This review of projects, funded by Title I of the 1965 Elementary and Secondary Education Act, has sought to identify the compensatory strategies which appear most effective in meeting the needs of "educationally disadvantaged" youngsters. The project was undertaken in July '70, as one element in the research conducted by the Title I Task Force, appointed by H.E.W. Secretary Finch. This final report consists of papers focusing on two issues. The first paper explores the notion that structured, teacher directed primary grade language programs will be more successful in raising achievement scores than generalized enrichment programs. The hypothesis was investigated by a comparative review of the evaluations submitted to the Center for Educational Policy Research and by field visits. The second paper reviews the effectiveness of parent involvement in compensatory education. The paper tries to systematically investigate an area about which there are many opinions but little coherent data. It identifies those models of parent involvement which have been most effective in reaching parents and sustaining their participation as well as those which seem to be most effective in affecting achievement. Survey and other research evidence concerning the effects of parent involvement on student achievement are reviewed. [Parts of this document, including some tables, are poor in legibility.] (Author/JM)
THE EFFECTS OF TITLE I, ESEA: AN EXPLORATORY STUDY *

The Center for Educational Policy Research
Graduate School of Education

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* This study was undertaken for the Title I Task Force in July, 1970; the research reported here was carried out by Milbrey McLaughlin, Rachael Bussard, Marshall Smith and David Cohen, with the assistance of other CEPR staff members. It is part of CEPR's continuing program of research on the effects of schooling.
INTRODUCTION

This review of projects, funded by Title I of the 1965 Elementary and Secondary Education Act, has sought to identify the compensatory strategies which appear most effective in meeting the needs of "educationally disadvantaged" youngsters. The project was undertaken in July 1970, as one element in the research conducted by the Title I Task Force, appointed by HEW Secretary Finch. C.E.P.R. reviewed some 750 evaluations of Title I projects, representing a wide spectrum of program types: urban and rural; preschool, elementary and high school; general and cultural enrichment, remedial and drop out prevention. The programs were nominated by State Title I Coordinators as "successful." We defined as "successful" any program which met program objectives whatever they might be. In an August 1970 memorandum we identified a number of features common to these programs: typically they were prescriptive, highly structured language programs in the primary grades, emphasized small classes and/or individualized instruction and made efforts to involve parents.

But the August 1970 memorandum was only a preliminary effort—the purpose of our work was to probe the question "what works best." As a result, we chose to examine in depth two compensatory strategies suggested by our summer review as promising, and which drew support from other investigations: (1) highly structured programs and (2) parent involvement. This final report consists of papers focusing on these two issues.

The first paper explores the notion that structured, teacher directed primary grade language programs will be more successful in raising
achievement scores than generalized enrichment programs. Our preliminary review indicated that programs of this genre were predictably more successful in raising achievement scores than the more typical, loosely structured general enrichment approaches. Also, a 1968 A.I.R. study reported that exemplary programs were typically teacher directed and prescriptive, and the preschool literature furnished some evidence that highly structured programs, with specific emphasis on language development, are more effective in producing cognitive gains for low income children. (Bissell 1970) Similar results are reported from the Bereiter-Englemann academic preschool program (Bereiter 1971).

The hypothesis was investigated by a comparative review of the evaluations submitted to CEPR, and by field visits. We found that highly structured, prescriptive and teacher directed programs were extremely atypical of Title I programs and thus constitute a small subsample of projects. However, every such program we located reported a minimum of a month gain on standard tests of verbal ability for every month of school. Results of the more typical general enrichment programs, on the other hand, were highly variable. While a few such programs, on the other hand, were highly variable. While a few such programs met the minimum success standard of 1:1, most did not, even in this universe of SEA nominated "successful" programs. Thus, although we might wish for more data to justify a conclusion that structured programs are more consistently successful than general enrichment programs in producing 1:1 gains, we did not find any evidence
which would lead us to reject the idea.

While structured programs do succeed in raising the rate at which Title I children achieve to that of non-Title I children, this accomplishment cannot lead us to conclude that Title I "works". A 1:1 gain is not sufficient to eradicate the achievement level differences which exist between Title I and non-Title I students. Even on the highly effective structured programs, the achievement of Title I students usually remains below that of their more advantaged peers.

The second paper reviews the effectiveness of parent involvement in compensatory education. The paper does not test an hypothesis but rather tries to systematically investigate an area about which there are many opinions but little coherent data. The Great Cities Report (July 1970) noted that exemplary projects evidence "greater parental involvement in planning, selection of materials, curriculum and at-home assistance." All forty of the "best" Great City Title I projects were seen to concern themselves to some degree with parent involvement. The theoretical literature of course suggests that the home and the parent are important for the educability and achievement of the child and that, as a compensatory strategy, parent involvement is promising.

The second paper identifies those models of parent involvement which have been most effective in reaching parents and sustaining their participation as well as those which seem to be most effective in affecting achievement. Survey and other research evidence concerning the effects of parent involvement of student achievement are reviewed.
Although the original focus of the inquiry was parent involvement in Title I programs, the dearth of substantive information about parent involvement in Title I, as well as the lack of genuine involvement of Title I parents, led us to examine other privately and publicly sponsored compensatory efforts as well. A review of some 500 Title I projects, a review of the general compensatory literature and field visits are the basis for this paper.

We found consistent evidence concerning the most effective ways to reach and involve parents. It seems that successful parent programs are informal in tone and structure, are largely parent-initiated and implemented, and most important, offer parents concrete, operational information about their children and what they could do to help. And while we were unable to reach unequivocal conclusions concerning the specific effects of parent involvement on achievement, there is some evidence that parent training programs, which help parents learn to be more effective "teachers" in the home, can effect achievement gains. More involvement in school affairs seems not to have this result. But in some cases, involvement does influence program structure and policy, and it may have important consequences for the parents themselves.

In the course of our research, a number of issues related to definition of a "successful" program arose. They were not addressed by the papers presented here but are worth noting. For one, the spending patterns of programs making the most impressive achievement gains varied from typical Title I program resource allocation. Successful programs consistently placed highest priorities on purchase
of direct, instructional services for the child rather than on equipment or other additions to the educational plant. State Title I administrators with whom we spoke in California, Connecticut and Minnesota made similar observations. Connecticut, in fact, has fixed, at a very low level, the per cent of LEA funds which can (without stringent review) be expanded on equipment. While this may be that these spending patterns reflect the fact that the majority of the "successful" programs are found in the more affluent districts whose equipment needs may not be as great, it also may be that Title I children receive greater educational benefits from increased teacher time and attention than from overhead slide projectors and the like. And, incidentally, when Title I parents were queried as to their preferences concerning resource allocation, they unanimously opted for more teachers and less "frills" or subsidiary services.

A second and very obvious point is that good programs universally evidence thorough, comprehensive planning. There are at least two requisites to good planning: sufficient lead time in which to plan, and informed and competent administrators. The problems attending lack of lead time—due to funding uncertainties and application deadlines—are mentioned frequently by program evaluators and administrators, and are addressed at length by the Great Cities Report.

The third point follows from this—there is a critical lack of adequate training for teachers and administrators. This is perhaps the most crucial shortcoming of present Title I programs. The errors and omissions made for lack of information, guidance and/or support are legion. It is common to find that teachers have not been
trained in the methods they are to use, know little about the concepts underlying compensatory efforts, and lack guidance in their classroom work. Administrators are often reputable equally at sea. In a training session for Title I administrators in California, for example, it was found that the majority of local administrators were unfamiliar with Title I guidelines, felt they did not know how to communicate with the target community, and lacked the most basic information concerning compensatory strategies. Further, we were told that a number of administrators present at the conference were unaware until they arrived that their's were Title I schools.

Fourth, there is doubt that Title I is in fact a "compensatory" program. If "to compensate" means something more than is typical for advantaged children, we suspect that Title I is typically not compensatory. In most instances, Title I monies merely serve to bring the level of services for the "educationally disadvantaged" closer to the level enjoyed by their more advantaged counterparts. If it is true that Title I is not in fact a compensatory program, then expectations regarding the outcome of Title I programs must be revised. Since children must demonstrate "educational disadvantage" before entering Title I programs, even if they gain at a rate equal to that of non-Title I children (i.e. 1:1), a comparative chart of their growth would show two parallel not converging lines. What "successful" Title I programs have been able to accomplish is merely to equalise the resources for these groups; compensation may well require more. Perhaps the most we can expect Title I to accomplish is to retard or stabilize the rate at which the "educationally disadvantaged" are falling behind.
Finally, it is difficult to learn from Title I evaluations. Local and state Title I evaluations are typically useless as a basis for scientific conclusions or policy inferences. In addition, our field visits have indicated that local evaluations are often misleading, and in some instances patently false. Local programs generally have neither the initiative, interest or expertise to carry out useful, scientific evaluations.

