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ABSTRACT

Eight Head Start centers which used the Responsive Model program during the 1968-69 school year were assessed to determine cognitive development of children, teacher performance in the classroom, adequacy of physical facilities, administrative support and the interrelationship between these variables. Teachers were observed at the beginning and end of the school year and rated on a scale designed to indicate the degree to which they implemented the procedures of the Responsive Model. Findings indicated that the majority of teachers increased their teaching skills and became more consistent with the Model criteria. The Preschool Inventory (PSI) measuring achievement in skills and concepts, was administered on a pre-post basis to 761 children, and average scores in all eight communities demonstrated growth throughout the year. Year-end scores for the Responsive Model children were at national norm levels reported for middle class children. (A limitation of the PSI is its less than adequate norms.) Changes in child test performance were greatest in classrooms with adequate physical facilities, in situations with few administrative problems and where teacher performance was consistent with Responsive Model Objectives. When measured by PSI changes, child growth was greatest for those in classes whose teachers demonstrated a high level of teaching ability. (Author/NH)

PRELIMINARY ANALYSIS OF 1968-69 HEAD START DATA

Occasional Research Report Number 3

EDUCATION BEGINNING AT THE AGE OF THREE

FAR WEST LABORATORY FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

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Level II
Date: 7/23/70
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The Laboratory was established through a Joint Powers Agreement in February 1966. Signatories as of June 1969 include:

The Regents of the University of California
The California State Board of Education
The Trustees of the California State Colleges
The County Superintendent of Schools of the County of Monterey
The Board of Education of the San Francisco Unified School District
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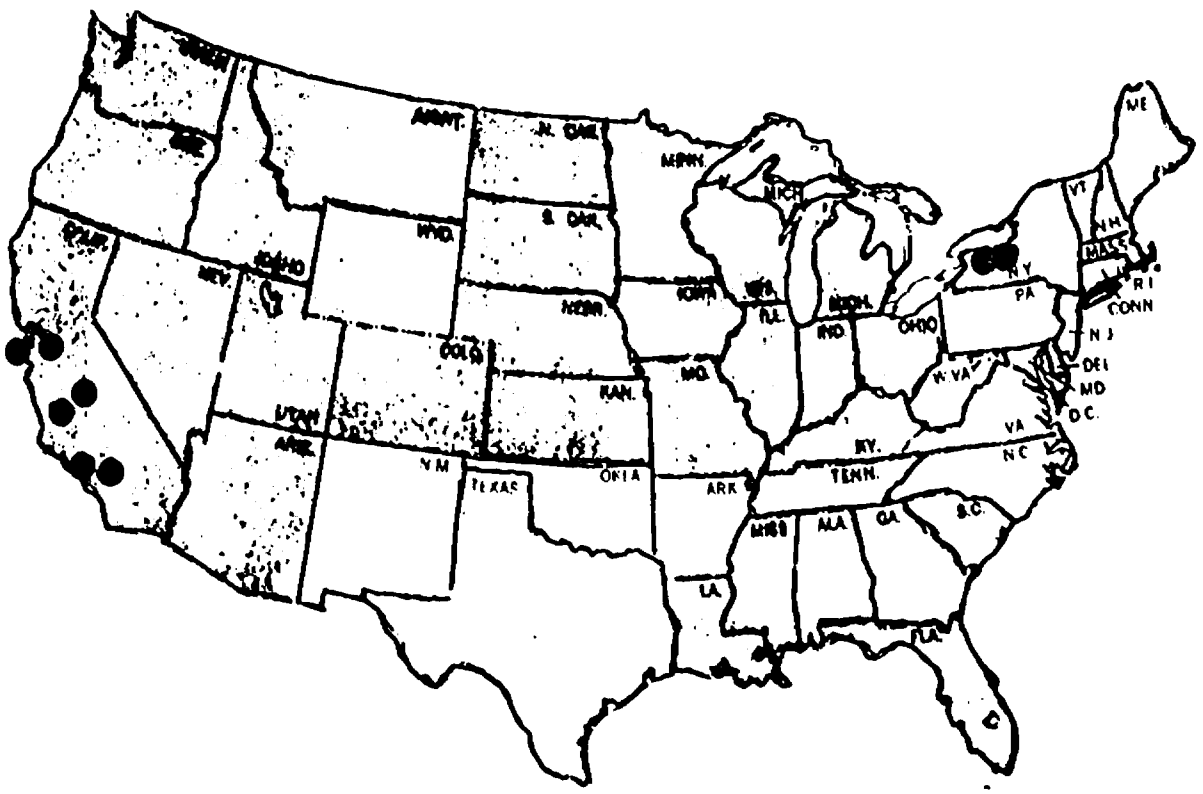
PRELIMINARY ANALYSIS OF 1968-69 HEAD START DATA
OCCASIONAL RESEARCH REPORT NUMBER 3

