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AUTHOR Perry, Marcia D.
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ABSTRACT

The sustained effects studies of Title I programs in 130 school systems in Kentucky were analyzed. The purpose of the review was to examine the types of questions asked, the results of the studies, and the ways in which results were interpreted and utilized. There were 109 summer effects studies. These showed that overall, the gains of Title I were sustained over the summer. There were normal curve equivalent losses over the summer but the losses may reflect no more than the difference between gains made by projects on a fall-spring testing cycle and those made by projects on a spring-spring cycle. This analysis presents some of the problems encountered by local educational agencies (LEA) and suggests guidelines to use in the future to improve the studies. The significance of the sustained effects studies was not so much in the results of the studies as it was in the process of the studies. LEAs took a much deeper look at what they were doing in their projects and at the consequences of their efforts. They took a closer look at their process of testing and their interpretation of test results in the evaluation of program impact. (PN)

A META-ANALYSIS OF TITLE I/CHAPTER 1 SUSTAINED EFFECTS STUDY

Marcia D. Perry

Educational Testing Service

Atlanta, Georgia

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A META-ANALYSIS OF TITLE I/CHAPTER 1 SUSTAINED EFFECTS STUDIES

The regulations covering Title I (now Chapter 1) require that the evaluations of funded projects include the determination of whether performance in the basic skills is sustained over a period of more than one year. To determine their gains, many Local Educational Agencies (LEAs) administer nationally normed pre- and posttests and compare the resulting percentiles through the use of an equal interval scale called a Normal Curve Equivalent (NCE) which has a mean of 50 and a standard deviation of 21.06. A third test is then administered to the students and the resulting NCE compared to those from the first two tests. The data are compared to determine whether gains made by the students during the Title I/Chapter I project have been sustained. The study is what we call the sustained effects study.

The Compensatory Education Department of the Kentucky Department of Education (DOE) requested that the LEAs submit both their plans and the results of their study of sustained effects to the state. A form was developed on which to describe the plans for the sustained effects study. It included the following information: rationale for the study, major questions to be answered, the grade levels to be included, the name, edition, forms and levels of the test used, and the dates of testing. A second form was developed on which to report the results of the study and the LEA's interpretation and utilization of the results.

One hundred and thirty studies were reviewed and analyzed. The purpose of the review was to answer the following questions: (1) What were the major questions of the studies? (2) For each common question, what were the results? (3) How did the LEAs interpret the results? (4) How did the LEAs plan to utilize the results? and (5) Were there any obvious mistakes in the studies? The studies were grouped by questions asked, grade, and type of project.

RESULT OF THE REVIEW

What Were the Major Questions of the Studies?

The major question by far, with 109 LEAs asking it, was: Are the gains from Title I instruction sustained over the summer? These summer effects studies related to various combinations of grades and subjects.

The second most frequently asked question (12 LEAS) related to exit from Title I services. The questions varied as to grade level at exit and reasons for exit (termination of services by LEA or attainment of achievement level by student).

Other questions related to a comparison of students in different situations (longer versus shorter periods of Title I instruction, summer school versus no summer school, team teaching versus one teacher, and three years in Title I versus two years versus one year).

What Were the Results of The Summer Effects Studies?

The sample sizes varied from 3 to 421 with most in the range from 20 to 30. By taking a weighted (by number of students tested) average across LEAs for Total Reading and Total Mathematics in each grade (Tables 1 and 2) a pattern for the state can be seen.

TABLE 1

SUSTAINED EFFECTS IN READING

Grade	Number of Students	Average NCEs			Differences in Avg. NCEs		
		Pretest	Posttest	SES	Post - Pre	SES - Pre	SES - Post
1	12	26.8	48.9	32.6	22.1	5.8	-16.3
2	695	29.8	37.5	30.9	7.7	1.1	- 6.6
3	2407	26.5	30.5	28.8	4.0	2.3	- 1.7
4	1765	25.3	31.8	29.0	6.5	3.7	- 2.8
5	1110	26.6	32.4	29.5	5.8	2.9	- 2.9
6	588	27.6	33.7	32.7	6.1	5.1	- 1.0
7	170	25.8	29.8	28.9	4.0	3.1	- 0.9
8	28	20.7	21.7	22.4	1.0	1.7	+ 0.7

SES = Sustained Effects Study or the third data point

TABLE 2

SUSTAINED EFFECTS IN MATHEMATICS

Grade	Number of Students	Average NCEs			Differences in Avg. NCEs		
		Pretest	Posttest	SES	Post - Pre	SES - Pre	SES - Post
2	62	26.6	34.9	29.4	8.3	2.8	-5.5
3	360	26.9	32.5	28.9	5.6	2.0	-3.6
4	292	25.1	37.7	32.5	12.6	7.4	-5.2
5	297	26.2	31.7	25.6	5.5	-0.6	-6.1
6	184	28.5	37.1	33.1	8.6	4.6	-4.0
7	57	29.6	32.9	31.7	3.3	2.1	-1.2
8	8	20.4	21.8	29.1	1.4	8.7	+7.3

SES = Sustained Effects Study or the third data point

There is no consensus on the meaning of "the gains are sustained." Two interpretations are (1) the gain from the posttest to the third data point is greater than or equal to zero, and (2) the magnitude of the loss from the posttest to the third data point is less than the gain from the pre- to posttest. The second interpretation is used in this paper.