If this is true for the exemplary and successful programs on which this report is made, it will hold with even greater force for the rest. This situation seems unlikely to change. There are no state or federal incentives for improving local Title I evaluations and no evidence of growing expertise or interest at the local level. In general, Title I project evaluation is nothing more than a burdensome ritual. Conclusions are a formality which must be carried out to secure funding, and in which the form, substance and results are entirely irrelevant. It is no surprise, then, that we saw little to indicate that evaluations have improved in five years of program operation. This leads us to think that it may be appropriate to reconsider federal requirements for the evaluation of Title I. Is it necessary to have local districts evaluate all Title I programs? Rather than continue to expand energy and resources on evaluations of all programs, might it not be more productive to rechannel these resources into a small number of comprehensive, detailed evaluations or experiments? This is not to suggest as a source of new evidence yet another National impact study. National impact studies, such as the Westinghouse-Ohio evaluation of Head Start, can provide only
general assessments of overall program effect, and there is no reason to think that Title I is one program. The inability of the federal government to assign controls, require and monitor data collection and the lack of comparability between programs and measurements make suspect the generalizations and summary statements generated by such studies. More important, national impact studies tell us little if anything about which specific program strategies are effective for which students and may "mask" or "bury" what are in fact effective programs.

In sum, the problems attending evaluation of large scale programs of compensatory education are enormous. However, these matters should be acted on, if we value learning from experience at all.
THE EFFECTS OF PROGRAM STRUCTURE

IN TITLE I, ESEA
Introduction

To date, most evaluative research examining large scale compensatory programs has tried to assess the overall impact of compensatory strategies on a target population. However, as Marshall Smith and Joan Bissell suggest

...the fruitful questions for policy-makers are probably not questions of overall effectiveness but questions concerning the relative effectiveness of different strategies for carrying out a particular program with various populations. (1970).

This paper addresses questions of comparative effectiveness: it contrasts and examines two Title I strategies: structure and general enrichment. Our choice of these curricula approaches was based on evidence in the preschool literature which indicates that structured programs are most effective in producing cognitive gains for low income children, on our preliminary review of Title I which suggested that "successful" programs are likely to be structured, and on the fact that general enrichment -- that is, more of the standard school services -- is the most typical compensatory strategy. Structured programs evidence a high degree of teacher control over a carefully sequenced and prescribed curriculum. General enrichment programs, on the other hand, typically "enhance" the educational experience of Title I children through the addition of more non-Title I specific classroom resources or extracurricular activities such as field trips.

Bissell (1970) studied the effects of alternative pre-school program strategies on achievement. She found highly structured programs concentrating on language and cognitive development were more likely
to result in cognitive gains for low-income students than programs designed to provide generalized enrichment. She concluded:

Pre-school programs with general objectives of fostering cognitive growth, with specific emphasis on language development, and with teacher directed strategies that provide highly structured experiences for disadvantaged children are more effective in producing cognitive gains than programs lacking these characteristics. Pre-school programs high on the dimension of quality control, having a well-trained staff, a high degree of supervision, and low pupil-teacher ratio, are the most effective programs in producing cognitive gains.

A preliminary review of Title I evaluation by McLaughlin suggested further examination of the effectiveness of structured programs for primary grade children:

...a picture of a successful program...may be summarized as follows: a reading program in the elementary grades which provides children with at least an hour of special instruction a day for the academic year: the program emphasizes diagnostic services, small classes and individualized instruction, provides a breadth of materials and resources, and is staffed by a subject area specialist who is assisted by one or more teacher aides or community volunteers. (August 1970, CEPR, memo to Richard Hays, Appendix A)

Drawing upon McLaughlin's review and Bissell's conclusions we hypothesized that:

STRUCTURED, teacher directed primary grade language development programs will be more successful raising verbal achievement scores than generalized enrichment programs.

This report explores this notion.
Methodology & Data Collection

The hypothesis was explored by an extensive review of Title I evaluations and field visits. We initially requested that State Title I coordinators recommend programs of any type which they judged "successful" in meeting program objectives. In response to this request, we received and reviewed 672 evaluations from LEAs in 35 states. Most projects sent evaluations for the history of their programs -- usually FY 1965-1970 -- and most LEA evaluations described at least 3 district programs. While this is not a random sample, the sheer number of evaluations we reviewed leads us to expect that we looked at a fairly broad sample of Title I programming strategies. Although a number of structured programs were identified in this process, they were few relative to the total sample. Therefore, a letter was sent to each state coordinator asking him to suggest additional structured programs. (See Appendix B) In this way, another 40 evaluations were collected. These 712 evaluations served as the pool for investigating the hypothesis. In May, field visits were made to four structured programs in Wisconsin and Minnesota.

In our review, we concentrated on programs with the following characteristics:

1. Primary grades 1, 2, and 3 (although grades 4, 5 and 6 were not completely excluded);

2. Full year as opposed to summer programs;

3. Language development or reading programs.

For the purpose of our analysis, programs within this group were
then classified either as structured or general enrichment. We considered only those programs coherently reporting achievement gains from any measure of verbal ability, explicitly outlining criteria for student inclusion in the programs and detailing enough about student-teacher interaction to allow a judgment about degree of teacher directions. We found that evaluation quality was a fairly accurate proxy for care in program planning and implementation. Thus, programs submitting confusing or incomplete evaluations were eliminated. We were unable to use approximately 85% of the evaluations we received, primarily because program or instructional activity was only sketchily reported if at all. Structured programs were defined as outlining two or three specific, operational objectives (e.g. raise reading levels 1:1), evidencing carefully planned and sequenced instructions which was prescribed for each child on the basis of a diagnosis made at the start of the program. Structured programs are also highly teacher-directed; the teacher exercises considerable control over the specific tasks assigned to each child in individualised instruction or small group work. The Guideline for Reading Teachers in Grand Island Nebraska Title I schools illustrates well the program methodologies articulated by structured programs (see Table I).
TABLE I
GUIDELINES FOR READING TEACHERS IN TARGET SCHOOLS
GRAND ISLAND, NEBRASKA

I. Treatment must be based on an understanding of the child's instructional needs.
   A. Diagnose reading problem.
   B. Plan an individual reading program.
   C. Start instruction at success level.
   D. Hit directly at the errors.

II. Programs should be highly individualized:
   A. Instruction should be specific, not general.
   B. Instruction should be energetic.
   C. Work should be with a small group or an individual.

III. Remedial instruction must be organized instruction.
    A. Know the expected sequence of word recognition skills and levels of comprehension.
    B. Keep a good cumulative account of child's progress.

IV. The reading process must be made meaningful to the learner.
    A. Enable child to develop his needed skills and understand their usefulness.
    B. Make child aware of and help him to understand his difficulty.

V. Consideration of child's personal worth is necessary.
    A. Disadvantaged children usually feel insecure and defeated in school.
    B. Laziness is a symptom, not a disease.
    C. The child must be respected so that he can learn to respect himself.

IV. The reading program must be encouraging to the student.
    A. Children are discouraged by their own failures.
    B. Teachers must be optimistic and positive.
    C. Student must be made aware that he is progressing day by day, week by week.
    D. This reading experience must be pleasant and free from pressures.

VII. Materials and exercises must be suitable to the child's reading ability and instructional needs.
    A. Materials must be abundant.
       1. Suitable level of difficulty.
       2. Suitable in type to meet needs.
       3. Materials new to the pupil and on his individual interest level.

S/ Donna S. Holmes
Director of Reading
Title I ESEA
Approximately 10% of the original 672 evaluations were structured programs; 20% of the structured programs (or .02% of the original groups), were evaluated so as to be useful here. That is, of the 672 original evaluations, these were approximately 14 structured programs where evaluations included comprehensive descriptions of program objectives, implementation and outcomes. Approximately 20 of the second set of 40 evaluations were useful, thus bringing the group of structured programs upon which our conclusions are based to approximately 34.

In contrast to a structured approach, generalized enrichment programs have the following characteristics:

1. Multiple programs objectives reflecting attention to the development of the "whole" child -- e.g. cognitive, affective and physical objectives.

2. Program content based on a general inventory of student grades level needs, rather than individual diagnosis and prescription.

3. The academic program content is often merely an extension of typical classroom methodologies.

The text in Table 2 is representative of general enrichment programming philosophy and design.
The main aim of the Title I program is to make a difference in the educational opportunities for 726 educationally deprived children in seven of the country's elementary schools.

The program said it could focus:

A. On reading, writing, spelling, listening and talking so that the children can progress and benefit from the academic offerings of the school.

B. On their health—so that they may have the physical and emotional stamina to learn to live and live to learn;

C. On their acceptance of themselves (and their fellowmen) as persons of worth and respect.

The program outlined the following means by which the above objectives are to be met:

A. Instructional activities—centered in the language arts
   1. Five additional teachers to relieve classroom load
   2. 24 teacher aides
   3. Audio-visual technician
   4. Instructional materials to provide a multi-sensory approach

B. Cultural enrichment—provide
   1. Experience with art media
   2. Reproduction of art masterpieces
   3. Recordings of fine music

C. Clothing—on emergency basis only

C. Free lunches—approximately 500 children

E. Health services—dental and medical—emergency

F. Social work aides—communication between school and parent
Approximately 90% of the original 672 evaluations were general enrichment programs; 5% of the general enrichment group was useful to us in terms of evaluation quality as well as a focus on cognitive gains. Only those programs taking verbal achievement as a primary objective can legitimately be compared to structural programs. Thus, the final group of generalized enrichment programs which contributed most substantially to our conclusions numbered about 35.

Before discussing models of structure and generalised enrichment, a caveat is necessary about the limitations imposed on the study by the evaluations with which we worked. Evaluations are done to satisfy several different groups of people -- seldom is the researcher on the top of the list. Evaluations are often political documents as well as objective analyses of programs, and must be read with that in mind.