I. Introduction

During 1968-69 the Far West Laboratory contracted with eight school districts to develop and implement a Head Start program for children:

Oakland, Calif.	Monterey Co, Calif.
San Francisco, Calif.	Orange City, Calif.
Fresno (I), Calif.	Buffalo (I), N.Y.
Fresno (II), Calif.	Buffalo (II), N.Y.



The program, called the Responsive Model, trained teachers and assistants to incorporate teaching practices to achieve the objectives of the model. The major objectives of the model are:

1. To provide a learning environment that encourages and reinforces the development of a child's healthy self-concept; and

2. To contribute to a child's intellectual growth and problem-solving ability.[1]

To implement teaching practices consistent with these objectives, a person designated as a Program Advisor was identified by the community at each site. This person was trained by Laboratory personnel and, in turn, trained teachers and assistants at the local level. Laboratory staff made further contributions by conducting on-site workshops, demonstrations, and reviews.

This report discusses changes in Head Start teacher behavior as reflected by ratings of their performance at the beginning and end of the 1968-69 year. These ratings are then compared with ratings of teachers made at the end of the 1967-68 year.

The second section of this report deals with changes in the child's behavior, including (1) the unsuccessful attempt to collect data on a child's self-concept development; and (2) objective test performance on the Preschool Inventory.

The third section focuses on variables dealing with physical facilities in the classroom and administrative difficulties encountered in each community. These variables are examined as they relate to teacher performance and test performance of the Head Start children.

A summary of the report and conclusions based on the data collected are then made.

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[1] For a more complete description of the Responsive Model, its objectives and procedures see: Nimnicht, G., McAfee, O., and Meier J., The New Nursery School, General Learning Corp., Early Learning Division, N.Y., 1969.

II. Changes in Teacher Behavior

We are still having difficulty obtaining reliable data on the changes in teacher's behaviors during the training program. An observation schedule was developed to use on a pre-post basis, but after using it in the Fall, it became obvious that it would need extensive revision before it became a reliable research tool. Some useful evaluative data were obtained by rating the teachers on the same general rating scale that was used during 1967-68.[2] Descriptions of the teaching performance levels that constituted this scale are presented below:

LEVEL	DESCRIPTION OF TEACHING PERFORMANCE
0	Teacher and assistant are not too aware of learning possibilities that exist in various areas. For example: The teacher does not appear to be using art to reinforce the names of colors, shapes, texture, etc. Blocks are not used for developing relational concepts such as longer or shorter. Materials, toys, and games are left out all year with no evidence of a particular toy or game being used to accomplish a specific objective.
1	Teacher and assistant are consciously working to develop the children's use of language, as well as to increase the precision of their own. However, they frequently question children, often irrelevantly. They use many learning episodes during group time, but no learning episodes with small groups or individuals. Free choice time remains the same at the end of the year as at the beginning. Learning activities and arts and crafts are planned for LARGE groups. The remainder of the time, children do as they please with no specific learning planned for each area.
2a	In addition to level 1 behaviors: Teachers lay out material to focus attention of children on a particular learning they want to take place. Teacher is usually sensitive to opportunities for language development while children are involved in free choice activities. There is no use of learning episodes during free choice time.
2b	In addition to level 1 behaviors: The teachers are using learning episodes during individual play. However, this is usually turned into a structured large group experience by the teacher rather than by the children.

[2] Nimnicht, Olen P. and others, "Interim Report: Research on the New Nursery School", Colorado State College, Greeley, Colorado, Dec. 1967.

