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ABSTRACT

The Louisiana State Department of Education (LSDE) competency-based education and accountability effort includes, as an integral component, a Compensatory/Remedial Education Program. The primary purpose of the program is to provide special instruction to those students who fail -- or, who are at risk to fail -- to meet the state's minimum standards, as assessed by the upcoming Test of Basic Skills. The first year's implementation of this program consists of building a research database on a variety of compensatory/remedial instruction models for second-graders at risk for failure to meet the minimum standards. Seventeen projects were awarded funding, of which two were planning projects, 13 were pilot projects, and two were demonstration projects. It is intended that this evaluation report will provide information required to select the most promising of these models for larger-scale implementation and demonstration. The two projects approved for planning and training of personnel excelled in precisely those areas, and seven of the 15 pilot and demonstration projects demonstrated at least suggestive positive effects on student achievement in one or more skill areas. (Author/GK)

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Accountability
Development
Evaluation
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COMPENSATORY/REMEDIAL EDUCATION PROGRAM (ACT 433)

Final Report

1980-1981

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COMPENSATORY/REMEDIAL EDUCATION PROGRAM (ACT 433)

Final Evaluation Report
1980-1981

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Submitted to:

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Compensatory/Remedial Education Program (Act 433)

Final Evaluation Report

1980-1981

EXECUTIVE SUMMARY

Submitted by: Bureau of Evaluation, Office of Research and Development
Prepared by: David L. Ransen, Ph.D.

The Louisiana State Department of Education's competency-based education and accountability effort includes, as an integral component, a Compensatory/ Remedial Education Program. The primary purpose of the program is to provide special instruction to those students who fail -- or, who are at risk to fail -- to meet the state's minimum standards, as assessed by the upcoming Test of Basic Skills.

The first year's implementation of this program consists of building a research database on a variety of compensatory/remedial instruction models for second-graders at risk for failure to meet the minimum standards. For the year 1980-1981, the Louisiana State Legislature allocated $100,000 to each of the eight congressional districts to support the development of model projects. The Office of Research and Development drafted and sent requests for proposals to all local superintendents, inviting them to submit proposals for planning, pilot, or demonstration projects.

The proposals received were reviewed by a joint committee of the Offices of Academic Programs and Research and Development. Seventeen projects were awarded funding, of which two were planning projects, 13 were pilot projects, and two were demonstration projects. It is intended that this evaluation report will provide information required to select the most promising of these models for larger-scale implementation and demonstration.

The two projects approved for planning and training of personnel excelled in precisely those areas in which deficiencies tended to exist in the other projects: adequate planning and training. This suggests the argument that, in the future, it may be wise to allow projects to engage in a year of planning and training prior to the implementation of a pilot project. It is the opinion of the Program Evaluator that both planning projects are well-prepared to initiate pilot projects.

Seven of the 15 pilot and demonstration projects demonstrated at least suggestive positive effects on student achievement in one or more skill areas. Of these seven, five evidenced significant gains in all the achievement skill areas addressed and tested. No evidence was found that students' affiliation for school was affected by any of the projects.

Overall, results suggest that the flexibility built in to the Request for Proposals had a favorable influence. By encouraging diversity among models, both the LSDE and the participating parishes have acquired valuable information about the relative merits and feasibility of a number of models.

Most of the parishes that experimented with computer-assisted instruction or classroom management techniques experienced a common core of difficulties. It appears that the state of the art in the use of microcomputers in classrooms is not quite adequate for smooth operation on short notice. It should be noted, however, that many commercial concerns are working very rapidly to improve this situation, and it may be only a year or two before dramatic improvements have

been achieved.

Most of the projects that emphasized individualized instruction showed promising results. These projects combined the lowering of pupil-teacher ratios with the institution of diagnostic/prescriptive instructional techniques. While it is not clear which (if either) of these two components is the more potent, their combination seems to hold promise for remediation with high-risk second-graders, and further testing of these models is clearly warranted.

The clearest lesson learned was that compensatory/remedial education programs cannot be expected to function at optimal effectiveness when implementation does not begin until January or February. Although some projects can be faulted for delays, all of them were handicapped from the outset by the fact that they did not have their funding approved until after the beginning of the school year. If state funding is to be forthcoming in the future, it is suggested that notification of funding be given at least one month prior to the beginning of the school year.

Compensatory/Remedial Education Program (Act 433)
Final Evaluation Report
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Submitted by: Bureau of Evaluation, Office of Research and Development
Prepared by: David L. Ransen, Ph.D.

OVERVIEW

The Louisiana State Department of Education's competency-based education and accountability effort includes, as an integral component, the Compensatory/Remedial Education Program. The primary purpose of the program is to provide special instruction to those students who fail -- or, who are at risk to fail -- to meet the state's minimum standards, as assessed by the upcoming Test of Basic Skills.

The first year's implementation of this program consists of building a research database on a variety of compensatory/remedial instruction models for second-graders at risk for failure to meet the minimum standards. It is intended that this evaluation report will provide information required to select the most promising models for larger-scale implementation and demonstration.

For the year 1980-1981, the Louisiana State Legislature allocated $100,000 to each of the eight congressional districts to support the development of model projects. The Office of Research and Development drafted and sent requests for proposals to all local superintendents, inviting them to submit proposals for planning, pilot, or demonstration projects (see next section for definitions). The proposals received were reviewed by a joint committee of the Offices of Academic Programs and Research and Development. Seventeen projects were awarded funding, of which two were planning projects, 13 were pilot projects, and two were demonstration projects.

Purposes

The primary purpose of the 1980-1981 program was to generate promising strategies for compensatory/remedial education by supporting planning, pilot, and demonstration projects. The projects' purposes, in turn, depended on their type:

- *Planning Projects* were to engage in intensive planning, research, and training of instructional personnel with the goal of readying a school district to implement a pilot project.
- *Pilot Projects* were expected to experiment with novel programs of compensatory/remedial education, so that the relative merits of each program could be objectively evaluated.
- *Demonstration Projects* were to demonstrate both the educational and cost effectiveness of instructional programs that have already been piloted with success. Further, demonstration projects were to serve as models of portable and effective programs for other school systems within the state to inspect and possibly to adopt.

Administration Procedures Adopted By The Department of Education

The Department of Education (LSDE) has served two major functions in the Compensatory/Remedial Education Program: administrative and evaluative. To this end, a program coordinator was appointed by the Office of Academic Programs, and a program evaluator was appointed by the Office of Research and Development.

As soon as the 17 successful applicants were notified of their funding, negotiation sessions were held between the Department and the LEA (Local Education Agency) project personnel. Representing the Department were the program coordinator and the program evaluator. Each project was represented by one or more contact persons appointed by each local superintendent. The purposes of these negotiation sessions were:

1) to clarify and document the respective obligations of the participating LEA and the LSDE;
2) to assist local project personnel with any anticipated problems; and
3) to request revisions of proposals where necessary.

The program coordinator and the program evaluator have maintained close

contact with local project personnel throughout the school year, and have each conducted at least one onsite visit to all of the 17 funded projects. The primary functions of the program coordinator were to ensure that projects were being implemented as approved and as scheduled, and to provide assistance where requested or required. The program evaluator was to take whatever steps were necessary to evaluate each project properly and objectively. These steps included ensuring that all quantitative and qualitative data were submitted by project personnel as required and in a timely fashion, providing technical assistance in evaluation-related areas, and planning and executing appropriate data analysis procedures to evaluate the effectiveness of each project at its conclusion.

Number of Participating Students

The number of students directly served by the compensatory/remedial projects ("experimental groups") was 1850. A roughly equal number of students ("control groups") were not directly served but were tested and observed as a means of establishing benchmarks against which the effectiveness of each project could be assessed. The average number of students served per project was 109.

The number of students directly served represents almost a 100% increase over the numbers contained in the original proposals as submitted to the LSDE. The LSDE negotiated this increase with representatives from each project to encourage maximum cost-effectiveness. Table 1 presents the number of students served, the total allocation and cost per student, the main program component, and a summary of significant findings for each project.