The most serious problems presented by the evaluations, however, stem from the lack of controls, lack of randomization, and the concomitant possible confounding of treatment effects. Teacher differences, pupil characteristics or other programs/experiences in the school, not the treatment itself, may account for post-test gains (see Campbell and Stanley (1963) for a full discussion of error in evaluative research). For example, most Title I evaluations do not make selection criteria clear. When--as is sometimes the case--children are chosen for their potential rather than degree of educational disadvantage, the likelihood of impressive gain scores increases.

It is also worth pointing out that educational disadvantaged and economically disadvantaged children may not necessarily represent the
same population. For example, Robbinsdale, Minnesota works with the poorest-achieving 5% of the district school children. Robbinsdale is a Minneapolis suburb -- one of the first ring -- just outside the ghetto area of North Minneapolis, which suggests they may be less economically disadvantaged than those who remain in North Minneapolis. In fact, about only 750 of the 30,000 students in the Robbinsdale district come from AFDC families. To compare Robbinsdale results with North Minneapolis may be like comparing apples and oranges.

Further difficulties arise in that the measures of verbal ability which have been used by programs are not comparable. Testing instruments have been chosen because they are well known, are in vogue, or because the district uses them -- not necessarily because they are sensitive to the treatment. Also, some systems are developing their own tests, because they doubt the applicability of the standardised tests available to their program. Such tests are of uncertain validity and reliability. But programs that have matched treatment with tests also may have better results than those who do not.

Because we accepted a wide variety of measures, gains of one month on one test cannot be equated with gains of one month on another. Neither can we easily translate grade equivalent gains into percentage returned to regular classes or percentile increases (other measures often used). It is important to note, then, that "success" is defined here simply as a "yes" or "no" proposition -- did the program meet its own objectives? It is impossible to compare within categories of structured programs and enrichment programs let alone across them. Designs,
objectives, and measures are different, and results are reported in a multiplicity of formats. Also, programs have been in operation for varying lengths of time, with different staffs and facilities.

In sum, although the evaluations make it possible to talk about trends and possible relationships, they do not justify making generalizations with any confidence. This paper, then, will discuss structured and general enrichment programs in terms of similarities and dissimilarities in program implementation and outcome. In this context, the conclusions presented are educated guesses.

**STRUCTURED PROGRAMS**

In testing the hypothesis that structured, teacher directed primary grade language programs will be more successful in raising achievement scores than generalised enrichment programs, three models of structured programs were identified:

1. The diagnostic clinic
2. Small group work outside the classroom
3. Individually prescribed instruction

All of the structured programs have several features in common: they are highly teacher directed, emphasize sequenced individual or small group instruction and employ diagnostic tools to varying degrees. All structured programs stress in-service training and close supervision of teaching activities. Structured programs articulate clear, well-defined and operational program objectives.
The models also differ in important respects. The Diagnostic Clinic (Model I) and the Individually Prescribed programs (Model III) emphasize individualization more than Model II (small group work) outside the classroom. Model I emphasizes diagnosis more than the others and is most expensive. The models have the following general characteristics.

**MODEL I: THE DIAGNOSTIC CLINIC**

(See Appendix C & D for Program examples: Robbinsdale, Minn. & Cleveland, Ohio)

Students are usually first recommended to the clinic by their classroom teachers. Once referred, the student undergoes an extensive battery of diagnostic tests and is interviewed by the clinic staff. On the basis of these tests and interviews, an academic prescription is made and the student begins intensive remedial work (generally 1 hr/day, 5 days a week) with a reading specialist. Most typically, the student continues in the clinic until he is reading at grade level. Because of the intensive nature of the program, Clinic programs typically report the most impressive gain scores of all the structured programs. Gains of 3 months for every month spent in the program are not uncommon.

Three points need emphasis. First, Model I Clinic Programs are expensive, ranging from $800 to over $1000 per pupil. However, there may be economies in this initial large monetary outlay:

While cost per pupil is high relative to other kinds of expenditures for educational service, overcoming reading disabilities is of such great value to individual learners that the expenditures for this service are more than justified. Moreover, all but a few of the total cases treated will not return for further treatment. This means that while the cost per pupil is high, this cost is non-recurring for all but a few cases. (P.6; Summary Report of the Hilo Reading Clinic for the 1969-1970 School Year, ESEA Title I)

Second, while the clinic programs report very high short-run gains,
they must be interpreted cautiously, due to lack of controls and longitudinal data. It remains to be seen whether a child who performs well in the clinic atmosphere will continue to do well when involvement with the clinic has ended and all of his school time is spent in the classroom.

Third, Clinic programs appear to be less likely than other programs to "cream" promising students. That is, Clinic programs generally are addressed to those students most needing remediation. Cleveland Clinic takes some students who are less than one year behind the norm on achievement tests, but 88% of their students are more than a year behind. The most retarded pupils average 1:1 gains: most students to the Cleveland Clinic achieved at a rate of 3:1. Robbinsdale takes the bottom 5% of each class and achievers average gains of 1.5-2.1. Ford City, Pennsylvania has concentrated on enrolling lower IQ students. Program statistics reported indicate that they are doing so: mean IQ at entry has gone down over the history of the program and gain scores have been correspondingly less impressive. However, the Ford City program still reports a minimum of a month gain for every month in the clinic program.

We suspect that most Title I programs, even of the structured model, do not as consistently as the clinic program address those students having the greatest degree of retardation. In view of this fact, the gains demonstrated by the Clinic programs seem even more significant.

**MODEL II: SMALL GROUP WORK OUTSIDE THE CLASSROOM**

(See program examples – Appendices E & F: Minneapolis, Minn. & Appleton, Wisc.)

In this model, students leave the classrooms for about an hour a day of intensive work with reading specialists who use a broad range of
especially selected materials. Within this framework of strong, sequential instruction, there is room for much variation. While almost all Model II programs employ reading or speech therapists, individual teachers choose materials according to their own preference -- from reading machines to comic books. Most Model II programs, unlike some clinic programs spend little on equipment, allocating the bulk of the program monies for teachers. Accordingly, most Model II programs cost around $300, the figure established by a number of states as a "minimum".

A number of the Model II programs are quite informal in tone, but nonetheless they are highly teacher directed and sequenced. Further, most Model II programs have utilized out-of-classroom time as an opportunity to plan and initiate nontraditional classroom activities. This, indeed, may contribute significantly to their success. Taking a child from the classroom both emphasizes the "special" nature of the program and provides the child with a fresh start. It is difficult to initiate a "special" program within a classroom -- most within-class programs inevitability adopt a general enrichment approach--more of what other non-Title I children in the class are receiving. However, it should be noted that removing a child from a classroom often causes resentment, misunderstandings and lack of cooperation on the part of the classroom teacher, who may feel that the class is being disrupted or simply that she is left out. Evaluations of the successful Fairbanks (Alaska) program point to the dissimination of program information
to regular classroom teachers as critical to program success. The
most successful Model II programs have made a great effort to include
the classroom teacher through consultation and in-service workshops.

MODEL 3: INDIVIDUALLY PRESCRIBED INSTRUCTION

IPI, developed and monitored by Research for Better Schools, Inc.
in Philadelphia is a carefully sequenced program for individual
learning in reading, math and several other fields. It is funded prim-
arily under Title III, ESEA. The system operates with:

-- a specific set of educational objectives;
-- organization of materials and methods to attain these objectives;
  including a variety of paths for attainment or mastery of any
given objectives;
-- procedures for continuing diagnosis of the student;
-- individual prescriptions of tasks the pupil is ready for;
-- continual evaluation of curriculum and procedures.

Although IPI is in operation in about 50 Title I schools, very
few evaluations are available. We contacted all schools and found that
most initiated the program in the fall of 1970 and had no data. Many
of the programs having results are using IPI math materials, which are
not of interest here.

Some scattered results indicate success with the IPI materials.
Bostonia School in El Cajon, Calif., reports an average gain of 15 months
for 8 months in the program on the WRAT. Bloom Junior High School in
Cincinnati, Ohio, reports an average mastery of 13 IPI units per student.
That compares favorably with the 12.7 units per student gain that RBS
reports from 5 demonstration schools. On the other hand, some of the
evaluations show mixed results. The Intensive Learning Center in
Philadelphia has good and poor results with IPI and every other method they used. This probably can be explained partially by the confusion of the first year of operation.

It must be pointed out that IPI is essentially a Title III (innovative, demonstration) program, and that accordingly it is neither "compensatory" nor aimed at the "educationally disadvantaged". We include it here, however, as it exemplifies the extension of Model II to an entire classroom. As such it may be a viable alternative both to traditional classroom methodologies and general enrichment compensatory strategies. The use of computer facilities to accomplish the daily "updating" of each student's progress file can make IPI an expensive program however. Those schools and/or classrooms which have not utilized computers in this way report a per pupil cost around $300. ("Twelve Stories" - USOE)

CONCLUSIONS -- STRUCTURED PROGRAMS

The examples chosen to illustrate a structured approach were selected because of program location as well as program effectiveness. (See Appendices C,D,E,F ) They represent both rural and inner-city programs. We found no evidence to suggest that such differences in setting require different program strategies.

Urban and rural differences, if they exist, may well be differences in "quality control" imposed by size. That is, the smaller district can afford to work with fewer children over a longer period of time and provide greater training and supervision for teachers. Fewer Title I students means less pressure to provide a little bit for everyone.
Further, the larger the program, the more difficult it probably is to maintain close supervision and control.