LEVEL (cont.)	DESCRIPTION OF TEACHING PERFORMANCE (cont.)
3	(Free-Flowing and Dynamic with Solid Content) Teachers are using learning episodes in a free flowing, flexible manner all the time--group time as well as free choice time. The episodes are brief and enjoyable, and children are free to participate or leave. While indoors, children engage in a variety of individual and small group activities focused on specific objectives. Teachers take care in laying out and changing materials. They depend on attractiveness and novelty to stimulate and hold children's attention.
4	Teachers are doing all the things in level 3 plus are creating their own learning episodes and new materials....

As shown above, six levels are defined to indicate the degree to which a teacher and her assistant have implemented the Responsive Model procedures.

Ratings of 2a or 2b suggests about the same degree of implementation. However, a 2a rating indicates a major part of the model program being used is the "procedures" rather than the "content," while a 2b rating indicates the major implementation is in "content" rather than "procedures."

A random selection of teachers at five sites and all the teachers at two other sites were rated by Lab personnel in December and January, about four months after the 1967-68 school year began. Only one teacher was rated at the remaining eighth site. At the end of the year, the same teachers were again rated, including all teachers at Site 8. These ratings are reported in Table 1.

TABLE 1

FREQUENCY AND PERCENT OF HEAD START TEACHERS RATED AT MID AND END OF THE 1968-69 SCHOOL YEAR ON SIX PERFORMANCE LEVELS

	Levels of Performance											
SITE	Dec.-Jan. Ratings						May-June Ratings					
	0	1	2a	2b	3	4	0	1	2a	2b	3	4
1	1	1	1					1	1			1
2	1								3	4	4	1
3		1	3	4	3						3	8
4	4	3	2						2	1		8
5	1	2	1								3	
6	1	2								1	2	
7	1			1	2			1	3			
8	1	1	2					1	2	1		
TOTALS	10	10	9	5	5	0	0	3	11	7	12	18
%	26	26	23	13	13	0	0	6	22	14	24	35

In 1967-68 it was reported that we would conclude that our training procedures had failed if a teacher performed at either level 0 or 1, that we had been moderately successful if the teacher was at level 2a or 2b, and that we had achieved success if the teacher performed at levels 3 or 4. When these criteria are applied to the 1968-69 teacher ratings, even though the training program had been in operation three or four months before the first ratings were collected, the results are encouraging.

As shown in Table 1, in December - January, 52% of the teachers were rated 0 or 1, while at the end of the year only 6% were rated at these levels; 36% were rated 2a or 2b compared to 36% at the end of the year; and 13% were rated 3 compared to 24% at the end of the year. Further, there were no teachers rated 4 in December - January. At the end of the year 35% of the teachers were rated at level 4.

A comparison of 1968-69 year-end teacher ratings with 1969-70 year-end teacher ratings is also encouraging.

TABLE 2

COMPARISON OF 1968-69 AND 1969-70 YEAR-END TEACHER RATINGS

		RATING LEVELS						
YEAR		0	1	2a	2b	3	4	TOTAL
1967-68	No.	4	4	4	3	5	0	20
	%	20	20	20	15	25	0	
1968-69	No.	0	3	11	7	12	18	51
	%	0	6	22	14	24	35	

In 1967-68 we concluded that the teacher training program had failed with 8 teachers, or 40% of those rated. Applying the same criteria, we failed with only 6% of the teachers in 1968-69. Further, at the end of the 1967-68 school year, 25% of the teachers were rated 3 and none were rated at level 4. At the end of 1968-69, 24% were rated at level 3 and 35% at level 4.

Based on the data presented, it would be reasonable to conclude that the training program was successful. However, teacher ratings are not highly reliable indices of behavior. And although steps were taken to

describe each level in objective behavioral terms and to train observers in pairs for increased consistency, the accuracy of the ratings is questionable:

- The ratings overlapped. Some teachers were performing some behaviors in two or three levels and it was difficult to assign one level to reflect the total performance of that teacher.

- The ratings may reflect variables other than teaching performance. Two sites (3 and 4) account for the majority of the ratings at levels 3 and 4. As will be discussed, the administrative and physical conditions at these two sites were more favorable than at most others.

