three school systems teachers overwhelmingly agreed that they had virtually any supplemental materials that they requested. Their principals, department heads, lead teachers, and central office supervisors quickly responded to constant teacher requests for additional materials.

Greater Supervisory Support: There were more persons in direct contact with teachers about classroom, grade, department, and

schoolwide concerns about instruction. In every system, supervisory or support personnel for teachers have been increased by either hiring additional central office staff, hiring additional building level personnel (head teachers, assistant principals), or enlarging instructional responsibilities of teachers (as committee chairpersons, grade level or department heads).

Increased Pay: Teachers had consistent pay increases since 1982 in the form of local salary supplements and reimbursements for staff development courses.

So What's New?

After listing those factors and persons that contributed to improvement of CRT scores in Eastview, Westview, and Northview School Systems, the reader might ask, "What's new about these results?"

It would appear obvious that a system that succeeded in improving CRT scores would have many of the listed factors of:

- Awareness of CRT and using data on student achievement.
- Teaching and materials geared to CRT objectives.
- Development of instructional improvement plans based on CRT objectives and student performance.
- Ongoing review of progress plans, reviewing of classroom lessons, and reviewing individual student progress.
- Competition among schools on student gains and cooperation among staff to improve student achievement.

- Systemwide policies in regard to promotion based in part on the CRT.

In fact, the above list may not be different from findings of other school systems which did not show student gains. We would speculate that what is really new is not the "what" of improvement but rather the "how" of improvement: An overall change approach used by the three school systems linked discrete factors into a complex chain of decisions that resulted in repeated improvement. To understand what is new, there are at least four major concepts that all three school systems used: (a) the importance of creating an instructional dialogue, (b) the infrastructure of the organization for promoting the dialogue, (c) the distributed aspect of dialogue initiation, and (d) the fulcrum concept of increasing teacher expectations.

Creating the Dialogue

What was notable in all schools and central offices in the three systems was a constant dialogue about improving instruction. There was time built into the normal work days and there were people who saw their responsibility as engaging teachers in talk about their classroms, their students' progress, their lesson plans, and their curriculum. Teachers were involved in planning and implementing actions on how to teach students the objectives of the CRT in reading and mathematics.

School, department, grade level, and system meetings were focused on planning, implementing, and reviewing curriculum and instruction. Teachers exchanged ideas and materials with each

other, and individual teachers frequently had central office supervisors, principals, instructional lead teachers, or peers visit, talk, and plan with them for classroom improvements. The dialogue was not viewed by teachers as evaluative, i.e., determining a teacher's strengths or weaknesses for contract renewal purposes, but instead was viewed as a help to teacher's for improving what they were trying to accomplish with their students. It was interesting that in two of the three school systems, teachers and principals made little mention of formal teacher evaluation as contributing to their improvement. Instead they mentioned the direct assistance and help provided to them in terms of feedback, discussion, planning, and provision of teaching resources. Teachers viewed peers and supervisors as working with them, not on them, to help improve instruction. It has been documented by others (Goodlad, 1984; Jackson, 1968; Lortie, 1975) how infrequently teachers in many schools engage in professional talk about teaching. What appeared to be the norm in these schools was that talking about students, lessons, and curriculum was expected behavior, not an abberation. A continuous focus on and structure for such talk was evident in all of these schools.

The Infrastructure for Creating the Dialogue

Teachers in most schools do not engage in much instructional dialogue with their peers. The reason is that teachers by and large stay within their four classroom walls, with their own students, with little time for planning, with little knowledge of

what other teachers are doing, and with few visits from other professionals. Schools in which teachers are visible, professionally engaged with each other, and focused on improving instruction beyond their own classrooms do not happen by chance.

Prior to the improvement period, each superintendent with his/her staff made a decision to provide an organizational structure with designated positions responsible for stimulating a dialogue about improving instruction and increasing student achievement. The problem was how to get teachers visible and close to each other for planning and then how to provide direct assistance to teachers with their plans. The specific solutions to the problems were different but an infrastructure of supervisory support was established in each case.

In Eastview, the central office was reduced due to budget cuts, but, at the same time, building level supervisors were added to each elementary school in the position of instructional lead teacher, and each middle school had the position of assistant principal for instruction. In smaller Westview, an additional supervisor was added to the central office, and various systemwide committees were established to make decisions about CRTs, promotion, attendance, and curriculum. In Northview, two additional supervisors were added to the central office; one to be responsible for the elementary teachers and the other person to be responsible for working with junior high teachers. These individuals spent most of their time working directly in the schools with teachers and principals.