In the pool of evaluations we reviewed, we found no structured program that did not show a pupil achievement gain that was either highly statistically significant or equivalent to a one-month gain for each month in the program. A number of features appear to be central to the success of structured programs:

1. Diagnosis for each child.
2. Careful prescription based on that diagnosis
3. Sequencing of instruction for each child
4. Small group and/or individual work
5. Emphasis on in-service training and close supervision of classroom activities

GENERAL ENRICHMENT PROGRAMS

(See Appendix G - Denver, Colorado)

Generalised enrichment typifies the Title I approach to compensatory programming and differs from structural curricula on four major points:

1. Enrichment programs adopt global and/or non-specific objectives: structured programs articulate specific, cognitive objectives.
2. Enrichment programs do not emphasize diagnosis of student needs.
3. Enrichment programs stress addition of multiple resources -- music, field trips, more classroom teacher time rather than the initiation of careful sequencing of specific, instructional resources called for by diagnostic testing.
4. Enrichment programs often employ classroom teachers; the
selection and continued training of specialists seen in structured programs is not usual.

General enrichment programs evidence little initiation of new activities designed specifically for Title I children, but rather provide target children with a larger dose of existing resources. When new activities are undertaken they are generally of the field trip or cultural enrichment genre. While some generalized enrichment programs achieve 1:1 gains, some do not. And although most evaluations do not describe the instructional process well, we suspect that the most successful general enrichment programs are more structured and directed than they seem.

GENERAL CONCLUSIONS

The evaluations provide no evidence to refute the hypothesis that structured teacher-directed programs will be more successful in raising achievement scores than generalized enrichment programs. However, the quality of program evaluation and the relatively small number of clearly structured programs don't justify unequivocal support for the hypothesis. As long as verbal achievement tests are the yardstick to measure success of Title I programs, then structure and teacher direction, oriented to learning those skills measured on standardized tests will be likely to produce the greatest evidence of program success.

A number of components of structured programs -- singly or in combination -- may be responsible for program success. First, a factor which may enhance success of structured programs is practice. Practice
or repetition is part of all the programs used as examples of structure -- the Engelmann-Becker drill, the emphasis on reviewing what a child already knows, the continued repetition in the clinics. Chall, for example, found in a comparative study of reading strategies that the amount of time a child spent reading, regardless of reading matter, determines in large part the level of his reading performance. That is, it seems to be how much the child reads not what he reads which most influences his performance. Practice and repetition is facilitated by the small groups and individual instruction found in structured programs.

Second, while no magic may exist in reducing class size from 35 to 15, a small group of 4 to 8 may make a difference. A smaller group may make more intensive work possible. It also may be that teachers believe that they can succeed with the small group. Conversations with teachers suggest that both factors operate, but they often emphasized how much more comfortable they felt in the smaller groups. Third, the high degree of supervision found in structured programs may contribute substantially to their success. Weikart, 1969, for example, found in a comparative study of several different preschool curricula that regardless of program type, programs which demonstrated strong supervision of the classroom teachers consistently reported the greatest achievement gains.

Fourth, as we noted in our August memo, successful programs initiate service rather than expand existing resources. By definition, structured programs initiate Title I specific instruction, thereby
attaining what Heller & Barrett identified "high visibility" as a component of successful programming. Their distinction is apt:

"A visible project is one that can be identified as an entity, separable from the regular, ongoing educational programs in the school.... Nonvisible projects...are interlocked with the regular school programs and are generally distinguished only by the allocation of additional personnel. Frequently, neither the additional personnel nor the school staff seem familiar with the project objective, which are usually not clearly specified. (p. 169)

One final point from this distinction follows. The specific operational objectives articulated by structured programs play a significant part in successful program outcome. "Projects directed to meeting the clearly defined needs of a specific population will tend to be more successful in achieving their objectives than projects which seek to effect general improvement for children whose needs are unspecified." (Heller & Barrett, p. 169) The objectives articulated by structured programs assume diagnosis of need. When the most important needs of a child are defined and made specific, it is more possible to develop the objectives, techniques and methodologies for meeting those needs. It is axiomatic that instructional strategies specifically related to the needs of the target child and thus to program objectives are most likely to lead to success and modifying pupil performance in terms of stated objectives. Such specificity of design and implementation is the chief characteristic of structured programming.

HOW CAN WE LEARN FROM TITLE I?

Accompanying the rising costs of compensatory education is a growing concern with evaluating its effects on educationally disadvantaged
children. Implicit in this concern are two quite different questions applicable to Title I:

- What impact is Title I having on the nation's educationally disadvantaged youngsters?
- What specific program strategies have the greatest effect on Title I children?

A single evaluation strategy cannot answer both questions. It is therefore incumbent upon administrators and evaluators to make decisions about the urgency of each question and the import it will have for Title I. If the aim of evaluation is to enhance the educational benefits provided for target children by Title I, then even a cursory survey of Title I program activities make evaluation priorities clear. It is patent that the vast majority of Title I programs "do not work": that is, they do not produce measureable achievement gains for educationally disadvantaged children. Further, we have observed that, in the history of Title I good programs get better and unsuccessful programs remain - for the most part - unsuccessful. In our review, most programs look in 1970 much like they did in 1965.

One cause of this may be a lack of substantive information input into local programs. Program administrators with whom we spoke pointed to the dearth of shared ideas and experiences within Title I, and to a need for new information and strategies regarding compensatory programming. Program planners have limited knowledge of other Title I projects and find it difficult to obtain suggestions
about effective programming. The most pressing need within Title I, then, is not an assessment of national impact but identification and dissemination of effective compensatory strategies.

We can learn about effective strategies from the type of cross-sectional review undertaken for this paper. Despite poor quality of local evaluations, trends and patterns do emerge. For example, as we found here, programs which fit a structured model seem to be having more positive effects than other programs. A similar review could help us begin to answer other questions as well. For example, our two-fold program classification only grossly discriminates between program methodologies; a finer analysis which combines field trips and evaluation review might help identify specific techniques which have been especially effective. Or, to take another example, pre-service and in-service training emerged in our study as a particularly important component of successful programming. Since teachers are the prime educational agent, personnel training strategies are an appropriate area for in-depth investigation. Our review turned up little information concerning the use and characteristics of teacher's aides. We need to learn more concerning the possible and desirable characteristics of teacher's aides, what they can do, and how teachers can be helped to utilize aides most effectively.

The strength of this kind of research lies in the comparative suggestions which result and the identification of specific, successful programming techniques. However, the recommendations resulting from this kind of research are of limited utility. Cross-sectional
research says little about the **process** of implementing a successful compensatory program, or about the effects of such a program over time. For example, although we were able to identify a number of components which seem important to the success of a structured program, we can say nothing about the relative importance of each, the interaction between them, or their evolution. What, for example, attracts and retains talented personnel? How does administrative competence develop? How are successful techniques refined, modified, and strengthened?

Questions such as these call for a comparative and experimental longitudinal study which examines one objective at a time and contrasts alternative approaches to meeting that objective. A study of this nature, similar to the Planned Variation Study being carried out by the Office of Child Development, could be taken up within Title I. Such comparison and analysis of the relative effectiveness of alternative strategies over time is perhaps the best vehicle for reaching sound conclusions about what works best.

It also might be useful to develop a new evaluation format for Title I, which would make program-wide cross-sectional data available for planning and decision making. It is reasonable to assume that the multi-tiered evaluation system included in the original ESEA legislation reflects an intention that evaluation assist LEAs in planning more effective programs. However, there has been little leadership at the federal level to provide sanctions or guidelines to develop the mechanisms whereby evaluation could provide the information requisite
to successive program refinement. Presently, local evaluations merely fulfill reporting requirements and each project is evaluated as if it did not exist the year before. Evaluations need to emphasize and define the sort of information important to program planners and, in order to bypass the pitfalls of non-comparability between programs, a collaborative evaluation model is necessary.

The Belmont project has made a step in this direction. The Belmont program is a cooperative effort between the Council of Chief State School Officers and USOE to develop a joint reporting, management and evaluation system. The states (27 as of August 1970) which belong to the Belmont group use the same reporting systems and feed their data into a central data bank. The data bank will serve as a basis upon which programming and policy decisions can be made. Institutionalization and standardization of program monitoring systems may in the long run be the most efficient way to learn from the proliferation of program efforts within Title I. The very fact that Title I is not really a national program, but a multiplicity of local projects, affords rich opportunity to understand how best to design and implement effective compensatory strategy.
References


Chall, Jean, Learning to Read: The Great Debate


Selected Structured Programs

Alaska
Fairbanks: Diagnostic and Remedial Reading Clinic

Colorado
Colorado Springs: Elementary Corrective Reading

Florida
Duval County Reading, Education and Diagnostic Services (READS)

Hawaii
Hilo Reading Clinic

Indiana
Mishawaka Remedial Reading Program

Iowa
Spencer Community School District: Corrective Reading

Kansas City
Kansas City: The Kealing Language Bombardment Project

Michigan
Pontiac: Oral Language Program
Pontiac: Elementary Language Arts

Minnesota
Robbinsdale: District 281 Learning Center Program

Minneapolis
Pyramids Reading Program

Missouri
Charlestown Remedial Reading

Nebraska
Grand Island: REading IMprovement Program
New York
Tonawanda Reading Resource Teacher Program

Ohio
Cleveland Reading Improvement Program
Cleveland Diagnostic Clinic
Maple Heights: Individualised Instruction Program

Oklahoma
Midwest City-Del City Schools: Reading Laboratory Program

Pennsylvania
Hazelton: Remedial Instruction and Service Program
Ford City: Armstrong District Clinical, Classroom and Graphic Arts Attack on Reading Problems

Utah
Murray City Reading Improvement

Wisconsin
Appleton: CESA #8 - Project Disability Prevention
Milwaukee: Language Development Program
January 20, 1971

Mr. Louis Koosis  
Chief Administrator  
Compensatory Education  
State Department of Education  
Box 420  
Lansing, Michigan 48902  

Dear Mr. Koosis:

The Title I Task Force, chaired by Dick E. Neys, Director of Intradepartmental Education Affairs of the U. S. Office of Education, has been evaluating the effectiveness of Title I programs. As part of that continuing effort, we are reviewing the evaluations of Title I considered successful by State Department of Education. Your compliance with our request for evaluations is most provided with helpful information.