Evaluation Plan

The evaluation plan concerned itself with both the process and products of each project. Because of the large number of diverse projects, no single plan

Table 1

Project	Main Component [1]	Students Served	Allocation	Cost/Student	Significant Results SOS	Reading	Math	Language
Planning Projects [2]								
East Baton Rouge	EAR	172	$50,000	$291	---	---	---	---
Professional Development Center: Bossier, Caddo, Claiborne, DeSoto, Red River, Sabine, Vernon, Webster	ECRI	72	$50,000	694	---	---	---	---
Pilot Projects [3]								
Acadia	CMI	124	50,000	403	No	No	No	---
Bossier	II	81	35,787	442	No	---	Yes	Yes
Calcasieu	CAI	131	43,050	329	No	Yes	No	---
Iberville	CMI	100	40,000	400	No	No	No	---
Jefferson	II	112	49,841	445	No	Yes	Yes	---
Lafayette	II	91	49,492	544	No	No	No	---
Orleans	II	144	50,000	347	No	No	No	---
St. Charles	CAI	85	46,911	552	---	---	Yes	---
St. John the Baptist	II	110	45,000	409	No	No	No	No
St. Landry	II	130	50,000	385	No	No	No	---
Tangipahoa	II	98	47,675	486	No	Yes	No	---
West Carroll	CMI/CAI	113	45,000	398	No	---	Yes	---
North La. Consortium: LaSalle, Obachita, Caldwell	II	102	50,000	490	No	No	Yes	---
Demonstration Projects [4]								
Ascension	CMI	111	45,884	413	No	Yes	---	Yes
St. Bernard	II	75	50,000	667	No	No	No	---
Total		1851	$798,640	$431.46 (Average)				

1. EAR = Extended Academic Readiness; CAI = Computer-Assisted Instruction; CMI = Computer-Managed Instruction; II = Individualized Instruction; ECRI = Exemplary Center for Reading Instruction

2. Planning Project: Plans, researches, and trains prior to the implementation of a pilot project.

3. Pilot Project: Experiments with promising remedial education practices so that the relative merits of each may be objectively evaluated.

4. Demonstration Project: Demonstrates both the educational and cost effectiveness of instructional programs that have already been piloted with success.

N.B. Empty cell indicates subject was not tested or scores not reported.

could be developed to evaluate the process of implementing each project. Onsite visits provided brief opportunities to observe project implementation first-hand, but the responsibility of documenting activities and their impact rested primarily with the local evaluators of each project. In some cases this documentation was thorough and complete, but in others it was lacking.

Evaluating the products of the projects was the primary responsibility of the State Program Evaluator, who developed a product evaluation design to be followed by all but the planning projects. The evaluation conformed to a pretest-posttest control group design. That is, a project was required first to select a group of students who would receive compensatory/remedial services (experimental group), then identify another group of similar students with whom the experimental group could be compared before and after the implementation of the project. The purpose of the control group was to provide a no-treatment expectation of achievement progress; that is, to estimate the expected progress of experimental group children had they not received any compensatory/remedial services.

I. Major Evaluation Questions

A. Questions Regarding Individual Projects: Process

1. Was each project implemented as approved and as scheduled?

2. In cases where significant departures from design or schedule occurred, how did these departures affect the outcomes?

3. What were the major strengths and weaknesses of each project?

4. How could the project design be strengthened in a future implementation?

Questions Regarding Individual Projects: Outcome

1. Did students receiving compensatory or remedial services demonstrate significant gains in achievement and attitudes toward school, relative to comparable students who did not receive such services?

B. Questions Regarding the Projects as a Group

1. How many of the projects demonstrated significant gains in achievement and attitudes toward school?

2. What apparent characteristics distinguished the more successful from the less successful projects? Are these characteristics amenable to manipulation in the future?

3. What general conclusions and recommendations can be inferred from the outcomes of the projects as a group?

II. Sources and Kinds of Data

Data for the process evaluations were gathered exclusively from instruments employed by the LEAs. These instruments varied greatly across projects. They ranged in number from one to six, and in kind from daily logs to formal, questionnaires administered to teachers, parents, principals, and/or supervisors. Onsite visits conducted by the LSDE program evaluator provided independent information to supplement and verify the information received from the local evaluation instruments.

Data for the outcome evaluations came from three sources: standardized achievement tests, a standardized attitude inventory, and final budget reports. Achievement gains were assessed by means of the standardized achievement tests. Since most of the participating parishes already assess achievement with a test of their choosing as a matter of routine, the LSDE did not mandate the use of a single test in an effort to avoid multiple testing of the participating students.

The tests used were approved by the LSDE because they were deemed valid for use in the present context and sufficiently comparable to each other. All the tests used have been empirically validated with national samples; and have been in use in Louisiana school districts for a number of years (see Table 2 for names of tests). Attitudes toward school were assessed in all cases by the Self Observation Scale (Primary Level). This instrument has been empirically validated using a large national sample (Stenner and Katzenmeyer, 1973). Finally, the following additional student data were gathered:

- ethnicity
- sex
- Title I status (Yes/No)
- lunch status (free, reduced rate, or paid)
- grade level status (repeating or not repeating)

Table 2

Adjusted Standardized Gains[1]

Project	Achievement Test	Comp.	SOS Exper.	SOS Cont.	Reading Exper.	Reading Cont.	Math Exper.	Math Cont.	Lang. Exper.	Lang. Cont.
Acadia	SRA				-3.7	-0.4	-5.0	-3.2		
Ascension	SRA				6.8*	-4.7			0.7*	-8.6
Bossier	SRA		2.0	0.7	17	4.0	12*	-2.4	13*	1.6
Calcasieu	SRA		2.3	-3.7	4.7*	-1.7	0.3	-0.3		
Iberville	SRA		-11	-12	-6.1	-6.9	-6.3	-7.8		
Jefferson[2]	CTBS	A			1.7		13*			
		B			17*		17*			
		AB			13*	.17	25*	6.0		
Lafayette[3]	SRA	1			5.0		3.8			
		2			1.8	5.2	3.6	6.8		
Orleans	CTBS		-7.0	-5.2	12	11	15	14		
St. Bernard	SRA		-3.5	-9.2	6.6	2.2	7.3	5.8		
St. Charles	SRA		-0.6	-4.2			6.5*	-0.9		
St. John the Baptist	CAT		-11	-17	-0.2	-2.7	6.4	0.9	3.8	1.7
St. Landry	SRA		9.1	5.1	5.5	2.6	7.4	6.2		
Tangipahoa	SRA		-2.0	-5.5	7.6*	0.8	4.3	-2.2		
N. La. Consortium[4]	SRA	1	-4.0	-8.8	2.4	5.1	3.0*	-0.5		
		2	-6.4	-11	5.2	-5.1	7.9	1.1		

* Indicates result in statistically significant ($P < .05$).

1. Expressed in Normal Curve Equivalents (NCEs)

2. Multiple scores correspond to treatments A, B, and AB (see text).

3. Multiple scores correspond to treatments one and two (see text).

4. Multiple scores correspond to components one and two (see text).

N.B. Empty cell indicates that subject was not tested or that scores were not available.

There were two reasons for gathering the latter set of data. First, it was necessary to ensure that students receiving special services were comparable to those with whom they were compared with respect to economic and demographic characteristics. Second, where these two groups ("experimental" and "control") were found not to be comparable, the availability of these data permitted statistical adjustments to be made to simulate the comparability of the groups.

III. Data Analysis

In an effort to encourage innovativeness and diversity among the projects proposed for funding, the LSDE imnposed few constraints on the model projects. As a consequence, there existed much variation in the manner in which the projects were designed. For example, the manner in which students were selected for participation and allocated to either experimental or control groups varied considerably from project to project. Moreover, the projects varied with respect to the number of students served. Also, the choice of academic skills (i.e., reading, mathematics, language) was made at the discretion of each project.

Data analysis was performed separately for each project. The technique employed to assess true gain was an analysis of adjusted standardized gain scores. The adjusted gain score analysis standardizes both pretest and posttest scores, then computes the average gains for both experimental and control groups, then adjusts these gain scores on the basis of any prior differences between experimental and control group adjusted gains. The adjustments in the procedure are necessary in order to ensure that test score differences are attributable to the compensatory/remedial services, and not simply to prior differences between experimental and control groups.

The purpose of a control group is to provide a no-treatment expectation of students' progress. That is, a pretest-posttest control group design, when properly executed, allows one to assess the effects of an experimental project by comparing students' progress with the progress one would have

expected in the absence of special treatment. Occasionally, one finds that experimental and control groups are different at the outset with respect to either academic achievement or other educationally relevant variables. This means that one group cannot provide a valid no-treatment expectation for the other group, since any differences found at the end of a project may be attributable to prior differences, as opposed to the effects of the project.