- The ratings may reflect rater bias; Inspection of the end of the year ratings in Table 1 combined with other information suggests that rater bias did exist. One observer made all ratings at sites 5, 6, 7, and 8 while two other observers made the ratings at Sites 3 and 4. There is an obvious difference in the range and proportion of ratings. From information on teaching performance obtained by other staff members after they visited and observed at these sites, there is evidence to indicate that the ratings at Sites 3 and 4 are higher than they should be.

Assuming that rater bias did occur, when the results are analyzed only for sites 5, 6, 7, and 8, where only one person observed a random sample of teachers, Table 3 is generated:

TABLE 3

FREQUENCY AND PERCENT OF HEAD START TEACHERS IN SITES 5, 6, 7 AND 8 RATED AT MID AND END OF THE 1968-69 YEAR ON SIX PERFORMANCE LEVELS

	Levels of Performance											
SITE	Dec.-Jan Ratings						May-June Ratings					
	0	1	2a	2b	3	4	0	1	2a	2b	3	4
5	1	2	1								3	
6	1	2								1	2	
7	1			1	2			1	3			
8	1	1	2					1	2	1		
TOTAL	4	5	3	1	2	0	0	2	5	2	5	0
%	27	33	20	7	13	0	0	14	36	14	36	0

In December and January, 60% of the teachers were rated 0 or 1; 27% were rated 2a or 2b; and 13% were rated 3. At the end of the year, 14% were rated 0 or 1; 50% were rated at 2a or 2b; and 36% were rated 3.

Ratings at these four sites indicate that the training program was unsuccessful for 2 teachers (14%), was moderately successful for 7 teachers (50%) and achieved success with 5 teachers (36%). Based on these percentages it is also reasonable to conclude that the 1968-69 Head Start training program achieved moderate or good success with over 80% of the teachers at these four sites.

Yet the basic problem remained: we needed to come up with a better way to document the changes that were taking place in teachers' behaviors. We therefore revised the classroom observation instrument for use at the end of the year. The revised instrument now provides useful information on methods of classroom control, the relationships of teachers to children in a learning situation, the extent of planning that was being done, and the adequacy of the physical facilities. The results from using the observation schedule are being used to both advise teachers on ways to improve their classroom procedures and also to describe the classroom and the behavior of the teachers at the time of the observation. The instrument will also be useful in obtaining more reliable and objective indices of changes in teachers' behavior.

III. Changes in the Child's Behavior

An attempt is still being made to develop some reliable instrument for determining a child's self-concept. At this time, however, we have not developed a reliable instrument to use with children from three to six.

To obtain a measure of the children's cognitive development, the Preschool Inventory (PSI) was administered on a pre-post basis to all children in the Head Start program during the 1968-69 year.[3]

The PSI was developed for use with children from three to six years of age to give a measure of achievement in skills and concepts related to future success in school. The author, Bettye M. Caldwell, reports that the test is not culture-free, but was designed to permit educators to highlight the degree to which a child might be entering school with a "disadvantage." The 85-item instrument yields three major factors plus a total score. The factor accounting for most variability in the test is called "Concept Activation." The "concepts" seem to be composed of ordinal or numerical relations and sensory attributes such as form, color, size, shape and motion. The "activation" involves being able to call on established concepts to describe or compare "attributes," such as relating shapes to objects, or to "execute motorically some kind of spatial concept," such as a reproduction of geometric designs or drawing the human figure. The other two factors include Personal Social Responsiveness (knowledge about the child's own personal world) and Associative Vocabulary (the ability to demonstrate awareness of the connotation of a word by carrying out an action).

Test reliability reported in the PSI manual is scant. A reliability correlation of .95 (a split-half corrected using the Spearman-Brown formula) was obtained for the shortened version using scores made by the standardization sample of 171 children.

A definite limitation of the Preschool Inventory is its less than adequate norms. For example, the norms for three-and-a-half to four year olds are based on only 31 cases.

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[3] Caldwell, Bettye M., The Preschool Inventory, Directions for Administering and Scoring, Cooperative Test Division - Educational Testing Service, Princeton, N.J., 1967.

As was mentioned, the PSI was administered as close to the beginning of the year as was possible and again at the end of the year as a posttest. Since it was not financially feasible to hire testers at each site, teachers and assistants were trained to administer the instrument. Because of (1) administrative problems in establishing the program, (2) time to train teachers, and (3) the late starting dates of some programs, pretesting was not carried out during the first weeks of school. The pretest dates ranged from October to February with the majority of the children pretested in November and December. At site 7, however, the majority of children were pretested in February. Since the majority of posttesting took place in May, changes in test scores refelct an average of five to six months of involvement in the Responsive Classroom for most communities and only three months for Community 7.