As an infrastructure of transportation is built to provide the roads, the railroad tracks, and the airline routes for carrying goods and people from one point to the next, so was an infrastructure of supervisory assistance built to help teachers and principals move from one level of achievement on CRTs to another level. Without the infrastructure of transportation, it is impossible to have efficient delivery. Without the infrastructure of supervisory support, it is questionable that any of the plans for improving CRT scores would have succeeded.

The Distributed Function of Instructional Leadership

The primary initiators and implementors of change varied from system to system. In Eastview, the prime agents for working with teachers on schoolwide student achievement were in-school supervisory personnel. The instructional lead teachers or the assistant principals for instruction and the central office staff disseminated test scores, helped schools on staff development days to interpret scores, and provided inservice programs on topics and concerns that would help teachers implement their plans. The actual work of talking to teachers, observing, and convening teachers together to decide on curriculum and instructional changes was the primary responsibility of the in-school supervisor. The principals played a secondary role of attending to the day-to-day administrative affairs of the school, conducting teacher evaluations, and encouraging the planning of teachers with their instructional lead teachers/assistant principals.

At Northview, the prime agents of change were the central office supervisors. They took responsibility for observing and conferencing with every teacher at least twice a year, devising record keeping systems and lesson plans, convening systemwide committees for curriculum and textbook decisions, and explaining the targeted objectives for CRT improvement for each grade level and school. Again, the principals played a secondary role. They also conducted two observations a year of each teacher, but they largely were not directly involved in decisions about record keeping concerns, lesson requirements, curriculum alignments, or improvement plans.

At Westview, the prime agents of change were representative teachers at various grade levels and schools who served on schoolwide committees coordinated by the central office supervisors. The curriculum director facilitated meetings, set agendas, distributed information to committee members, participated in meetings, and kept an informal, drop-in schedule at the various schools to keep abreast of current concerns and needs. Yet, it was the committees of teachers who set the direction of goals, activities, and requirements of instructional improvement for the system. The principals were not directly involved in curriculum and instruction issues. In several cases, the principals had little awareness of what individual teachers, departments, or grade level teams of teachers were doing in regard to reading and mathematics instruction. This is not meant to disparage the role of the principal, only to say that the teachers were their own initiators and monitors.

Contrary to the effective school research which tends to portray the school principal as the most critical actor in school success, the research on improving school systems suggests that the principal was most often secondary to other persons such as central office supervisors, lead teachers, assistant principals for instruction, department and grade level heads, and teams of teachers. Again, the principal supported and encouraged the direct, hands-on work of teachers but did not do much of the work relating directly to instructional improvmeent. The key initiators varied in role and positions for each school system, but what was common is that their roles and positions were clearly defined as working primarily with teachers on instruction and curriculum.

Fulcrum Concept of Increased Teacher Expectations

The interviewees in all three districts agreed that teachers were working harder than they had ever worked before. Teachers put more detail into their lesson plans, kept more individual records on student progress, and taught more content in less time. Why do teachers put up with these increased demands added to an already full and busy schedule? It would appear that there would be much complaining, that teacher attrition would be high, and that dissatisfaction would increase. In most cases, this was not the case. Teachers were proud of their work and believed strongly in its value, and satisfaction with rising test scores reinforced their efforts. In two school systems (Westview and Eastview), teachers made no mention of dissatisfaction, stress,

or resentment. In the other system (Northview), there was talk among some teachers of feeling pressured. The differences in the change processes in the various school systems might account for the perceived stress in Northview and the absence of stress in the others. In Northview, decisions about improvement were frequently made and monitored by the central office (top-down). In Eastview, the establishment of goals, objectives, and implementation decisions were made mainly at the individual building level. In Westview, decisions were more often made by systemwide committees of teachers (bottom-up).