Although the statistical adjustments referred to above can often control for minor pre-project group differences, the validity of such adjustments decreases as the disparity between groups increases. For this reason, cautionary remarks are found in several of the project descriptions below. When phrases such as "interpret with caution" appear in these descriptions, the intended meaning is that the results should be interpreted only as suggestive and in need of replication.

The unit of measurement for analysis of achievement gains was the normal curve equivalent (NCE). An NCE is a unit on a standardized scale that ranges in value from 1 to 99, with a national average of 50. An NCE has the same magnitude regardless of where it is located on the scale (unlike percentiles and grade equivalents which are not on equal-interval scales). The NCE was chosen by the Program Evaluator because it is the most suitable of the commonly used units for computing pretest-posttest gains in academic achievement.

PLANNING PROJECTS

East Baton Rouge Parish

Description and Process

The Expanded Academic Readiness Program in East Baton Rouge Parish was approved as a planning project. Its primary goal was to develop organizational structures, instructional strategies, and procedures as a prerequisite to implementing a compensatory/remedial education project with second-graders.

The Academic Readiness concept is built upon the notion that mastery learning is an effective way to enhance the achievement of high-risk students, and that individualized instruction is necessary to promote mastery. The mastery learning approach adjusts for individual differences in students' learning rates and styles by adding feedback-corrective techniques to regular classroom instruction and by providing additional instruction time for high-risk students. In other words, the special instruction supplements, rather than supplants, regular classroom instruction.

Although the project was approved for planning, a large body of students actually participated in the developmental stages of the project (no formal evaluation or testing of students was required of planning projects). Students were selected for participation on the basis of low achievement test scores, teacher recommendation, and low scores on a locally-developed screening test.

The screening test was designed expressly for the purposes of this project, and it comprised the first major activity. It was developed by key teachers and supervisors. The screening test was pilot-tested, and a screening test manual was written and disseminated to teachers. Although it is premature to assess the merits of this test, the process by which it was developed was very

thoroughly described and justified in the screening manual.

The second major activity was the development of an inservice training program for teachers. A total of 48 teachers in 18 schools were involved in this stage of the project. Five full-day training sessions were conducted. The goals of these sessions were as follows:

1) To impart a general understanding of the nature of the planning project;

2) To aquaint teachers fully with the screening test and manual;

3) To impart the training required to conduct the pilot testing of the screening test items;

4) To provide a forum for assessing the reliability of screening test administration;

5) To train teachers in the skills required to keep proper records and to correlate the results of testing to the instructional materials available to them; and

6) To train teachers thoroughly in diagnostic-prescriptive instruction techniques.

These sessions took place and the activities were fully documented in the final project report.

The third phase of the project involved the actual development of the Extended Academic Readiness model in selected schools. Once students had been selected for remediation, the diagnostic-prescriptive teaching procedures were implemented. The deficiencies of each student were charted, and individual lesson plans were developed based on each student's deficiencies. Then students were grouped according to their needs, so that each group was relatively homogeneous with respect to skill mastery. Instruction was then given to these groups within their regular classroom. Concurrent with these activities, the teachers received formal and informal inservice training and were observed by supervisory personnel.

In conversation with the Program Evaluator, the teachers appeared to have been supportive of the precepts of the project. Some dissatisfaction was noted, however, with respect to its implementation. Some teachers said that they were not adequately prepared to accept another instructor's presence in the classroom.

Experience in other projects has revealed that this can be overcome with sufficient pre-service orientation and careful pairing of regular and remedial teachers. A further source of dissatisfaction noted by the Program Evaluator was the pupil-teacher ratio: Some remdial teachers believed that they were being asked to work with too many children at a given time, and that this had the effect of undercutting some of the merits of individualized instruction. Discussions with project supervisors indicated that these problems have been recognized and accorded due attention.

Conclusions

Although no formal instruments were employed to evaluate the impact of this project, the documentation provided suggests that considerable effort was expended. Informal observations and conversations led the Program Evaluator to believe that much of this effort bore fruit. According to the teachers and supervisors, many teachers are now trained either in the use or understanding of academic screening, skills grouping, and diagnostic-prescriptive instruction. A screening manual has been given a "dry run," and information necessary for its enhancement was acquired. In general, the project appears to have completed its planning objectives and appears ready for pilot testing under more rigorous evaluative conditions.

Fourth District Educational Consortium

(Caddo Parish, Fiscal Agent)

Description and Process

The Consortium consisting of the Parishes of Bossier, Caddo, Claiborne, Red River, DeSoto, Sabine, Vernon, and Webster was funded to conduct a planning project. The primary aim of the project was to train 16 teachers in Caddo Parish in the use of the methods and materials of an instructional system called ECRI (Exemplary Center for Reading Instruction). A secondary aim was to arrange and cover the expense of importing teachers from the other parishes in the consortium

to observe the conduct of the ECRI classes.

The ECRI system was not well-explained in the Consortium's reports. However, onsite visits provided some insights into its characteristics. The teaching style is highly structured. Virtually every pedagogical move is dictated by the training manuals. The only notable difference in the teaching behavior of teachers was the degree to which they had fully memorized and mastered the rules to be followed.

The typical instruction session consists of rapid-fire introduction, repetition, prompting, and correcting behaviors on the part of teachers, and highly routine responses on the part of students. Each lesson differs only in content, but all follow the same format. Based on preliminary observation, it would appear that the primary strength of ECRI lies in its effects on students' time on task: The very high proportion of time spent attending and responding to the teaching was striking. During the time in which high-risk students were involved in an ECRI lesson, the remainder of the class was moved to the opposite corner of the classroom, and was assigned quiet work.

All the participating teachers concurrently were receiving training in ECRI from outside certified ECRI instructors. However, this training cannot be done in a few short days. Consequently, the teachers began inplementing the instructional system well before they had demonstrated mastery of the techniques (mastery was assessed by means of an instrument developed by the ECRI consultants). At the end of the school year, all of the participating teachers had demonstrated mastery of ECRI techniques, as assessed by the ECRI consultants. In addition, seven of the teachers subsequently enrolled in a summer session university course on ECRI. Thus, all of the participating teachers are expected to be fully prepared to implement ECRI methods at full strength at the beginning of the next school year.

No formal instruments were employed to evaluate the strengths and weaknesses of the project as implemented in the Consortium. Some informal surveys were taken among the staff, and the responses are described as largely favorable.

Neither were the reactions of the visiting educators from the Consortium formally assessed, but their reactions were described as mixed.

Conclusions

The Consortium's final report concludes that ECRI techniques were demonstrated to be effective. The Program Evaluator cannot point to any empirical support for this claim. The local evaluation did include an analysis of standardized pre and posttests (although these were not required of a planning project), but the absence of information about the experimental design and the participating students, together with the failure to report the results in a form suitable for valid pre-post analyses, precluded an independent statistical evaluation of these results. According to the locally prepared evaluation, no significant test score gains were found.

In sum, there is little doubt that one objective of the project was achieved: 16 teachers were well-trained in the use of ECRI. Unfortunately, that is the sole conclusion that can be justified in this report. It remains to be seen whether the project can be effective in enhancing the ability of teachers to address successfully the needs of students at risk to fail to meet minimum standards of academic performance.

PILOT PROJECTS

Acadia Parish

Description and Process

The pilot project implemented by Acadia Parish was an experiment in Computer Managed Instruction (CMI). One hundred tewnty-four experimental and 100 control students were selected for inclusion on the basis of previously poor performance on tests and on teachers' recommendations.

The primary aim of the CMI project was to free teachers from some of the tedious, but important, work attendant to diagnosing students' instructional needs and prescribing instructional strategies in the areas of reading and mathematics. Specifically, the project contracted with a vendor to provide the following automated services:

1) compiling inventories of prescriptions;
2) reporting formative test results;
3) generating individual student profiles;
4) generating class profiles;
5) identifying of additional instructional resources;
6) reporting of mastery test results;
9) simplifying reports to parents;
10) developing test item analysis reports; and
11) generating administrative reports.

A secondary aim of the project was to enlist parent support by involving them in workshops and by providing them with computer and narrative reports of their children's progress. The project as proposed was to include formal evaluations of the reactions of participating staff members and parents by means of

questionnaires. However, no such evaluations were reported by project personnel.

Onsite observation revealed several important discrepancies between the activities planned and those actually implemented, as well as some problems with those activities that were implemented.

First, a computer software package that was to have enabled a local CMI function was not delivered by the contractor, and hence was not implemented during the school year. Instead, test scores had to be sent to a location in a neighboring parish for analysis, and the resulting reports arrived at bi-weekly intervals in Acadia. The feeling expressed by the participating teachers was that the reports were arriving too late and too infrequently to be of much service to them.