The PSI test results, in raw score form, are found in Table 4.

TABLE 4

AVERAGE PRE AND POSTTEST RAW SCORES AND CHANGES MADE ON THE CALDWELL PRESCHOOL INVENTORY (PSI) BY HEAD START CHILDREN AT EIGHT SITES DURING 1968-69

SITE	N	PRE	POST	CHANGE
1	41	41.1	54.1	+13.0
2	99	42.7	58.2	+15.5
3	105	41.6	61.9	+20.3
4	90	40.1	58.4	+18.3
5	123	43.6	63.8	+20.2
6	120	31.0	51.9	+20.9
7	42	61.0	70.6	+ 9.6
8	141	42.4	59.1	+16.7
ALL	761	41.5	59.6	+18.1

As shown in the table, average scores at every site increased nine or more raw score points from pre-to posttest. At sites 3, 5, and 6, these increases were as much as 20 raw score points. For all 761 children tested, the average pretest score was 42 and the average posttest was 60. Using norms calculated on middle class children as reported in the Preschool Inventory manual, a score of 42 falls below the 35th percentile and a score of 60 falls at the 65th percentile. That is, when compared with the Preschool Inventory test scores made by "middle class" children in the norming group, the Head Start children in the program scored, on the average, in the lower third in the beginning of the year and scored in the upper half of the distribution at the end of the year.

To find out how childrens' PSI posttest scores for each site compared to the middle class and lower class norming groups, the percentage of children scoring at or above the 25th, 50th and 75th percentiles were calculated for each site using both norming groups (Table 5).

TABLE 5
PERCENT OF 1968-69 HEAD START CHILDREN AT EIGHT SITES SCORING AT OR ABOVE THE 25th, 50th, AND 75th PERCENTILE RANKS ON PRESCHOOL INVENTORY SCORES USING LOWER AND MIDDLE CLASS NORMS

NORMING GROUP	PERCENTILE RANK	SITES 1	2	3	4	5	6	7	8	TOTAL
Lower Class Norms	25	90	92	90	94	94	84	99	98	93
	50	78	82	83	82	86	71	95	87	84
	75	58	66	76	66	74	53	92	70	71
Middle Class Norms	25	58	66	76	66	74	53	92	70	71
	50	46	56	65	55	63	39	89	58	61
	75	28	43	50	40	50	25	79	41	47
Number of Children		(41)	(99)	(105)	(90)	(123)	(120)	(42)	(141)	(761)

When compared to norms established for lower class children, over 50% of the children in the program at each site scored above the 75th percentile on the PSI at the end of the year. Further, at each site, over 70% of the Head Start children scored higher than the score equivalent to the 50th percentile on the norming group.

Using middle class norms, over 50% of the children at six of the eight sites (the exceptions were 1 and 6) scored higher than the 50th percentile. At all sites at least 25% of the Head Start children scored at or above the score designated as the 75th percentile for the middle class norming group.

From the PSI test data it is evident that the performance made by Head Start children in the Responsive Model on the Preschool Inventory reflects considerable positive change. The average change in raw score points for all children was 18, and when posttested, children at all sites increased their scores to a level comparable and even superior to middle class children of the same age. This increase in PSI performance is even more meaningful since it reflects a change over a period of approximately five months.

IV. Physical Facilities, Administrative Difficulties, Teaching Performance and Child Development

Every community is faced with a number of conditions that can affect the implementation of an educational training model. One of these conditions is the nature and quality of the physical facilities in the classroom. Another is the degree of administrative difficulty encountered while trying to implement innovative procedures. The relationship between teaching performance, child performance, and each of these variables was examined.