Altogether we have reviewed several evaluations from 30 states and hope that you can suggest more evaluations of programs with some or all of the following characteristics: 1) few (2 or 3) objectives stated in specific terms, e.g., to raise reading achievement scores to grade level; 2) individual student needs carefully assessed; 3) prescriptions developed to meet those individual needs; 4) treatment in small groups or individually; 5) emphasis on practice; 6) students are removed from the classroom; 7) a concern with "quality control" (specialists hired or inservice training emphasized). We are interested in both successful and unsuccessful programs that have these attributes. In the next few weeks, Rachel Bussard, a member of our staff, will call to answer questions and to receive your recommendations of programs.

If you have evaluations of such programs on hand, we would appreciate a copy. If it is necessary to contact local education agencies for copies of evaluations, we can do that. We will, of course, pay the cost of copying any evaluations. Thank you for your help.

Sincerely,

David K. Cohen  
Executive Director

DKC:r/m
APPENDIX B
August 1970 Memo to Dick Hays, USOE

TITLE I PROJECTS

Two of the reports we have reviewed on Title I and compensatory education explicitly address the question "What Works?". First, A Study of Exemplary Programs for the Education of Disadvantaged Children, prepared by the American Institute for Research in the Behavioral Sciences (Sept. 1968) examines educational programs for culturally disadvantaged children which yield measured benefits in cognitive achievement. A.I.R. defined "measured gains" as statistically significantly higher scores on standardized tests than national norms or controls. The programs selected for inclusion in the "It Works" series differ widely in degree of program structure, instructional methods and use of material resources, but they do have a number of common features. All of the preschool and elementary programs focus on language training or reading, and fully one half of the programs at the secondary level aim at improving reading scores -- the remainder focus on math achievement. Reduced pupil:adult ratio is stressed at all levels: 7:1 in preschools; 1:1 to 15:1 in elementary grades; "small groups" and "individualized instruction" at the secondary level. While field trips were included in all grades, they were central components only of the preschool and secondary programs. The preschool and secondary programs also emphasized active participation of adults other than professionals -- parents and teacher aides -- whereas the elementary programs relied almost exclusively on the use of "specialists".

A report submitted recently to the Office of Education by the Council of the Great City Schools, Title I in the Great City Schools: An Analysis of Evaluative Practices and Exemplary Projects (July 1970) also looks at successful practices in compensatory education. Each of the twenty member school districts of the Council was requested to identify their two "best" projects; the purposes were to determine attributes common to successful
projects, study Title I evaluation practices, identify special problems related to evaluation, and make recommendations for improving evaluation practices. We will look at the Council's conclusions concerning evaluations in another section of our memo; of special interest here is the Council's narrative summary of characteristics common to the "best" programs. Almost half of the projects focused on reading in the elementary years; second in popularity were programs dealing with either preschool education or with high school career orientation. Project descriptions for the forty "best" Great City projects evidenced the following similarities: "objectives for both cognitive and affective improvement, experienced teachers, parent involvement, new teaching methods and materials, field trips." Characteristics distinct for projects rated "innovative" were: reduced class size, more intensive staff development programs, and greater parental involvement in planning, selection of materials, curriculum, and at-home assistance." Further, "the competence, experience and dedication of teachers was considered essential in all phases of the study." (pp. 18-23)

While we are addressing the same question ("What Works"), in this memo we have neither limited ourselves to programs evidencing cognitive gains nor have we confined our inquiry to a specific locale. The projects from which we have collected data were recommended by their State Departments of Education as having successful experiences in compensatory education. We considered a "successful" program to be simply a program in any location and of any size that met its stated objectives. Further, we did not require that evidence of success consist of gain scores or other standardized measures. We wanted the states to be free to recommend any Title I program that seemed successful to them.

To date we have reviewed 37 project descriptions from 13 districts in 5 states -- California, Michigan, New Jersey, Ohio and Oklahoma. The
projects span the full spectrum from preschool to high school, from remedial instruction, to cultural enrichment, to drop-out prevention. From these reports a fairly consistent profile of a "successful" Title I program emerges. Although it seems to be a consistent picture, it must be treated as preliminary; the majority of the material from which we hope to draw a composite has yet to reach us.

Over half of the projects (57%) we received focused on reading (included under this heading are programs of remedial reading, language development, communication skills, and English as a second language; they all used gain scores on standardized tests to assess the program). Remedial mathematics was the second most frequent (14%) activity. Ten of the 37 projects submitted have been eliminated for one of three reasons: either the data we received did not include any measures -- statistical or anecdotal -- of program success, or the program was not uniformly successful (i.e., it met its stated objectives, but only at one or two grade levels), or the program did not meet its stated objectives. Our analysis, then, is based on this reduced collection of programs.

All of these claimed to be successful, but the most consistent results were reported for the reading programs. No project reported an average of less than one year's reading gain for one year's work, and most reported two or three years' gain. Although we offer this as evidence of purported success, in most cases (as we will point out more fully further on) the evaluations are too weak to support the claims.

Finally, we should point out that all of the projects discussed below provided information for their entire life -- three to five years, and they all had continuity of program, staff, and administration during this period. Thus, it is an unusually stable group in the universe of Title I projects.
PROGAM ACTIVITY

Since the adoption of Title I in 1965 some districts have added entire programs and services they had not previously offered. Others have used Title I to expand and improve special programs that were already available. It is worth noting that almost without exception, the programs examined in this study have "initiated" services to children and not merely "expanded" existing facilities. All of the programs stated both cognitive and affective objectives, but in most instances only cognitive goals were stated in operational terms. 67% of the programs dealt with reading skills; the remaining 33% offer no clear activity, but run the gamut from basic skills through high school "adjustment" programs.

POPULATION SERVED

While the majority of the programs focus on the elementary grades, a significant number extend through high school. 40% are exclusively elementary; 24% include grades 1-12; 28% serve only high school students and 4% are preschool. There is inadequate data available to estimate the clan and ethnic group composition of the ESEA students. Although the students served by Title I programs are "educationally disadvantaged," it is not evident from the reports whether the students selected were those who showed the greatest potential for improvement. Given a population of students who are performing below grade level (e.g., Newark, where the city mean on standardized reading tests is below the national norm), were the most promising students chosen for help? There are some indications that this occurs.

DURATION AND INTENSITY OF PROGRAMMING

With the exception of the Diagnostic Reading Clinic in Cleveland, which scheduled children according to the degree of their reading disability, all of the programs ran for a full academic year (one ran through the summer as
well). The intensity of the Title I programming ranged from a low of 40 minutes a day to a high of two hours a day -- the average daily time spent in ESEA classes being one hour. Most of the programs were conducted during regular school hours, taking children out of class activity that paralleled the Title I class in content. (The very successful Individualized Instruction Project in Pontiac, Michigan does not fit into this schema, as it is housed in a separate facility and constitutes a complete curriculum in itself.)

**PROGRAM TREATMENT**

Program treatment -- or type of instruction -- varies more than any component of the successful programs we examined and defies quantification. Also, what may be regarded as "remedial" or "special" in one district may be part of the regular school curriculum in another. For example, where Cleveland purchased "talking typewriters", the 1966-7 Newark evaluation states that Title I funds were used in large part to replace 25 year old textbooks. Indeed, the only general statement that may be made about these programs is that they vary enormously. While most projects used specialized facilities such as reading laboratories or learning centers, the range of equipment, supplies and materials was broad. Cited most frequently were the use of audio-visual aids (such as tape recorders, overhead projectors, film strips, and controlled readers), field trips, and a wide range of printed and/or visual materials reflecting the breadth of abilities present in the classroom, and the ethnic composition of the community. The reading programs stressed "how much" and not "what" the students read. They "put emphasis on the quantity of reading and time spent reading, allowing the student to choose subject material and provided a quantity of interesting material on the exact level of the student's performance. (The student was) challenged to spend more time reading than he had ever done before" (Nombersa Beach).
It was repeatedly noted that "the availability of a wide variety of materials makes possible the development of independence in the child working on his own level...enabling every child the experience of frequent success." (Fairland S.D., Ohio)

Most of the programs made use of extensive diagnostic services in determining the "starting point" for individual students and the materials appropriate for the group. While "diagnostic" is usually thought to apply mainly to reading activities, it is interesting that of the math program in our "successful" group, all used diagnostic tests and services as well. In this sense, learning was prescriptive even in those programs which did not afford individual instruction. While Title I is "institutional" rather than individual aid, successful programs seem to "individualize" the services provided by Title I funds.