Second, the teachers complained that the computer reports they received were either difficult to interpret, highly repetitive, or not relevant to the specific needs involved in remediation of the participating students. The opinion of the Program Evaluator is that these complaints were largely justified. It appears that insufficient attention was paid to the coordination between what the teachers needed and what the contractor was providing.

Outcome

No significant differences were found in performance between the experimental and control groups in any of the tested areas. Table 2 lists the adjusted standardized gain scores for all tested areas in this and all other projects. The experimental group's adjusted gains were negative in direction, indicating that their performance relative to national norms actually declined slightly during the course of the school year.

Conclusions

The process and products of this program were not encouraging. Some important components of the project were either not implemented or implemented in an unsatisfactory manner. It is likely that these deficiencies were respon-

sible for the students' lack of progress, as assessed by standardized tests. This may mean that the concept of computer-managed instruction was not afforded a fair test in this project, so it would be premature to infer that CMI has no place in compensatory/remedial education.

Projects of this nature could probably benefit in the future from some of the experiences in Acadia Parish. It would appear that the timeliness of CMI-generated reports is crucial, and that late reports severely restrict teachers' ability to respond appropriately to the assessed needs of their students. Moreover, the reports should be tailored to the teachers' perceived needs. In particular, the number, formats, and kinds of reports should be determined by instructional personnel, and only then communicated to those in charge of operating the computerized system.

Bossier Parish

Description and Process

Bossier Parish's "Achievement Plus" pilot project was designated to foster growth in language arts and mathematics among high-risk second grade students and to help them to build more positive self-concepts by providing frequent experiences with academic success.

Project developers proposed to maximize the individual attention afforded to students by placing them in small classes. In addition reading instruction was structured with the aid of a basal reading series and mathematics instruction with a basic developmental program of skill development exercises.

Project personnel attempted to involve parents by sending progress reports and conducting some group conferences. However, the project did not include an evaluation of the impact of the parental involvement component.

Students were selected for inclusion in the project on the basis of seven criteria:

1) grades achieved in language arts and/or mathematics;

2) scores on criterion-referenced tests in the above areas;

3) achievement on SRA Primary Mental Abilities Test;

4) degree to which demonstrated mastery of skills fell short of those listed in the Louisiana Minimum Standards;

5) teacher recommendation;

6) regularity of school attendance; and

7) absence of Title I services.

Instruction in language arts was structured by Harper and Row's Reading Basic Plus series. This is a developmental reading program with a carefully planned and double-checked pattern of consistency in the sub-areas of vocabulary, phonics, sentence analysis, comprehension, and study skills. Skills were introduced, reinforced and reviewed at regular intervals throughout the project period. Supportive materials for the series included a teacher's manual, skills workbooks, phonics workbooks, duplicating masters, diagnostic and mastery tests, alphabet cards, sound and word cards, language charts, and individual record-keeping cards for recording student progress. In addition, some audio-visual media were employed for teaching and reinforcement.

Instruction in mathematics was structured by the Laidlaw Mathematics Program with supplementary practice provided by worksheets and the Spectrum Mathematics Series. Emphases were placed on numerations measurement, problem-solving, and basic computational skills. A few problematic issues came to light as a result of a) irregularities in project design, and b) implementation deficiencies observed onsite.

The design of the project was highly irregular from an evaluation perspective. One group of students received enhanced instruction in language arts, and an equal number of students served as controls with which the experimental group could be compared. Additionally, a group of students received enhanced mathematics instruction, and they, too, were compared with a control group. The project's reports indicate that some students received enhanced instruction in both areas; some in one area but not the other; and some in neither area. Further complicating the design is the fact that an experimental mathematics

student could simultaneously be serving as a control reading student, and vice-versa. Finally, the reports do not assign either status to some students who were tested.

These irregularities not only make for a complicated analysis problem, but also cast doubt on the validity of any findings resulting from statistical analyses. The outcomes of analyses reported below, then, should be interpreted with caution.

As was the case with most of the other projects, the single most debilitating problem for this project was the insufficient lead time given to project planners prior to the onset of the school year. This problem, in turn, resulted in the perception by both project personnel and the Program Evaluator that teachers were insufficiently trained in the use of the instructional series. Further, all parties agreed that the time period between pre and posttesting was undesirably short (less than six months).

Although experimental and control students received instruction employing different curricular materials, project personnel frequently emphasized -- both in reports and in conversation -- that their primary optimism was grounded in the low (10 to 1) pupil-teacher ratio afforded the experimental students. The Program Evaluator found this puzzling, since it was learned that virtually all second graders in the parish are afforded similarly low pupil-teacher ratios. When questioned about this, project personnel conceded that, although they were very optimistic about the prospects for progress among the second graders, they did not expect significant differences to emerge between experimental and control students. It thus appears that the use of control groups in experimental studies was not well understood by project personnel.

Outcome

Experimental group gains were significantly greater in language and mathematics than those of the control group. Analysis of the School Affiliation scores revealed no significant gains (Table 2).

Conclusions

The results of the statistical analyses indicate that the language arts and mathematics scores of experimental students showed significantly greater gains, on the average, than did those of the control students. Conclusions drawn from these analyses must be tempered by caution, however, for the reasons stated above. Clearly, the superiority of the experimental group's gains cannot be attributed to the low pupil-teacher ratio, because the control students experienced equally low ratios. It is likely that the intensive, structured instruction and practice afforded experimental students had important effects on their progress. This would seem to be the most plausible conclusion, but one cannot place complete confidence in it. The teachers selected for instructing the experimental students were described as master teachers, and onsite discussions indicated that project personnel were highly supportive of the efforts of those teachers. These two facts alone are arguably sufficient to have resulted in the observed gains.

The most prudent conlusion, in sum, would seem to be that experimental students in Bossier Parish's project probably benefited from something, but only a more careful replication of the project can tell us definitively which factors were in fact the most valuable for these second graders.

Calcasieu Parish

Description and Process

The pilot project implemented by Calcasieu Parish was an experiment in computer-assisted instruction (CAI). By giving each participating child access to a structured series of drill experiences via online computer terminals, it was expected that performance in reading and mathematics would improve among high-risk second-graders.

Prior to selecting the participants, inservice training was conducted to familiarize teachers and principals with the CAI programs and its principles.

Next, students were selected for participation on the basis of prior test scores and teachers' recommendations. One hundred twenty-nine experimental and 131 control students were identified. Efforts to match the two groups were quite successful, with the exception that the experimental group contained a significantly higher proportion of students who were currently repeating second grade.

By the time a site was prepared for installation of the terminals and a proctor was trained to supervise the use of the terminals, it was near the end of January before students actually began to use the CAI program. This means that the actual duration of compensatory services was only four months, a period not generally considered sufficient for significant gains. Because of physical limitations, it was deemed necessary to house the terminals in a central location, and to move participating students to that location at regular times for their CAI sessions. The location was well-prepared and was characterized by a pleasant atmosphere. The enthusiasm with which students participated in the CAI left the Program Evaluator with the opinion that the CAI activities had strong motivational properties.

Outcome

Despite the rather short duration of actual CAI, experimental students showed significant progress in reading, relative both to the control students and to national norms. No significnat gains were obtained in mathematics achievement or in school affiliation (Table 2).

Conclusions

The finding that significant gains were found in reading but not in mathematics is particularly interesting in light of the fact that the promised reading software package was not received by project personnel. Much staff time went into preparing students and staff for the use of a substitute package of considerably

less face value. This may lead one to speculate that the extra attention given to the problem of overcoming a logistic problem in the reading area may have had an impact on student progress in that area. In any case, the results in reading are encouraging, and suggest that the CAI approach piloted in Calcasieu merits implementing at a larger scale for the purposes of demonstration.

Iberville Parish

Description and Process

The pilot project implemented by Iberville Parish represented an experiment in developing a maximally efficient system for providing individualized remedial services to high-risk students. As proposed, the project was to make use of a commercial computer-based classroom management system designed to identify deficiencies and suggest prescriptive action for remedial teachers. The vendor of this system, Science Research Associates, defaulted on its delivery date, and Iberville Parish had not received the software as of the end of the school year. This situation was doubly troublesome for the project: Not only was it necessary to alter the project in mid-stream, but also the computer hardware already purchased lay idle after having drained funds that would otherwise have been available for useful purposes.