First a scheme was developed for rating the physical facility and administrative difficulty variables. Each classroom where observations and child test performance were obtained was first rated "satisfactory" or "unsatisfactory" on classroom facilities. For a satisfactory rating the classroom had to include all of the following:

- The classroom had enough space to allow the teacher to set up the room as we had described it (in some instances this was judged acceptable although the total space did not exceed 800 square feet of usable space);
- The space was so arranged that the teacher could function in a reasonably efficient manner; i.e. she did not have to remove and store everything at the end of each day. The space was not broken up into separate rooms that were not adjacent, nor was it a part of a large open space where two or more classrooms were located without division.
- There was enough suitable equipment and furniture available to allow the teacher to organize the room into learning areas and to display materials for the children's use; and
- The availability of materials allowed the teacher to offer a variety of learning experiences to the children at one time.

Classrooms that did not meet one or more of the conditions described above were considered "unsatisfactory" on physical facilities.

Administrative difficulties affecting child development and teacher performance include the following:

- Difficulty in ordering and obtaining materials for the classroom even though they had been budgeted.
- Difficulty in finding adequate space for classrooms.
- Internal problems such as conflicts within the local Head Start agency and the Community Action Program (CAP) or among staff members.
- Difficulty in carrying out the role of a program advisor because the supervisor assigned other duties or insisted that the program advisor work with more classes than were orginally assigned.

- Difficulty in obtaining time before the start of school to conduct workshops or during school for planning time for the teacher and assistant.
- Ratio of staff to children was inadequate.

Classrooms where these conditions existed were rated "high" on administrative problems; and classrooms where these problems did not exist were rated "low" on administrative problems.

As was previously discussed, teacher behavior ratings suggested that the six levels of teaching were not mutually exclusive. The ratings of some teaching performance overlapped with adjacent levels. For this reason, for the remainder of the analysis, the six teaching performance levels previously described were combined into three levels, (levels 0 and 1 were combined, levels 2a and 2b were combined, and levels 3 and 4 were combined).

A. Teaching Performance and Physical Facilities

Table 6 shows the relationship between physical facility ratings and teaching performance levels for 41 Head Start teachers.

TABLE 6

TEACHING PERFORMANCE AND CLASSROOM FACILITIES

	Teaching Performance Levels			
Classroom Facilities	0 - 1	2a - 2b	3 - 4	TOTAL
Satisfactory (yes)	1	8	25	34
Unsatisfactory (no)	2	8	0	10

As shown, none of the teachers in classrooms with unsatisfactory classroom facilities performed at teaching levels 3 or 4. However, twenty-five of the thirty-four teachers in classrooms with satisfactory facilities were rated at level 3 or 4. The data suggest that satisfactory physical facilities are necessary for a teacher to perform at levels 3 or 4. However, even with satisfactory classroom facilities, a small proportion of teachers are below the criterion level of teaching performance. This suggests that a minimum standard for facilities is probably a necessary prior condition to obtain a high level of success in a training program.

B. Teaching Performance and Administrative Conditions

The information presented in Table 7 shows the relationship between teaching performance and administrative problems for the same 44 teachers and indicates that teaching performance may also be related to administrative problems.

TABLE 7

TEACHING PERFORMANCE AND ADMINISTRATIVE PROBLEMS

Administrative Problems	0 - 1	2a - 2b	3 - 4	TOTAL
High	2	9	3	14
Low	1	7	22	30

Teachers' performance in situations with low administrative problems was considerably better than teaching performance in situations rated high on administrative problems. On the other hand, three teachers who were in situations where it was hard to get materials, where lack of space was a problem and where internal conflicts occurred did perform

at levels 3 or 4. This information, and the data relating teaching performance with adequacy of physical facilities, suggests that a greater proportion of those teachers performing at higher levels are in situations with adequate facilities and few administrative problems.

The data from the 1967-68 school year also showed a relationship between administrative support and the success of the program.[4]

C. Child Performance as Related to Other Variables

An attempt was made to find the relationship between the variables we have described and child achievement. We examined the relationships between change in PSI scores, teaching performance, physical facilities, and administrative problems. An index of change in child performance was obtained by calculating the difference between average pretest score and average posttest score for each teacher's class. When classes of children were combined, this change figure was weighted by the number of children in each class. Also to account for length of time between the successive administrations of the PSI, separate analyses were performed for the November and December pretest groups. The February pretest group was not used in this analysis. Complete information on all variables was obtained on 243 children in 28 different classrooms pretested in November, and for 143 children in 16 different classrooms pretested in December.