Overall, the above two tables show that the gains of Title I were sustained. With the exception of 5th grade mathematics there were NCE gains from pretest to the third data point.

With the exception of 8th grade (where the sample sizes were small) there were NCE losses over the summer. These losses were greater in mathematics than in reading in grades three through seven. These losses, however, may reflect no more than the difference between gains made by projects on a Fall-Spring testing cycle and those made by projects on a Spring-Spring cycle.

How Did the LEAs Interpret the Results?

The LEAs' interpretations of the results reflected a higher level of evaluation that goes beyond looking at gains in test scores. They expressed concerns about small sample sizes, lack of randomness of samples, changes in the levels of the test, match in content of the test with objectives of the curriculum, and difficulty of the test.

In many cases students who were tested at the third data point were only those who were still in a Title I program. Administrators failed to test those who had made greater progress and were therefore back in regular classes. The result was a non-random sample of lower ability students. This was the most common error that was found in the studies.

In most situations the pre- and posttests were of the same level while the third test was one level higher. While the scale score system should make such a change equitable, there were cases--especially in the lower grades--in which a subtest found in one level was not a part of an adjacent level.

How Did the LEAs Plan to Utilize the Results?

While many LEAs were necessarily cautious in making decisions based on only one set of scores or based on a small sample of students, there were some LEAs that suggested ways in which they would use the results of their sustained effects study.

Plan summer activities. The need for constant reinforcement of skills throughout the summer was noted. Some noted a definite need for a summer school which funding would not permit. Many LEAs plan to stress the need for summer reading to parents and students. (Math reinforcement seemed to be more of a problem.) In some LEAs, the teachers are preparing materials for summer activities that students can do at home. Some LEAs are coordinating efforts through a local library or bookmobile. Some are training parents in ways to help reinforce reading and math skills during the summer. Some are giving children old books and other reading materials for summer use and encouraging them to use the library during the summer.

Look more closely at curriculum and standardized tests. Some LEAs without sustained gains are looking at their curriculum to see what needs to be added or deleted. Many are looking more closely at the tests. Some are comparing objectives of the test to their own curriculum and may select another test in the future. Some are using the test in diagnostic ways to determine in which areas the students showed the most decline toward pretest NCEs. Some are stressing individualization and noting specific skill deficiencies. Some will plan more review in the fall prior to testing.

Improve the placement of children with learning difficulties. There was some concern expressed about the placement of children with learning disabilities in Title I classes. Often students with learning disabilities and low achievement are placed in Title I classes until they can be identified through psychological testing as learning disabled. One LEA mentioned that the results of its study had prompted the school to have more psychological testing so that students could be placed in the most appropriate learning environment. The LEA will also try to get more ckasses fir exceptional children added.

Do additional studies. The study prompted some LEAs to do more studies. Some indicated an interest in following the students' progress for more than a year or in following them beyond Title I and into the high schools. One LEA plans to study more grades next year. One LEA planned to interview each student to see if there were patterns differentiating those who sustained their gains from those who did not. Questions which they plan to ask are related to attitudes toward school study habits, outside activities, interests or hobbies, home life, and relationships with family and friends. One LEA commented that Title I patterns in sustained gains should be compared with those of all children in the school.

Change their Title I programs. As a result of their studies two LEAs decided to extend their reading programs an extra year. One plans to extend the Title I program through a parents' activities program. Since their best retention was at the early grades, one LEA will concentrate its efforts there in the future. Since rentention is so important, one LEA decided to allow a student once selected to continue in the Title I program until an established goal is obtained with consistency. LEAs whose average gains had been sustained usually were encouraged to continue the same type program.

EDUCATIONAL SIGNIFICANCE

This analysis presents benchmark results by which to compare future studies of sustained effects over the summer. It presents some of the problems encountered by LEAs and suggests guidelines to use in the future to improve the studies.

The significance of the sustained effects studies was not so much in the results of the studies as it was in the process of the studies. LEAs took a much deeper look at what they were doing in their projects and the consequences of their efforts. They took a closer look at their process of testing and their interpretation of test results in the evaluation of program impact.