Despite this very serious handicap, project personnel showed admirable determination to "make do." In lieu of a computer, a clerical worker was employed to manage the collection of formative test results, compile the results and organize them in useful ways, and correlate observed student deficiencies with available curriculum materials.

In addition to the clerical worker and eight regular classroom teachers, the project involved two classroom aides and a classroom management specialist. Both the aides and the specialist conducted individualized instruction daily, during regular class periods. Each participating child received approximately 5 hours per week in individualized instruction.

One hundred experimental students and 46 control students were selected on the basis of prior retention, low achievement, teacher recommendation, and eligibility for Title I. The experimental and control groups were fairly well-matched with respect to demographic characteristics, although the experimental group showed slightly higher pretest scores than did the control group.

Because of the mid-course alteration in project plans, the aides and participating teachers did not receive as much inservice training as was planned. On the basis of observation and discussion, it appeared to the Program Evaluator that the degree of coordination among the staff affected by the project was less than would have been achieved if sufficient planning and inservice training time had been available. In sum, onsite observation suggested that the classroom management system was not well-oiled, but also that the determination and morale of participating staff remained high.

Outcome

The project cannot be called successful, in terms of the test scores. Both experimental and control students evidenced mean declines in all areas relative to national norms although the scores of experimental students declined slightly less than did those of control students. Nevertheless, the adjusted gain scores were consistently negative in direction (Table 2).

Conclusions

It is of course impossible to infer the true value of the computer-based management system as proposed, because it was never truly implemented. All that can be inferred is that the activities that actually took place were insufficient in quality and/or duration to effect an average increase in the tested ability of the group of students involved.

Jefferson Parish

Description and Process

Jefferson Parish's "Project Impact" was a pilot project implemented in seven schools. Its aim was to provide additional instruction to 112 high-risk students in the areas of reading, language and mathematics. Three experimental strategies were employed:

1) Treatment A: in-school tutoring by a paraprofessional, 5 days per week, 16 to 1 pupil-teacher ratio;

2) Treatment B: after-school tutoring by a certified teacher, 3 days per week for 45 minutes, 8 to 1 pupil-teacher ratio: and

3) Treatment AB: both of the above components.

A committee of professional personnel reviewed the current performance of each student and prepared an individual remediation program that addressed all the basic skills criteria and developed a priority list of those objectives that required mastery, reinforcement, or introduction. The aim was to provide additional instruction in those areas not mastered during the regular classroom time. Additionally, parents were kept informed of their children's performance by means of weekly progress reports and three meetings with participating teachers.

Students were selected as follows: for each of the seven treatment schools, a control school was identified whose student characteristics closely resembled its treatment counterpart. Then a random sample of 16 students was drawn from each of the treatment and control schools. The control schools were not informed of the names of the 16 control students.

Instructional activities for Treatment B (after-school instruction) consisted of one hour every Tuesday, Wednesday and Thursday. Fifteen minutes were allotted at the outset of each session for the students to "get settled." Instruction time was devoted equally to reading, language and mathematics. Parents were informed weekly as to their children's progress, and frequent communication was maintained between the remedial and the regular classroom teachers in order to

ensure continual updating of each student's individual learning prescription.

Treatments A (in-school) and AB were implemented in a similar manner. The in-school tutors attempted to provide their service with minimal disruption of classroom activities, and appear to have been successful in this effort.

The three meetings involving the professionals and the parents were evaluated by asking both groups to complete formal questionnaires to indicate their reactions to the project. The reactions of the parents who responded were almost uniformly positive in tone. Professionals' reactions were also very positive, with the exception of some after-school teachers who complained that both they and their students began to experience fatigue as the project neared completion. The reactions of school principals were also solicited, and the principals responded very positively to the project as indicated by letters from them appended to the project's final report.

On the basis of both the information alluded to above and onsite visits by the Program Evaluator, it appears that the after-school component (B) could benefit significantly through the more careful selection and training of participating teachers. Better selection would identify those teachers who possess the most energy to function well after a regular school day, and better training would equip them with some special skills that may be helpful for such a unique assignment. Another enhancement might entail the invitation of parents to observe the after-school sessions from time to time.

Outcome

Data analysis revealed that in reading, the adjusted gains of students in Treatments B and AB were significantly greater than those of the controls. In other words, children receiving after-school instruction benefited measurably from the project. In mathematics, all three treatment groups showed greater adjusted gain scores than did the control group. No significant findings emerged with regard to school affiliation (Table 2).

Conclusions

There is fairly strong evidence that the inclusion of high-risk second-graders in the after-school program was effective in increasing their achievement in both reading and mathematics. The evidence is more equivocal in the case of the in-school treatment. Before inferring, however, that after-school intervention is more effective than in-school intervention, one must consider that providing instruction after school is probably a hardship for the average teacher. A teacher who volunteers to work long days may well be more dedicated, or have more confidence in the value of remediation, than one who chooses not to. Further trials are necessary to disentangle the differences in the strategies from differences in the personnel who implemented them.

Lafayette Parish

Description and Process

The pilot project implemented by Lafayette Parish was designed to enhance the achievement of students who had been retained or who were deemed likely to be retained this year through the addition of a certified teacher to the regular classroom. Once retainees and students at risk for retention (according to teachers) had been identified, they were allocated randomly into three groups: Treatment One, Treatment Two, and Control. With some small disparities, the three groups were in fact comparable at the outset of the project. Students numbered 44, 50, and 37, respectively.

Treatment One consisted of individualized instruction for a 50-minute period each day. The instruction was diagnostic/prescriptive in nature: that is, it was based, for each student, on his or her deficiencies. The remedial specialist worked closely with the regular teachers to coordinate their activities. In addition, the specialists solicited parental support by conducting three 2-hour evening workshops during which suggestions were made as to how parents might

reinforce their children's learning in the home setting. Both the specialists and the regular teachers were trained and given ongoing support by two members of the faculty of Education Department at the University of Southwestern Louisiana. A close working relationship among these parties was one of the goals of the project staff, and informal observation indicates that such a relationship was established.

Treatment Two consisted of instruction by an added teacher for the same period of 50 minutes each day. However, the instruction was not diagnostic/prescriptive in nature. Rather, the extra contact time was devoted merely to review and drill of the subjects and skills taught by the regular teacher. In essence, then, Treatment Two might be termed, "more of the same." The inclusion of this treatment was deemed necessary in order to disentangle the effects of increased teacher-pupil contact time from those of structured diagnostic/prescriptive instruction. Should no difference be found between these two groups, the inference would be that the extra attention is sufficient. Should the Treatment One students outperform the Treatment Two students, the inference would be that the particular method of instruction employed effected change beyond that caused by extra instruction time. The Control Group, of course, received no special treatment, and its purpose was to contrast both treatments with no treatment.

Outcome

No statistically significant differences were found among the mean gain scores of the three groups in any of the tested areas. In fact, there is a suggestion that both treatment groups were outperformed by the control group, although all three groups showed small gains (Table 2). Scoring delays precluded an analysis of SOS score changes.

Conclusions

The failure of test scores to demonstrate project effectiveness is particularly striking in the case of Lafayette. On the basis of both reports submitted and onsite visits, this project appeared to be well-conceived and well-executed, and technical expertise was readily avialable. Moreover, testimonials indicated that the project enjoyed the support of principals and parents. In sum, the ingredients for success appear to have been present.

The local project evaluator expressed the informed opinion that treatment versus control differences were obscured because of the unusual progress made by control group students. She places this phenomenon in the category of a John Henry effect, which refers to the possibility that a strong and positive competitive spirit was induced among the teachers of control group students, which, in turn, led to a marked performance gain among that group. Although such a gain did occur, it is not possible to confirm or refute this explanation; one can say only that it is plausible on the basis of evidence in the compensatory education literature.

The local evaluator is currently compiling data on all second-graders comparable to those who participated in the project, so that the two treatment groups may be compared with a broader control group from other schools in the parish -- schools wherein the teachers had no knowledge of the project. Until a subsequent analysis is performed, however, one cannot term the project a success in terms of relative achievement gain.

Orleans Parish

Description and Process

The pilot project implemented by Orleans Parish represented an attempt to enhance the achievement of high-risk second-graders through the addition of basic skills specialists to regular classrooms. Four such specialists served 103 experimental children.

The experimental students and an equal number of control students were selected by randomly dividing into two groups all second graders at four schools whose prior achievement test scores fell at or below the 40th national percentile. In fact, the allocation produced two groups that were well matched on every measured dimension except pretest reading scores, on which the experimental group showed superiority.