Although all of the programs explicitly emphasized reduced class size, not all report pupil:adult ratio. All of the reading programs were headed by reading specialists, and most of the math programs were staffed with specialists; the majority made joint use of the regular classroom teacher, teacher aides, and community volunteers. In general, the Title I class at the elementary level had a pupil:adult ratio of about 8:1 while 15:1 was common at the secondary level. Regardless of group size, all the programs stress the availability of "individual instruction" or "individualized attention".

TEACHER TRAINING

Teacher training and background may be an important variable in program success. As noted previously, subject area expertise was the rule in the cognitive programs. Beyond this, experienced classroom teachers were part of the Title I program whenever possible, previous experience with
disadvantaged children being critical. In addition, the majority (85%) of programs conducted comprehensive and regular inservice training sessions for their staff -- both professional and non-professional. These sessions were utilized to iterate program aims and discuss special problems or new techniques; they often were structured as "workshops" or seminars. The lack of success of the one-shot outside speaker format was mentioned often.

A number of projects provided teachers with the opportunity to attend special summer institutes dealing with the problems and techniques of compensatory education. Notable, too, is the importance of feedback provided to the regular classroom teachers as part of their "education". A great effort was made to keep regular classroom teachers apprised of the success and problems of the Title I students in their classes, so that they could support and reinforce the learning taking place in the Title I classes. One of the most frequently cited explanations for poor program results centered on the issue of feedback; the regular classroom teachers did not know what was taking place in the Title I classes.

Although not common to all of the projects we examined, an additional feature worth noting is the central position of a "community agent" in programs serving communities with a large bi-lingual population. In these programs (e.g., Newark, Cleveland, Perth Amboy, Hermosa Beach) the success of the community agent in working with parents was seen as important -- if not essential -- to the success of the program. The community agents apparently helped teachers and staff understand community problems, enlisted bi-lingual community aides, and provided parents with information about the school, community services, and the like. The community agent "frequently assists parents to overcome problems which are not directly related to the child's progress in school but which have a profound effect on the home and school environment." (Perth Amboy 1968 Title I Evaluation)
Thus, a picture of successful programs supplied by the evidence contained in the project evaluations may be summarized as follows: a reading program in the elementary grades which provides children with at least an hour of special instruction a day for the academic year; the program emphasizes diagnostic services, small classes and individualized instruction, provides a breadth of materials and resources, and is staffed by a subject area specialist who is assisted by one or more teacher aides or community volunteers.

GENERAL OBSERVATIONS

Several other observations come from the narrative reports accompanying the project evaluations, which discuss other reasons for program success. The issue of "parent involvement", for example, has received increased attention of late from legislators and program directors. Project evaluations suggest that parent involvement per se is not important for program success; success may vary with the type of involvement. There are two ways in which disadvantaged parents seem to be involved in compensatory programs -- in the planning process, or in instruction. The evidence we have seen indicates that parent involvement of the first type alone contributes little to program success (although it may have other, or more indirect benefits). Effects on student performance are often seen when parents are directly involved in the learning experience, either as a classroom aide, or when encouraged and trained to assist children at home with their school work. Not surprisingly, the effect of parent involvement is most often seen when parents are included in both planning and instruction. Many reports noted an early disapproval on the part of school staff members when parents were involved in "their province" (e.g., Newark, Pontiac, Hermosa Beach). Without exception, however, those administrators and teachers were reported to now strongly advocate parent involvement in all phases of programming and to have begun to recruit
more participation. In addition to the obvious advantages of a bi-lingual parent in bi-lingual classrooms, the benefits most often attributed to parent involvement were improved school-community understanding, and providing children with a familiar "role model" in the classroom. A review of California programs stated that "one of the most interesting results from the interviewing of teacher aides (parents) was information concerning the effect such experience had had upon each aide's relationship with her own children, upon her sense of identity, status and role and upon her ideas of her purpose in life. Quite uniformly, aides felt their work was improving their relationship with their own children. Nearly a third of them felt that they were better able to help their children with homework and school problems and some aides felt that they had become more tolerant, more patient and less critical of their own children." (Compensatory Education in California, 1969, pp. 12-13)

Or, as noted in the 1968 Newark evaluation, "one of the most impressive aspects of the Title I programs is the extent to which community participation has been achieved and has contributed to the school. As a result of this, there is greater understanding on the part of the community of the problems in their schools. In addition, school personnel have a better understanding of how the problems in their school relate to the conditions and needs of the immediate community. Those groups of parents and educators have less fear of each other and have greater appreciation of the contributions each can make. They have become aware, in other words, that the problems of their schools do not exist in a social vacuum." (pp. 27-28)

Robert Hess at Stanford recently considered the effect of maternal behavior on the cognitive performance of children (The Cognitive Environments of Urban Preschool Children: Follow Up Phase). Hess identified a number of variables which correlated highly with a child's performance on
tests of reading readiness. A variable he found to correlate most significantly with performance -- "maternal orientation toward the non-family world" -- may help in understanding these findings on parent involvement. Hess reports that "the correlation between the mother's activities in the community and the child's reading attainment suggests that the mother's integration into the institutions of her community -- her readiness to confront and engage in exchange with organizations of her neighborhood, provide the child with incentives, information and learning opportunities. Thus, initiative of the mother and her tendency to meet the environment and to enter into interaction with it appears to be an important variable in the development of educability in the young child." (pp. 11-17) The applicability of Hess's observation is, of course, speculation. It is patent, however, that traditional means and channels of communication between home and school do not work in most communities served by Title I.

A second observation we would offer is that while class size -- alone -- is not critical to program success, it seems to be important. Class size cannot produce significant differences but amount of prescriptive attention may, and this is easier in small classes. Prescriptive attention may mean individualized instruction, or provision of a highly trained subject area specialist to work with small groups using carefully selected materials.

We have also observed that success seems to be accompanied by narrow, well-defined program objectives that demonstrate a clear relationship between what the program is attempting to accomplish, how it will be achieved, and how the achievement will be measured. An untold number of "successful" programs may be nothing more than a maze of fuzzy goal descriptions and inappropriate success criteria. A clear focus on the linkage between actual program activities and actual objectives is crucial. This lack of focus,
for example, contributed to the exclusion of several programs from our study. The 7th Grade Transition Class in Cleveland, for example, set about to "establish a more stable yet flexible learning environment specifically adopted to adjustment needs." The success criteria, however, consisted of gains on standardized reading scores, and there was little in the program design that could be expected to produce such results. Thus, while the program did report improvement in the areas of attendance and school related behavior, it could not be judged successful by its own criterion.

We had drafted most of this memo when the Great Cities report arrived. It is interesting that their conclusions about "best" programs were consistent with ours; with the exception of Cleveland, Newark, and possibly Pontiac, we dealt with different projects. For the most part, our projects were located in districts peripheral to the central city, or in small cities or rural areas. One might expect that a successful program in the great cities would reflect the special needs and problems, and have little relevance in a smaller district. Apparently, this is not the case.

EVALUATION

There are many difficulties in assessing the credibility of the reported results, and almost all of them involve the quality of project evaluations. Typically, of course, evaluation is not considered until a project has actually been implemented, and the design of suitable methods of information collection is thus crippled. Poor goal statements and inadequate definitions of project procedures give many of the projects no operational meaning that can be measured. There also is a tendency to use one evaluation design for every project -- even though the instrument may have little relevance to the treatment variable, and to always report only positive effects. As a result, a searching evaluation of ESEA programs is terribly difficult
(and probably impossible without more data collection), given the diversity of program descriptions and results. The five problem areas identified by the Great Cities report reflect the methodological problems we encountered in efforts to evaluate the validity of the reports we received and the appropriateness of their indices. We present a few of these.

For one, a number of the reports use significance tests to support statistically significant differences in test scores. However, the use of such tests presupposes the assumptions implicit in random sampling -- that each member of the population has an equal chance of being selected. These requisites are violated in most instances, as students for whom data is reported constitute a "cluster"; thus the tests used are not appropriate. Unwarranted assumptions are also made in the use of pre- and post-test scores to measure program gains. For example, no adjustments are made for the shifting sample! student mobility for which measurements are taken; in comparing pre- and post-test scores it is tacitly assumed that the characteristics of the program drop-outs are identical to the group which remains. But, as the evaluation of the Cleveland Learning Lab stated, the "stable" 33% who remained in the project were the "atypical participants." (p.4) Other statistical applications are just plainly in error. For example, the Pontiac, Michigan evaluation merely doubled first semester gain scores to arrive at academic year gain scores.

In addition to sampling and statistical problems, few evaluations employ meaningful controls or comparisons, against which to measure gains and interpret scores. The California and New Jersey reports, for example, regularly use national norms as baseline measures. Post test scores equal to or greater than the national norm then constitute a "successful" program outcome. However, such norms controls yield no intra-city comparisons. How well are Title I students performing when compared to the average non-Title I
student in his city? In Newark, for example, a Title I student could fall short of the national norm and still be achieving at a higher level than the typical non-Title I student. Conversely, one would expect that in a more affluent district, Title I gains would have to far exceed national norms to begin to close the gap between advantaged and disadvantaged students in that district. Many evaluations even designate the child as his own control, reporting significant differences between pre- and post-test scores as evidence of program success, even though academic growth outside of remedial programs is the rule; what we need to determine is what the pre-post test difference would have been if the child were not exposed to Title I programs.