The concept of a fulcrum is useful for understanding the change process. A fulcrum is "the support about which a lever turns." The investigators found an established lever and fulcrum for improving test scores in each school and system. In Northview, the lever was the school improvement plan developed by instructional lead teachers and teachers; the fulcrum was the support of principals and the central office in helping teachers implement their plans. In Westview, the lever was the plans made by systemwide curriculum committees of teachers representing each school, and the fulcrum was the wide lattitude and autonomy given to their individual departments and grade levels to monitor their own work and the coordination and services provided to teachers by central office supervisors. In Northview, the lever was the assignments required by central office staff (with teachers being used in an advisory capacity) in regard to criteria for achievement, record keeping, and lesson planning; and the fulcrum was the support given by individual school principals who

empathized with, listened to, and helped teachers. In all systems there was a fulcrum of support given to teachers as the lever of change was pushed. In a wider sense, there was an organizational fulcrum of support that over time decreased clerical duties of teachers, decreased classroom size, increased pay, increased teacher planning time, increased material delivery to teachers, and increased rewards and recognition of teachers.

Conclusion and Further Questions

After interviewing ninety teachers, administrators, and supervisors in fifteen elementary schools, six middle/junior/intermediate schools, and three central office staffs in three school systems that have improved CRT performance of their students in fourth and eighth grade reading and mathematics for three consecutive years, some conclusions can be made.

Common to all systems were:

a. Awarenes of CRT scores and alignment of objectives to curriculum,

b. Teaching of CRT objectives in lessons, selection and use of textbooks that cover CRT objectives, and procurement/ development of supplemental materials geared to objectives; and, instructional time organized to reflect content coverage.

c. Review and record keeping of student progress in mastering CRT objectives at the classroom, grade, department, and school levels.

d. Planning and sharing among teachers in establishing targets, activities, and resources.

e. Systemwide policies of student promotion, attendance, and accountability based in part on mastery of CRT objectives using staff development time for teacher planning.

f. Competition among schools and systems to determine where they ranked on CRT scores, cooperation within schools and school systems to improve ranking, and a spirit of collective effort.

g. Influential persons included new superintendents, central office supervisors, instructional lead teachers, assistant principals, department heads, grade level chairs, teams of teachers, and school principals.

h. Costs of increased teacher expectations were increased clerical help, increased planning time, lower classroom sizes, increased materials, greater supervisory support, and increased pay.

Overall concepts for understanding the change process were:

a. Creating dialogue about CRT achievement and planning for improvement.

b. Providing the infrastructure to create dialogue by increasing positions for supervisory assistance to teachers and schools.

c. Distributing the function of instructional leadership so positions have defined responsibilities for instructional improvement.

d. Ensuring a fulcrum of support to teachers as the lever of increased expectations is pushed.

A further set of questions about school systems that have improved CRT scores might be explored. As a result of the interviews, the research team became sensitive to the value question of whether improving CRT scores is a worthy endeavor. The overwhelming response from school personnel was that it is worthy based on the realities of preparing students to continue through the grades and graduate with a firm grounding in basic skills. The degree of emphasis placed on CRT scores among the systems ranged, from being only one modest measure of success, to being one of several critical indicators of success, to being the main indicator of success.

As members of a research team, individuals had their own feelings about the merits of a school system's focusing on CRT scores ranging from being "too narrow, and reducing the curriculum to the concrete and measurable" to schools "finally being accountable for their prime responsibility of ensuring that all students can read, write, and compute." The scope of this study was not to investigate the issue of values and the related curriculum consequences of targeting CRT improvements. However, the interviewees themselves often expressed themselves in terms of values. The study of value might lead to further questions to investigate, such as:

1. Would the same categories, events, concepts, influential persons, and change processes be found in school systems that had different instructional goals (i.e. critical thinking, creative writing, independent learning)?
2. What are the consequences or trade-offs (if any) for targeting a particular measure of success as most important for instructional improvement?

What has been found is three school systems in which professionals articulated a goal, made plans for achieving it, targeted objectives, built in support and time for implementation, and succeeded. What was learned may be helpful to other schools and systems with similar goals.

References

Cox, P. L. (1983). Complementary roles in successful change. Educational Leadership, 41(3), 10-13.

Fullan, M. (1985). Change processes and strategies at the local level. The Elementary School Journal, 85(3), 391-421.

Glickman, C. D., Pajak, E. F., & Holmes, C. T. (1986, March). insights into selecting school systems with consistent gains in reading and mathematic achievement. Paper presented at the Annual Conference of the Association for Supervision and Curriculum Development, San Francisco.

Goodland, J. I. (1984). A place called school: Prospects for the future. New York: McGraw-Hill.