Prior to implementation, the basic skills specialists and the regular teachers attended four workshops designed to train both groups in remediation work in co-teacher situations. The impact of each workshop was assessed by means of formal questionnaires completed by all participants, and the results indicate very positive reactions to all four workshops.

In practice, the teachers and the specialists were expected to engage in team teaching. The specialists worked exclusively with the high-risk students, while the regular teacher instructed the entire class. Each pair of teachers met weekly to coordinate their instructional activities and to compare notes on the progress of project students. According to the results of a questionnaire, both types of teachers reported favorable reactions to the team teaching approach. However, the results indicated that some problems were experienced in accessing instructional materials for the project, because of shortages and the absence of a central location for their storage.

In addition to their work with students, the specialists attempted to gain the support of parents by communicating with them by mail and by conducting monthly workshops with them. The parent attendance at these workshops was typically low (many were working full-time), but surveys completed by those who did attend were positive in tone. Attempts to induce parents to volunteer their assistance in class met with very little success.

Like most of the other projects, this one was plagued by a late start-up time. Instruction did not begin until February, and posttesting was conducted in late April. This period is generally regarded as too short for significant

gains to occur. Although the project manager was not notified of state funding until after the beginning of the school year, a substantial portion of the delay in implementation can be attributed to managerial problems. One problem was that a local project evaluator and design consultant were not designated unitl February. Another, mentioned above, was the difficulty experienced by teachers in obtaining necessary instructional materials. In general, the Program Evaluator gained the impression that it was not until February that the project began to function smoothly.

Outcome

An analysis of adjusted gain scores revealed no significant differences between experimental and control students, either in achievement or in affiliation for school (Table 2).

Conclusions

The failure of the test scores to demonstrate any project impact is not altogether surprising, given the very short duration of instruction. Less formal indications are, however, that some meaningful benefit was incurred as a result of the project. Teachers gained experience in remedial instruction and team teaching, and expressed interest in continuing the project once the problems were resolved. One might reasonably speculate that, given this kind of attitude among staff, such a project would yield greater fruits if its duration were increased.

St. Charles Parish

Description and Process

The pilot project implemented by St. Charles Parish represented an experiment in the use of computer-assisted instruction (CAI) in mathematics. Specifically, the CAI strategy employed was designed primarily to afford participating students

extra practice in computational skills.

A half-time co-teacher and an aide were employed in each of two schools to supervise a minimum of two weekly sessions per child in CAI. Regular classroom teachers attempted to coordinate both schedules and instruction with the project staff.

One hundred and eighteen experimental and 113 control students were selected for involvement on the basis of prior test scores and teacher recommendations. The matching of the two groups was not entirely successful: pretest math scores were significantly higher among experimental than among control students, and the experimental group was comprised of significantly more blacks and significantly fewer Title I students than was the control group. The full implications of these disparities are difficult to determine. One can say only that inferences based on data analysis should be interpreted with caution, since the statistical procedures rest on the assumption that experimental versus control group differences are due to random fluctuations.

The project was hampered by a late start, for two reasons. First, notification of funding from the State Department of Education was not received until after the school year had begun. At that point, it was difficult to secure the equipment and qualified personnel required. Second, further delays in the acquisition of computer software packages were experienced. Thus, the actual instruction did not begin until late January. The instruction time, then, was only four months.

Of the two experimental classrooms, one was of the open type and the other was traditional in layout and organization. In the former case, installing and using the computer equipment proved easy and non-disruptive. In the latter case it was necessary to move participants to another room for their CAI, and this proved somewhat disruptive.

Through the use of questionnaires administered to both staff and parents, it was learned that the level of approval was high among both groups, and informal observation indicated that the students themselves typically found the CAI enjoyable and stimulating.

Outcome

Results of data analysis indicate that the experimental group showed statistically significant gains relative to the control group and that these gains were of sufficient magnitude to be considered educationally meaningful. It must be recalled, however, that these results should be interpreted with caution for the reasons discussed above. No significant gains were found with respect to the School Affiliation score of the SOS test (Table 2).

Conclusions

Despite some moderately serious delays in implementation and problems with students' allocation to experimental and control groups, the outcome of this experiment appears encouraging. The gains observed in the short period of instruction were of sufficient magnitude to suggest that CAI in mathematics for a population of high-risk second-graders is an idea worth pursuing in greater depth and scope.

St. John The Baptist Parish

Description and Process

The pilot project implemented by St. John the Baptist Parish was dubbed "Project RIVER (Remediated Instruction as Vital to Meet Educational Requirements)." The project employed two co-teachers to provide individualized instruction to selected students in reading, mathematics, and writing.

Students were selected on the basis of teacher recommendations and previous scores on the California Achievement Test and the Ginn 720 Reading Placement Test.

They were not randomly allocated to experimental and control status. Rather, experimental students were selected from schools designated as experimental schools, and control students were selected from schools designated as control schools. An effort was made to match the experimental and control groups on the basis of overall demographic characteristics and test scores.

In fact, this effort to produce matched groups for comparison was less than successful. Experimental students scored significantly lower on reading, language, and mathematics pretests than did control group students. Moreover, the experimental group contained significantly larger proportions of Title I tudents, retainees, and recipients of free lunches (the latter being a good proxy measure of socioeconomic status). The analytical problems caused by these discrepancies -- and the responses to these problems -- will be addressed below.

Considerable effort was expended by project personnel to evaluate the process of implementation. Questionnaires were distributed to and completed by parents, teachers, principals and participating students. The results of these questionnaires generally indicate a favorable response from all groups. It should be noted, however, that since control students and the parents and professionals associated with them were not polled, it is difficult to evaluate the significance of these questionnaires.

Outcome

Analysis of adjusted gain scores revealed small, nonsignificant gains in reading, mathematics, and language. No significant findings emerged with respect to school affiliation (Table 2).

Conclusions

The fact that no statistically significant effects emerged does not, of course, speak well for the impact of this project. The fact that scores did

rise slightly in all three skill areas, however, may be an indication that the project was beginning to take hold at the time of posttesting. It should be recalled that the experimental group initially was characterized by lower achievement scores prior to the implementation of the project. It is possible, then, that the experimental students were slower learners than the controls and that the gains they achieved would have proven more significant had they been contrasted with those of a more carefully matched control group.

St. Landry Parish

Description and Process

The pilot project implemented by St. Landry Parish was designed to provide high-risk students with remedial services by the addition of certified teachers to the regular classroom setting. Three experienced teachers provided individualized instruction to 130 students identified by teachers as having deficiencies in reading or mathematics. Control students numbered 107.

The matching of experimental and control students was successful: No large disparities between the two groups existed prior to the beginning of the project.

A project coordinator and one instructor were employed in November. The second instructor was not engaged until early in January, because of severe difficulty experienced in locating a replacement to take over instruction of her regular classroom. A series of inservice training workshops was conducted to familiarize the staff with the objectives of the program and to encourage coordination of efforts between added and regular teachers. In addition, and throughout the remainder of the school year, the staff met weekly with the Title I learning center teachers for additional consultation and coordination.

Instruction began in early January, making for an instructional period of only four months. Diagnostic-prescriptive inventories were maintained for each

experimental group student, and token awards and certificates were meted out to students as they demonstrated mastery of skill clusters. During this period, parent-teacher conferences were held monthly. Roughly half the parents invited attended these conferences, and questionnaires indicated that their response to the project was very favorable. Similar questionnaires completed by teachers and project staff members yielded equally positive responses. Onsite discussions with and observations of teachers supported the results of the questionnaire. Enthusiasm appeared very high, although considerable frustration was evident as a consequence of having to address so many deficiencies in so short a time period.

Outcome

Data analysis revealed no significant project effects on any dimension, although the adjusted achievement gains of the experimental group were slightly greater than those of the control group (Table 2).

Conclusions

From all appearances, this project was well-conceived and well-executed. Because of late notification from the state and a local shortage of qualified personnel, the project was hampered by a late start. Although objective measures failed to validate the merits of this project, the subjective and anecdotal evidence suggests that the concept has promise.

Tangipahoa Parish

Description and Process

The pilot project in Tangipahoa Parish was called DRILL. Its aim was to provide remedial instruction for high-risk second-graders through daily individualized instruction in language arts and mathematics.

Students were selected for eligibility on the basis of low prior test scores, prior grade retention, and teacher recommendation. Of these, 72 were allocated to the experimental group and 62 to the control group. The allocation was not random in effect: pretest achievement scores were lower among experimental than among control students, and the experimental group contained fewer prior repeaters and fewer students served by Title I. These disparities in the composition of the two groups indicate that analyses of project impact be interpreted with caution, since any relative gains found could be attributable to prior differences between the gorups, as opposed to the impact of the instructional process.