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[4] Nimnicht, G.P., Wilson, A., A Preliminary Report on an Experimental Training Program For Head Start Teachers and Assistants, Far West Laboratory for Educational Research and Development, Mimeographed, Berkeley, 1969.

The data that follow can only be interpreted as a loose approximation of the relationship between teaching performance, administrative difficulties, adequacy of physical facilities, and resulting child achievement. Certainly no one measure of child performance is adequate. Further, child achievement as measured by the change in average class scores is a questionable index, since different classes and individual children within those classes performed at different levels on the pretest. A more complete analysis must take these considerations into account. However limited, the analysis did suggest some important relationships.

I. Teaching Performance

Table 8 shows PSI group change scores for children in classes with different teaching performance. As indicated, the information is reported for the two separate pretest dates. The figures in parentheses indicate the number of teachers falling within each category.

TABLE 8

TEACHER PERFORMANCE LEVELS AND CLASSROOM CHANGES ON THE PSI FOR THE NOVEMBER AND DECEMBER PRETEST DATES

	Teacher Performance Levels		
PRETEST DATE	0 - 1	2a - 2b	3 - 4
November	(2) 12.27	(6) 17.66	(20) 21.24
December	(1) 12.00	(10) 13.96	(5) 18.37

The change in PSI scores for children pretested in November in classrooms with teachers performing at the 0-1 level was 12.27; the change for 2a-2b classrooms was 17.66; and for 3-4 classrooms was 21.24. This pattern was also evident for children pretested one month later. For the December pretest date, the change index was higher in classes where teacher performance was higher.

.2. Child Performance, Teaching Performance, and Administrative Problems

Table 9 shows teacher performance levels and change in PSI test performance calculated for the November and December pretest times for teachers categorized as having "high" or "low" administrative problems.

TABLE 9

CHANGE IN AVERAGE AND PSI TEST SCORES FOR HEAD START CHILDREN: ANALYSIS BY ADMINISTRATION PROBLEMS AND YEAR-END TEACHING PERFORMANCE LEVELS

Date of Pretest	Administration Problems	Year End Teaching Performance Levels 0 - 1	2a-2b	3 - 4	Row Changes
NOVEMBER	HIGH	(1) 7.80	(2) 14.22	(1) 11.33	(4) 12.51
	LOW	(1) 14.50	(4) 19.06	(19) 21.61	(24) 20.75
	Column Changes	(2) 12.27	(6) 17.66	(20) 21.24	
DECEMBER	HIGH	(1) 12.00	(7) 13.02	(2) 22.07	(10) 14.71
	LOW	(0) -	(3) 15.58	(3) 15.38	(6) 15.51
	Column Changes	(1) 12.00	(10) 13.96	(5) 18.37	

Regardless of administrative problems (look at column changes), change in group test performance was highest for level 3-4 teachers and lowest for level 0-1 teachers for both the November and December pretest dates. Also, for both pretest groups regardless of teaching performance levels (look at Row Changes), children in programs where administrative difficulties were "high" showed less achievement than in situations where administration difficulties were "low

For the November pretest group, the index of child test performance was lowest (7.8) for one 0-1 teacher who experienced many administrative problems. The index of child test performance was highest (21.61) for 19 teachers at the 3-4 level who experienced few administrative problems. However, this relationship is not evident for the December pretest group. In the December group, the lowest index of child growth (12.0) was recorded for one teacher at the 0-1 level with "high" administrative problems. The greatest index of growth on the PSI (22.07) for the December pretest group, however, was on children in two classes rated "high" on administrative problems with teachers performing at the 3-4 level.

D. Child Performance, Teaching Performance and Physical Facilities

Table 10 contains information on child test performance as it is related both to teaching levels and the adequacy of physical facilities.