In sum, few if any of the programs are free from major flaws of sampling, design, interpretation, testing, and data recording. Programs that appear "successful" may well be so because of bias or error in the data rather than because of their educational significance. While it is evident that something is happening in the Title I programs we reviewed, the primitive state of the art of evaluation makes it difficult to know exactly what, or how much.
The Robbinsdale, Minnesota Learning Center has been in operation for four years. The Center serves 252 students with a staff of thirteen remedial specialists, an educational analyst and a director. Center services cost approximately $1000 per pupil; half of this sum is provided by Title I funds. The Center works with children in grades 2, 3, and 4 who have been unable to acquire basic skills in the classroom. In addition to ameliorating the learning problems of the children, the Center also is intended to be a "positive imitative example" for the regular teaching staff regarding successful instructional strategies for children with learning difficulties and a "resource center" for the school district, disseminating useful materials, techniques and innovations in the basic skill areas.

Children are first brought to the attention of the Clinic by the classroom teacher, who determines that the child needs assistance beyond what can be provided in the classroom. The school staff - the principal, classroom teacher, psychologists, social worker and aides - review the request and make referral. Once the child has been referred to the
Center, an educational analyst begins to develop a detailed profile of the child—his family background, past school history, and scores on a battery of diagnostic tests. The analyst observes the child in the classroom, visits his home and talks with his parents, confers with teachers as basis for his recommendation. He may recommend (a) tutoring, (b) enrollment in the learning center, (c) special education, or (d) return to the classroom with special assistance from an aide. Clinic personnel report that children who enroll in the Center consistently rank in the bottom 5 percent of their regular class.

The child's detailed case study is sent to the learning center staff member who will work with him. Children are bussed to the Center for 1 1/2 hours of instruction, four days a week. A variety of reading materials are prescribed on the basis of the diagnostic tests. Each staff member works with no more than fifteen children at any one time. Four periods a day, each staff member will have only three or four children in small group sessions.
An analytical file is maintained for each child. The file is updated continuously, noting the progress of the child, special problems and so on. When the child is discharged from the clinic - a decision made jointly by the specialist and the classroom teacher - the file is available to the classroom teacher.

Over its four years of operation, the Learning Center has shown a 35 percent discharge rate or a 30 percent rate when readjusted for "returnees."

Test data reported in the evaluation indicates the Center achieves an average gain of 1.5 to 2.0 months for every month spent in the Center program.

Evaluations also note that discharged children achieve at a normal rate when returned to the classroom; teachers rate their work as "fair" to "good" on the average; discharged children are no longer assigned to the lowest reading groups. On an anecdotal level, parents, teachers and children rate the program as "excellent."
APPENDIX D

The Cleveland Diagnostic Reading Clinic evidences more narrow objectives than the Robbinsdale program. The Cleveland program, which serves 362 students at a per pupil cost of $822, focuses specifically on reading skills. The program, staffed by reading specialists, clinicians and psychologists, has been in operation for three years. It intends to improve the reading skills of children with serious reading disabilities; specifically, the clinic attempts to bring each child up to a level appropriate to their reading expectancy, which is determined by a formula which considers IQ, number of years in school and grade placement. The clinic employs two criteria to determine if the child has reached the expected level: (1) at least 50 percent independent performance by the pupil with materials in use in his regular classroom and (2) achievement on standardized tests of at least one year within reading expectancy as determined by grade placement. While working with the child, the clinic also attempts to involve the parent in the child's remediation and to include the classroom teacher through consultation and follow-up.
Students enrolled in the clinic have been identified by their teachers as poor readers. Fifty-two percent of those selected for the program were two or more years below grade level and 36 percent were 1.1 to 1.9 years below grade level. Students are bussed to the clinic for an intensive period of diagnostic work. The diagnosis includes aptitude and achievement tests, psychological assessment, medical examinations, sight and hearing analysis, and speech evaluations. A case history is also developed from interviews with parents and teachers.

The Clinic has evolved three categories of instruction:

- long term: those who need a semester or a year of help
- moderate term: those requiring 2-6 months of remediation
- short term: those who require less than 2 months of assistance

Students are bussed to the clinic five days a week for an hour of individual or small group instruction. As in the Robbinsdale Center, a variety of materials are available for each student in order that his instruction may be individual and carefully sequenced.
The Cleveland program has been evaluated using a stratified sample of fifty. This analysis demonstrated that 42 percent of the pupils narrowed the discrepancy between their performance levels and expected reading levels to one year or less. Progress for the most severely retarded pupils, the long term group, was found to be commensurate with expected classroom gains of 1:1. The average term pupils made gains of six months in three months time. Short term pupils gained six months for every three months of instruction.
APPENDIX E

The CESA #8 Program in Appleton, Wisconsin, provides small group, highly structured work outside the classroom for 150 students. The program is in its third year of operation, is staffed by seven tutors, five psychologists, two counselors, two speech therapists, three nurses and two administrators at a per pupil cost of approximately $500/year. The Program articulates the following operational objectives:

- Having received one year of treatment, all grade two participants will exhibit scores at the norm range or higher on those subtests of the Illinois Test of Psycho-linguistic Abilities in which each was deficient prior to said treatment.

- Having received the treatment, all grade two participants will exhibit a numerical change upward of not less than ten points in each student's IQ, as measured by the Wechsler Intelligence Scales for Children.

- Having received the treatment, all grade two participants will exhibit a 20 percent or higher degree of academic skill improvement in the areas of reading, language and
arithmetic as measured by the Wide Range Achievement Test.

The program lists twelve criteria for teachers to observe; teachers are asked to refer if three or more are present. Criteria range from inadequate classroom performance, social maladjustment, speech defects, cultural or economic disadvantage to presence of an older sibling in the school who has had learning or social problems. The students referred are tested using the Boehm Test of Basic Concepts. Results are discussed with staff psychologists and classroom teachers and parents are consulted for permission to enroll their child in the program. The program tries to identify children with difficulties at the K level; this selection process, in the opinion of the staff, is the most difficult problem faced by CESA #8.

CESA #8 employs an Englemann-Becker curriculum, a highly structured drill in reading, language and arithmetic. Individual prescriptions are made upon the basis of the diagnostic tests and within the limits of Title I funds and the Engle-Becker materials; children are instructed in groups of five outside their regular classroom for either two half hour sessions or one hour session daily. CESA staff members spend
additional time with the classroom teachers. Resentment of the classroom teachers concerning the materials available to the special staff and taking the child outside the classroom has presented problems for the program. Classroom teachers also express some skepticism concerning the efficacy of the curriculum strategy. One of the more controversial aspects of this program is the concept of rewards for the children. Raisins and cereal and occasionally token gifts are used by the CESA staff to acknowledge good performance.

An evaluation was made of the performance of Grade 2 students in the program. On the ITPA, students showed an average pre-post test gain of 15.4 points, significant at the .001 level. On the WISC, there was an average gain of 5.84, also significant at the .001 level. Students gained 18.89 points on the average on the WRAT, again significant at the .001 level.

The CESA project has made an attempt to provide longitudinal information for their Title I project. The 1970-71 design includes a study of project students now in the third grade who have been matched with non-project grade students on age, sex and classroom teacher. This study is
designed to determine if project students do as well or better than non-
Title I students after completing the program. At the end of the first
semester, data indicate that 65 percent of the project pupils received
grades as high or higher than students not enrolled in the program.
APPENDIX F

The Milwaukee Language Development Program serving 928 students with a staff of thirteen language therapists, one supervisor and a director at a per pupil cost of $258 has been successful in implementing small group work outside the classroom on a much larger scale than the Appleton program. Three objectives were stated and evaluated for the 1969-1970 fiscal year. First, that kindergarten pupils, exhibiting an oral language deficit, will perform as well as or better than similar non-project kindergarten children on the PPVT and on classroom teacher ratings of verbal ability. Second, project pupils will significantly increase their perceptual-verbal language skill when measured by the PPVT and the Milwaukee Public Schools Language Development Scale. Third, the three alternative methods of oral language training used with grades one and two will differ significantly in effectiveness when measured by the Ammons Quick Test and the Milwaukee Scale.

Selection for the project is made on the basis of classroom teacher recommendations. Therapists administer articulation tests to the children and also subjectively evaluate their language ability. Student
are grouped either heterogeneously according to tested ability or according to specific problems. Each therapist worked with five groups of six to eight students each day - one hour with each group. A variety of methods are used and prescribed according to the needs of the children. Children participate in the program for only one semester, with the exception of one group of eight which continues through the school year. Administrators told us that the pressure to serve large numbers of children prevent them from concentrating services over a longer period of time.

Program evaluators found no significant differences between project and non-project children at the end of treatment. The first objective was met, then, in that the experimental children performed as well (although not better than) the control groups. Post test measures were adjusted by covariance to correct for several initial differences between the experimental and control groups. Post test measures were adjusted by covariance to correct for several initial differences between the experimental and control groups. The second objective was also met in that the experimental children performed significantly
better than the control children on the Milwaukee tests.

Objective three was not met. Pupils in all three curricula methods made significant gains in language development. Thus, there was no evidence to justify concluding that one curriculum strategy was better than another. Carl Bereiter has observed that there is nothing magic about Bereiter-Englemann; it is more successful in raising achievement than the traditional child-centered approach, but "is not necessarily more effective than other programs with a strong instructional emphasis."