The experimental students were served by three itinerant teachers trained in the use of an instructional system called DYSTAR, marketed commercially by Science Research Associates. Although project staff was initially impressed by the promise of DYSTAR, it was soon evident that serious problems were developing in its use. DYSTAR is, above all, a sequential curriculum. That is, every student must begin at the same point and progress through the same stages in the curriculum. The concept may be sound, in that every lesson is predicated on student understanding of prior lessons. In practice, however, it proved awkward. Most of the students in the project were achieving at a level significantly higher than the start-off point of the DYSTAR materials. Teachers were compelled to restrain their natural desire to skim or skip lessons until a student's abilities were well-matched with the level of difficulty of a lesson. According to the project supervisor, this caused considerable frustration on the part of both teachers and students, and also retarded the process of addressing the deficiencies most apparent to the teachers.

Upon recognition of this problem, the project director decided to abandon some of the stringencies of DYSTAR and to concentrate on using the periods of individual instruction to her best advantage by addressing deficiencies as they were discovered.

The project's development was hampered by a late start which in itself worked to its disadvantage. The late start was compounded by the inability of the project staff to secure instructional materials of appropriate diffficulty for the sample of students being served. Because of late notification of funding by the LSDE, the project director was required to purchase the materials before the students had been selected and evaluated. By the time the problem was recognized, it was too late to acquire a different set of materials.

The reactions of teachers and parents were solicited through questionnaires, but the actual results were not reported. Selected comments that were included in the project's report suggest that teachers' reactions were mixed, and that parents were generally supportive of this or any attempt to further aid their children.

Outcome

Data analysis indicated that, relative to the control students, treatment students showed statistically significant gains in reading but not in mathematics. A nonsignificant loss occurred in school affiliation. Again, these findings must be interpreted with caution, for the reasons discussed above (Table 2).

Conclusions

This is clearly a case wherein the true merit of the project has not been assessed, since it was not implemented to the full extent proposed. The suggestion was that gains in reading were achieved, but these results require replication. The problems experienced could be attributable to the novelty of the instructional program, but it is the opinion of the Program Evaluator that earlier notification of state support might have allowed project personnel the necessary time to evaluate properly both the deficiencies of the students and the level of the materials, in order best to match the two.

West Carroll Parish

Description and Process

The West Carroll pilot project was dubbed, "Mathematics Achievement Growth In Computational Skills (MAGICS)." The project made use of a computerized instructional management system to diagnose and prescribe remedial services for second-graders who exhibited marked deficiencies in computational skills. The system included an online component as well through which students could receive practice and symbolic reinforcement in computation at their optimal level of difficulty.

Unlike the other projects involving computers, this project employed a minicomputer, as opposed to a microcomputer. The power of minicomputers is considerably greater, and the software more flexible and sophisiticated than that currently available with microcomputers.

Although the computer performed most of the work necessary to customize drills and reports to students, the classroom teacher was always in control. That is, she could alter or override the dictates of the computer at will. On the basis of observation and discussion, it became apparent to the Program Evaluator that this flexibility has several important advantages. First, the teacher, unlike the computer, can consider various intangible factors in addition to a student's current level of achievement. She is sensitive to a child's mood on a given day, and may be inclined to provide problems at a lower or higher level of difficulty than is recommended by the computer. This would seem to have the potential to make the custom-tailoring process even more finely tuned. Second, affording the teacher the power and responsibility to override the decisions of the computer has the effect of restoring some of the teacher's sense of efficacy which is easily undermined by an inflexible computerized system.

Experimental students (113) and control students (46) were selected on the basis of previous mathematics achievement scores below the 50th percentile.

The groups were fairly well-matched, with the exception that the experimental group performed slightly better on the pretest and contained a significantly higher proportion of black students than did the control group.

Because of late notification of funding, the computer equipment was not ordered until late-September, and was not operational until early January. Two weeks of training followed, and actual implementation began in mid-January. As posttesting was conducted in mid-May, the instructional period reflected in the pretest-posttest comparisons was only four months in duration.

Informal surveys were conducted with students, staff, and parents, and the reactions are reported to have been uniformly positive. The Program Evaluator's onsite observations supported the contention that the system was working smoothly and that teacher and principal support was at a high level.

Outcome

Data analysis revealed that the adjusted gain scores of the experimental group significantly exceeded those of the control group. No significant differences were found in school affiliation (Table 2). Thus, evidence of the efficacy of the project is not lacking, despite the shortness of the instructional period.

Conclusions

The computerized instruction and instructional management system appears to have operated effectively. One concern held by the Program Evaluator was that the system was far more expensive than those using microcomputers. Thus, the cost of the system per pupil served was high. Fortunately, such a system can accomodate more students than were served in the project. Moreover, this can be achieved without lowering the pupil-terminal ratio, since a minicomputer of this type can accomodate many terminals at distant physical locations. In sum, there is reason to believe that the effectiveness of this system may be enhanced by lengthening the instructional period, and that its cost-effectiveness

may be increased by increasing the number of sites with terminals.

North Louisiana Consortium For Education

(Ouachita Parish School System, Agent)

Description and Process

The North Louisiana Consortium for Education represents 20 public school systems and one parochial school system in the Fifth Congressional District of North Louisiana. The Consortium's pilot project consisted of two components: 1) the addition of certified remedial teachers to existing classrooms, and 2) the implementation of a transition class for students at risk for retention. Both components served second-graders who had previously been retained at least once.

Component One, involving addition of certified teachers, was implemented in Ouachita Parish and in Lasalle Parish. Each remedial teacher was assigned to work with students in at least two classrooms in small groups. Efforts were made to coordinate these sessions with the overall schedules of the regular classroom teachers, and with other personnel including those in Title I and special education.

The 102 students selected for compensatory/remedial services were those in the target school who were at highest risk for retention. Students were not, however, allocated at random to experimental and control groups, nor were schools selected through random assignment. In fact, pretest scores indicated that experimental group students averaged significantly lower initial scores in reading, and slightly lower scores in mathematics than did the control group students. Therefore, the results of the outcome analyses should be interpreted with caution.

Despite the specifications in the Consortium's proposal, project personnel decided to alter somewhat the operation of the component in Lasalle Parish. Because participating students resided in five classrooms, the additional teachers were initially required to overextend themselves, such that they could work with students in each classroom only one hour per day. The project director decided,

therefore, that those students demonstrating the greatest need from all five classrooms would be removed to another room for three hours per day for compensatory/remedial instruction. In other words, all participating students received at least one hour of special instruction, and some received three hours in a separate room.

Component Two, the transition class, was offered in Caldwell Parish. The primary objective of this component was to give slower students an opportunity to "catch up" to the grade level to which they were putatively to be promoted, by providing them with intensive compensatory/remedial instruction. In this way, it was hoped that the subsequent class of third graders would be more homogeneous with respect to ability level, and that third grade teachers could be more effective in teaching children more nearly equal in ability. Project developers expressed the belief that the transition class concept might be an option preferable to retention.

Participating students received compensatory/remedial instruction for a full day, every day, in groups whose pupil-teacher ratio was 15 to 1.

The Consortium project, like most others, was plagued most severely by a late start, which in turn was caused by late notification of funding by the LSDE. The late start made particularly difficult the tasks of hiring and reassigning teachers, allocating and scheduling teachers and students, and acquiring curriculum support materials.

Another problem was caused by what was perceived as too high a pupil-teacher ratio. The average number of pupils per teacher was 17, whereas experience led both project personnel and the Program Evaluator to recommend 8 to 12 pupils per teacher.

Outcome

An analysis of adjusted gain scores revealed that the Component One experimental group demonstrated significant gains in mathematics but not in reading.

Component Two (transition class) experimental students showed measurable gains relative to controls, but because only one class was involved, the numbers were insufficient for the gains to achieve statistical significance. No differences were found with respect to school affiliation in either component (Table 2).

Conclusions

The finding of gains in mathematics (and nonsignificant gains in reading) suggests the possibility that the project was beginning to have a measurable impact at the time of posttesting. The short duration of the instructional period in Component One, coupled with a high pupil-teacher ratio, were likely the primary reasons for the marginal success of this project. Component Two showed promise, but the number of children involved was too small for significant results to be detected. Were these conditions remedied, there is reason to believe that results would be considerably more positive.