TABLE 10

CHANGE IN AVERAGE GROUP PSI TEST SCORES FOR HEAD START CHILDREN: ANALYSIS BY ADEQUACY OF PHYSICAL FACILITIES AND YEAR END TEACHING PERFORMANCE LEVELS

Date of Pretest	Adequate Physical Facilities	Year End Teaching Performance Levels 0 - 1	2a - 2b	3 - 4	Row Changes
NOVEMBER	YES	(0) -	(1) 21.40	(20) 21.24	(21) 21.25
	NO	(2) 12.27	(5) 16.94	(0) -	(7) 15.88
	Column Changes in Mean PSI	(2) 12.27	(6) 17.66	(20) 21.24	
DECEMBER	YES	(1) 12.00	(7) 15.15	(5) 18.37	(13) 15.98
	NO	(0) -	(3) 10.73	(0) -	(3) 10.73
	Column Changes in Mean PSI	(1) 12.00	(10) 13.96	(5) 18.37	

Again, the indexes of change are greatest for those classrooms categorized as having sufficient and adequate materials. For the November group, the index of change was 21.25 for twenty-one teachers with adequate facilities, and 15.88 for seven teachers without adequate facilities. As would be expected, the change was less for the December classes, but the same relationship existed. That is, the children in the thirteen classes with adequate facilities recorded a greater change index (15.98) than did the children in the three classes with inadequate facilities (10.73).

As was the case with the breakdown of teaching performance and administrative problems, children in classrooms where teachers were at low levels of teaching performance and had physical facilities that were inadequate showed less group change on the PSI. For example, two teachers rated in level 0-1 in the November pretest group also had inadequate physical facilities. The average group change in PSI for these two classes of children was 12 points. On the other hand, twenty teachers rated in the level 3-4 had adequate physical facilities. The average group change on the PSI for children in those twenty classrooms was 21 points.

Another interesting point: within each of the three teaching performance categories, group PSI change was highest for teachers in situations with adequate facilities. Take, for example, the two groups of teachers rated 2a or 2b whose children were pretested in November and December. In both cases children in classrooms with adequate facilities recorded higher group changes than children in classrooms with inadequate physical facilities.

Half of the 44 teachers met all three conditions examined in this analysis. That is, 22 teachers were performing at teaching levels 3 or 4, had adequate facilities, and were not bothered with administrative problems. Table 11 shows the performance of children in these classes,(regardless of pretest date),compared with performance of children in the remaining 22 classes where one or more of the three conditions were not met.

TABLE 11

CHILD PSI PERFORMANCE IN CLASSROOMS MEETING ALL VS. NOT MEETING ALL CONDITIONS EXAMINED

Met all Conditions	Number		Avg. PSI Scores		
	Teachers	Children	Pre	Post	Change
YES	22	181	42.8	63.7	20.8
NO	22	205	41.3	56.6	15.5

The average pretest score for 181 children in classes meeting all conditions was 42.8. The 205 children in classrooms where one or more donditiors was not met made a similiar score (41.3) on the PSI at the beginning of the year. The end-of-year scores were different for the two groups. A greater increase was recorded for children in classrooms where conditions were consistent with those outlined in the Responsive Model.

V. Summary and Conclusions

This report presents information collected in eight Head Start communities implementing the Responsive Model during the 1968-69 school year.

During 1968-69 a special attempt was made to collect information specifically related to the classroom. Such information as child test performance on the PSI, observation results of teaching performance, administrative difficulties encountered, and the adequacy of physical facilities are summarized and discussed. Next, an attempt is made to examine the interrelationship between these variables.

Child performance seems to be related to a combination of variables: child growth was higher in classrooms with adequate facilities, where there were few administrative problems, and where teacher performance was more consistent with the objectives of the Responsive Model.

From the information presented in this report, it is safe to conclude that:

1. The majority of teachers in the Responsive Model during the 1968-69 school year increased their teaching skills and were more consistent with the teaching criteria defined by the Model.
2. Head Start children in the Responsive Model program during 1968-69 also increased their proficiency. Average scores on the PSI for all eight communities demonstrated growth throughout the year. Comparing year-end test scores with national norms, Responsive Model children perform at norm levels reported for middle class children.
3. Teaching performance is related to child achievement. When measured by PSI changes, child growth was greatest for those in classes with teachers who demonstrated a high level of teaching ability.

4. Administrative difficulties and the adequacy of physical facilities play an important part in teacher performance and child development. Changes in child test performance and in teachers' teaching performance were greatest in classrooms with adequate physical facilities and in situations with few administrative problems.

5. It is difficult, if not impossible, to explain the precise meaning of the greater increase made in classes where conditions can effect a child's intellectual development in one school year. However, the relationship between the three variables examined in this paper and one aspect of a child's development seem consistent and reasonable.

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