Jackson, P. W. (1968). Life in classrooms. New York: Holt, Rinehart & Winston.

Lortie, D. C. (1975). School teacher: A sociological inquiry. Chicago: University of Chicago Press.

APPENDIX A

Tables of differences in adjusted and actual mean scores of students on the criterion referenced tests in reading and mathematics from 1982 to 1985 in the three selected school systems

TABLE A-1

Differences in Adjusted Mean Scores on Criterion Referenced Tests in Fourth Grade and Eighth Grade Reading and Mathematics From 1982 to 1983, From 1983 to 1984, and Total Gains From 1982 to 1984

	1982-83	1983-84	Total Adjusted Mean Gains 1982-84
		Eastview	
RCRT4	+ .23	+2.62	+2.85
MCRT4	+ .96	+2.18	+3.14
RCRT8	+ .79	+2.43	+3.22
MCRT8	+ .45	+2.01	+2.46
		Northview	
RCRT4	+4.52	+ .80	+5.32
MCRT4	+2.85	+ .84	+3.69
RCRT8	-2.19	+3.18	+1.00
MCRT8	+ .19	+2.01	+2.20
		Westview	
RCRT4	+1.56	- .34	+1.22
MCRT4	+ .91	+1.20	+2.01
RCRT8	+6.9	+ .48	+7.38
MCRT8	+4.56	+1.87	+6.43

TABLE A-2

Differences in Actual Mean Scores on
Criterion Referenced Test Scores in
Fourth and Eighth Grade Reading and Mathematics
From 1982 to 1983, 1983 to 1984, 1984 to 1985
and Total Gains from 1982 to 1985

	1982-83	1983-84	1984-85	Total Ga 1982-85
		Eastview		
RCRT4	+4	+3	+1	+8
MCRT4	+4	+8	+1	+13
RCRT8	+3	+5	+1	+9
MCRT8	+4	+2	0	+8
		Northview		
RCRT4	+8	+1	+5	+4
MCRT4	+5	+6	+7	+18
RCRT8	0	+5	+2	+7
MCRT8	+3	+3	+1	+7
		Westview		
RCRT4	+6	0	+1	+7
MCRT4	+4	+6	-2	+8
RCRT8	+10	+2	+1	+13
MCRT8	+8	+3	-1	+10

APPENDIX B

Interviewer's Directions, Checklist, and Guided Questionnaire

SCHOOL DISTRICT CRT IMPROVEMENT STUDY
CHECKLIST

_____ 1. Check with the principal.

_____ 2. Find your room.

_____ 3. Set up and check equipment.

_____ 4. Code tape with date, school, person's name.

_____ 5. Explain purpose of study.

_____ 6. Conduct interview.

_____ 7. Make sure all questions are asked.

_____ 8. Take field notes.

_____ 9. Fill out demographic data sheet.

_____ 10. Complete file folder before next interview.

Demographic Information
School District CRT Improvement Study

Name _____ Sex _____

Position held _____

School _____

School district _____

Years in current position _____

Years in profession _____

For principals only:

Academic preparation in reading _____

_____

_____

Academic preparation in math _____

_____

_____

Prior experience in reading _____

_____

Prior experience in Math _____

_____

Purpose of Study
(Explanation for Interviewee)

Your school and your school district have shown consistent gains in CRT scores in math and reading each year since 1982. As members of a research team from the University of Georgia, we are interested in what has been happening in your district to bring about these gains.

Since you are a person who has been working in your school district during the time in which these gains were made, you are a valuable source of information for our research team. You can probably tell us about factors that have caused students' scores to rise. Feel free to be completely candid. At no place in our final report will your name or the name of your school or district be used. Confidentiality of responses will be protected.

After all the interviews in your district have been completed, the information will be compiled into a report so that other school districts can have access to knowledge that might help them improve their CRT scores.

Do you have any questions about anything I have just told you?

Do you mind if I tape this interview?

SCHOOL DISTRICT CRT IMPROVEMENT STUDY
QUESTIONNAIRE

1. From your point of view, what accounts for the consistent gains on the CRT?

2. Looking back, can you think of any key events or turning points?

3. Who are the person or persons who have been influential? Tell us about him/her/them.

4. What's different in your school now from five years ago?

5. What are you personally doing differently?

6. Is there anything else we haven't talked about that I should know?