DEMONSTRATION PROJECTS

Ascension Parish

Description and Process

The demonstration project implemented in Ascension Parish represented an attempt to demonstrate the impact of a computer-assisted management system in two instructional resource centers. The skills addressed were reading and language arts. The object was to demonstrate a system that would incorporate the state minimum standards, the basal reading text, and the existing instructional system. Ideally, a computer-assisted management system would enable these three components to be efficiently coordinated within the corpus of a single curriculum.

The specific functions of the resource cneters would be to identify students in need of compensatory/remedial services, to diagnose their deficiencies, and to prescibe instructional materials and strategies.

One hundred twelve students were selected for inclusion in the experimental group, and 113 students in other schools were selected to serve as controls. In fact, the experimental group evidenced somewhat lower pretest scores in reading and language, and it contained more blacks, fewer Title I students, and more students receiving free lunch than did the control group. Because of these disparities, results of data analysis should be interpreted with caution.

The job of correlating existing materials, state minimum standards, and student prescriptions is very time-comsuming when done by hand. It is for this reason that microcomputers were proposed to perform much of this work, leaving the teachers free to deyote their full attention to instruction. However, it was

this component of the project that proved most troublesome. Compounding the delay caused by late notification of funding were further delays in the acquisition and setup of the computers. Most serious was the fact that obvious mismatches occurred between the prescriptions generated by the computers and resources actually available in the resource centers. In other words, insufficient attention was given at the outset to the need to custom-tailor the management system to an existing resource center.

According to resource center teachers, some of them attempted to accomodate the computer-generated prescriptions, while most simply abandoned the use of the computer for all but the most trivial tasks such as generating printouts of group performance. There are plans to introduce better-matched software into the computers for use during a planned summer session.

Despite (or, perhaps, because of) the difficulties with the computers, the resolve of the participating teachers was striking. Their morale was high, and so, too, was that of the students. Informal observation indicated that the students were spending a very high proportion of their time in the centers on task. The teachers were rather vocal about their frustrations and freely volunteered suggestions as to how the system might be improved. A planned summer session may well be a better test of the viability of the system as it was meant to be implemented.

Outcome

Data analysis revealed that significant gains were achieved by the experimental group in both reading and language. No significnat gains were found with respect to school affiliation (Table 2). These results should be replicated with groups more carefully matched before any firm inferences are drawn.

Conclusions

This demonstration project was ambitious and quite complex. Its execution was flawed, primarily because of insufficient lead time in which to properly

match a classroom mangement system with existing practices and resources. Nevertheless, the results suggest that students did benefit from the experience of intensive instruction in the resource rooms, and one can only speculate that a more efficient computer-assisted system might well engender significant improvements in the effectiveness of the resource centers.

St. Bernard Parish

Description and Process

The demonstration project implemented by St. Bernard Parish was dubbed "Project Competency." In addition to the goal of fostering student achievement and attitudes toward school, this project aimed explicitly to assist students in the basic skill areas of reading, writing, and mathematics, as demonstrated by mastery of the state minimum competencies.

The project employed three certified teachers, one specializing in each of the three skill areas, to work with selected students in the classroom during regular class periods. The three teachers were itinerant, moving from one school to another according to a prearranged schedule. In this way, the three teachers were able to provide remedial services to 75 needy students, and each group of eligible students received the same number of hours of remediation in a given week.

The remediation provided can best be described as diagnostic/prescriptive. For each participating student an Individual Remedial Prescription (IRP) was prepared by the project teachers in cooperation with the regular classroom teachers. The IRPs identified in detail the particular mastery objectives on which each student was currently working, the materials used for remediation with each student, and the progress made by the student over time.

Students were deemed eligible for the project on the basis of previous standardized test scores, teacher-assigned grades, and teacher recommendations. Once eligibility had been determined, the eligible students were divided into

two groups representing a treatment and a control group. The allocation of students to the two groups was done in such a manner as to render the resulting groups as similar as possible with respect to a variety of educationally relevant factors. This effort was quite successful, as evidenced by the fact that the average pretest achievement and SOS scores of the two groups did not differ significantly. Moreover, the demographic profiles of the two groups were alike on all dimensions except the proportion of students served by Title I. The group designated for remedial instruction included a significantly smaller proportion of Title I students than did the control group.

In addition to the remedial services provided directly to students, the project had two secondary objectives: inservice training of the itinerant teachers by outside consultants, and parent-teacher workshops intended to promote reinforcement at home of the learning activities taking place in school. These activities in fact took place, but no documentation was provided by St. Bernard Parish regarding the impact of the activities.

Outcome

Analysis of adjusted gain scores revealed small, non-significant gains in both groups with the experimental group showing slightly greater gains in reading but not in mathematics. No significant differences were found in school affiliation (Table 2).

Conclusions

The implementation of the project, like that of most of the others, was constrained by an insufficient period during which to prepare an overall plan of action, to solve the considerable problems attendant to the scheduling of itinerant teachers, and to train the itinerant teachers in the application of

diagnostic/prescriptive techniques to the teaching of state minimum standards. Given the non-significant trend in the direction of positive impact, it is possible that the true merit of the project would show itself, were the project replicated with adequate lead time and implementation time.

OVERALL SUMMARY AND CONCLUSIONS

Planning Project

The two projects approved for planning and training of personnel were the msot difficult to evaluate in an objective manner, because of the paucity of verifiable and quantifiable data. As such, the discussions above emphasize the degree to which stated goals appear to have been achieved on the basis of formal and informal observations. In both cases (East Baton Rouge and the Consortium), the projects received high marks on this criterion. In fact, it appears that these projects excelled in precisely that area in which deficiencies tended to exist in the other projects: adequate planning and training. This suggests the argument that, in the future, it may be wise to allow projects to engage in a year of planning and training prior to the implementation of a pilot project. It is the opinion of the Program Evaluator that both planning projects are well-prepared to initiate pilot projects, and that such projects, were they implemented, would be unlikely to suffer from the effects of severe delays experienced by the other projects.

Pilot and Demonstration Projects

Seven of the 15 projects in these categories demonstrated at least suggestive positive effects on student achievement in one or more skill areas. Of these seven, five evidenced significant gains in all achievement skill areas addressed and tested. No evidence was found that students' affiliation for school, as assessed by the SOS, was affected by any of the projects (Table 2). There is no obvious reason for the failure of the SOS to detect any improvement in students' attitudes toward school. One possibility is that attitudes simply

cannot be expected to change in a short period of time, even in cases where achievement gains are found. Another possibility is that the instrument itself lacks validity with the particular sample of low-achieving students involved in these projects.

At the outset of this program the Program Evaluator made plans to assess the cost-effectiveness of each project, particularly those funded for demonstration. These plans were abandoned when it became clear that virtually all the projects had been seriously hampered by significant delays in implementation. Many of the projects were simply not able, in the time permitted, to make optimal use of the funds allocated to them. The variance in instructional time among projects further complicated the situation, to the extent that a cost-effectiveness analysis was no longer deemed useful or statistically valid.

Overall, results suggest that the flexibility built in to the Request for Proposals had a favorable influence. If all the projects had been required to pilot or demonstrate the same instructional model, one would have learned something about the ability of each parish to implement it successfully, but little about the merits of the chosen model. By encouraging diversity among models, both the LSDE and the participating parishes have acquired valuable information about the relative merits and feasibility of a number of models.

With the exception of West Carroll, those parishes that experimented with computer-assisted techniques experienced a common core of difficulties. It appears that the state of the art in the use of microcomputers in classrooms is not quite adequate for smooth operation. It should be noted, however, that many commercial concerns are working very rapidly to improve this situation, and it may be only a year or two before dramatic improvements have been achieved.

Most of the projects that emphasized individualized instruction showed promising results. Most of these projects combined the lowering of pupil-teacher ratios with the institution of diagnostic/prescriptive instructional techniques. While it is not clear which (if either) of these two components is the more

potent, their combination seems to hold promise for the remediation of high-risk second-graders, and further testing of these models is clearly warranted.

Certainly the clearest lesson learned was that compensatory/remedial education programs cannot be expected to function at optimal effectiveness when implementation does not begin until January or February of the school year. Although some projects can be faulted for delays, all of them were handicapped from the outset by the fact that they did not have their funding approved until after the beginning of the school year. Without exception, local project directors cited late notification as the single most vexing problem they experienced. If state funding is to be forthcoming in future efforts of this kind, it is imperative that notification of funding be given at least one month prior to the beginning of the school year.