(1971) The Milwaukee experience would seem to underline Bereiter's point. None of their experimental programs were child-centered or generalized enrichment; rather they were variations of a strong instructional program. No significant differences were seen in their outcomes.
The Denver Reading Maintenance and Improvement Program was begun in 1965. The program serves pupils in Grades 4, 5 and 6 who were markedly retarded in reading. Thirty-nine project teachers work with approximately 1610 pupils, who are removed from their regular classroom to a reading facility for instruction. The program's objective is "to improve the reading ability of the educationally disadvantaged elementary pupils through a comprehensive language arts program." Project teachers at each school had two groups of fifteen pupils, each group for two hours a day.

"Activities included those which:

- develop work analysis skills through the use of a variety of reading and oral activities
- develop a better vocabulary through the use of language arts kits, teaching machines and oral discussions
- help children improve skills of communication by selecting appropriate meanings of words, punctuation, finding main ideas and under-
standing story plots.

. develop oral language fluency through such devices as puppetry, tapes, role playing, committee reporting, announcement making, drama, choral reading, exchange assembly program and daily oral sharing of experiences and interests.

. develop listening skills through soundstrips, recordings, etc.

. relate reading to the experiences of life through excursions and the use of labels and organic vocabulary

. make books important to children through book displays, filmstrips, and story records

. provide for the individual needs of the children in hearing, health, vision, welfare and testing (1968-9 Title I evaluation, pp.1-29).

The program was evaluated by means of control groups, teacher questionnaires and other anecdotal information. The control group was selected from another area school and was matched as closely as possible with the treatment groups. Significant differences between the experimental and control groups were evident in only three instances, when six subtests of the Stanford Achievement Tests were checked at each of the three
grade levels; when they did exist, differences tended to favor the control groups. Differences beyond the level of chance existed in only three instances when four subtests of the McCullough Work Analysis Test were checked at each of the three grade levels. Differences which did occur favored the experimental group. Parents, pupils and teachers gave the program favorable ratings. The evaluation does indicate, however, that pupils tended to regress once returned to their regular reading groups and staff members recommend more adequate follow-up. In sum, while this program was popular it did not produce any measurable treatment effects. In contrast to structured programs, this program provides students with a wide variety of experiences and exposures, rather than concentrating on one specific, prescribed activity at a time.
PARENT INVOLVEMENT IN
COMPENSATORY EDUCATION PROGRAMS
TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>Part I - Theoretical Framework</td>
<td>5</td>
</tr>
<tr>
<td>Part II - Models of Parent Involvement</td>
<td></td>
</tr>
<tr>
<td>Parent Participation Model</td>
<td>16</td>
</tr>
<tr>
<td>Successful Parent Participation Strategies</td>
<td>17</td>
</tr>
<tr>
<td>Learning to Learn Program</td>
<td>22</td>
</tr>
<tr>
<td>El Rancho Title I Program</td>
<td>24</td>
</tr>
<tr>
<td>Fresno Title I Program</td>
<td>27</td>
</tr>
<tr>
<td>Does Parent Participation Make a Difference?</td>
<td>30</td>
</tr>
<tr>
<td>Institute for Community Studies Report</td>
<td>30</td>
</tr>
<tr>
<td>Plowden Analysis</td>
<td>30A</td>
</tr>
<tr>
<td>Liddle et al Demonstration Project</td>
<td>32</td>
</tr>
<tr>
<td>Conclusions and Implications</td>
<td>37</td>
</tr>
<tr>
<td>Parent Training Model</td>
<td>43</td>
</tr>
<tr>
<td>Successful Parent Training Strategies</td>
<td>45</td>
</tr>
<tr>
<td>DARCIE Programs</td>
<td>45</td>
</tr>
<tr>
<td>Home Visitors</td>
<td>47</td>
</tr>
<tr>
<td>Mothers Training Program</td>
<td>50</td>
</tr>
<tr>
<td>Flint School and Home Program</td>
<td>57</td>
</tr>
<tr>
<td>Los Angeles Community and Staff Development Summer Program</td>
<td>59</td>
</tr>
<tr>
<td>Conclusions and Implications</td>
<td>64</td>
</tr>
<tr>
<td>Part III - Conclusions</td>
<td>65</td>
</tr>
<tr>
<td>Suggestions for Further Research</td>
<td>69</td>
</tr>
<tr>
<td>Tables</td>
<td>73</td>
</tr>
<tr>
<td>References</td>
<td>87</td>
</tr>
<tr>
<td>Selected Bibliography</td>
<td>92</td>
</tr>
<tr>
<td>Selected Listing ESEA Title I Evaluations</td>
<td>94</td>
</tr>
</tbody>
</table>
INTRODUCTION

Most discussions concerning the improvement of education in the cities point to the need for more parent involvement and maintain that "the involvement of parents in the goals of any kind of compensatory education is a generally recognised asset..." (Gordon and Wilkerson, p. 50) Despite this, parents are involved in remarkably few compensatory programs* and "asset" is largely undefined and unmeasured. The issue of parent involvement is being pressed by both politicians and educators who are anxious that "something be done" about the disappointing results of compensatory efforts to date and by parents who want a greater voice in the educational decisions and policies affecting their children.

Parent involvement in compensatory programs is viewed as a promising intervention strategy for a number of reasons. First, professionals tend to look to the home as the source of academic failure. It is thought that deficits in the home (rather than deficits in the school or innate ability) are the chief obstacles to academic achievement for lower class children. (e.g. Goldberg; Taba) Their family environments do not furnish the skills and attitudes requisite to successful functioning in school. (e.g. Ausubel & Ausubel)

*For example, the 1968 National Advisory Council for the Education of the Disadvantaged study of 116 Title I programs found only two programs in which a serious effort was made to involve parents. Of the 191 parents interviewed for that study, not one was informed about Title I or how it operates. The Council concluded that "one of the areas of almost no apparent progress is...that of parent involvement." (p. 22)
The argument, thus, is that change in the family environment—specifically in ways that parents relate to children and the school—will enhance and facilitate children's academic growth. (e.g. Barbrack 1970)

Some professionals also point to the economic implications of parent involvement: (DARCEE reports) That is, if the involvement of parents can effect change in those attitudes and values which impede the academic progress of disadvantaged youngsters, then perhaps the younger siblings as well as the target child will benefit from parental "reorientation". In this way, parent involvement is seen as an economically viable alternative to the spiraling enrollment in costly intervention programs. As we will see, it is cheaper to "reeducate" one parent than to enroll all of her children, one by one, in compensatory programs.

A growing number of lower class parents, however, contend that the cause of their children's failure lies not in the home or in the child but in the school. They are becoming increasingly frustrated and impatient with "the system" and the failure of their children. In education, as in other areas, they are pushing for more initiative and greater involvement...for "accountability". In their view, the teaching methods, curriculum and objectives of the school do not address the special needs of lower class children and in fact

* The 1964 HARYOU (Harlem Youth Opportunities Unlimited, Inc.) Report is perhaps the earliest articulation of this point of view.
discriminate against them. The National Advisory Council on Civil Disorder reached much the same conclusion:

...the growth and complexity of the administration of large urban school systems has compromised the accountability of the local schools to the communities which they serve and reduced the ability of parents to influence decisions affecting their children. Ghetto schools often appear to be unresponsive to the community, communication has broken down, and parents are distrustful of officials responsible for formulating educational policy. The consequences for the education of students attending these schools are serious. Parental hostility to the schools is reflected in the attitudes of their children. Since the needs and concerns of the ghetto community are rarely reflected in the educational policy formulated on a city-wide basis, the schools are often seen by the ghetto youth as irrelevant." pp. 436-7.

Low income parents contend that since there currently exist no agreed-upon educational formulae and since they and their children stand to lose the most by educational failure, parents have a legitimate and positive role to play in interpreting the needs of their children and ensuring they are met. Inner-city parents feel that "excessive power is placed in the hand of the professional as compared to his power in middle-class communities where parent/community leaders are accorded more respect." (Wilcox, p. 13) Lower class parents argue for a strong voice in determining what is taught in school, how it is taught, and who teaches it. They contend that the result of such involvement will be a more relevant and effective education for their children.
To date, the controversy over parent involvement has been waged chiefly by exhortation. No effort has been made to systematically order evidence which would allow one to reach conclusions about the efficacy of involving parents or even about the best ways to involve them. Such a review is the purpose of this paper. Part I will present the relevant literature and look at the theoretical constructs underlying current practices of parent involvement in compensatory programs; Part II will examine models of parent involvement which appear to be successful. Part III will lay out the conclusions drawn from a review of parent programs and suggest possibilities for further investigation of the issue.
PART I THEORETICAL FRAMEWORK

Two general threads run through the relevant research and constitute the major theoretical underpinnings of efforts by compensatory programs to involve parents: one, that the nature of the interaction between a child and his parents determines in large part the degree of success or failure the child will experience in school; two, and most important to those formulating intervention strategy, that those parent interaction variables which have been found to have the greatest influence on a child's academic achievement—while related to socio-economic status—are not absolutely determined by status factors. Rather, the important parent variables are thought to fall into the realm of attitudes and behavior which might conceivably be modified through parent involvement strategies.

The central importance of the home environment—particularly the interaction between mother and child—in the affective and cognitive development apposite to school achievement has been well documented. This body of literature emphasizes the critical role of the parent as "teacher" and as "socialization agent", representing the world to the child, shaping his expectations and attitudes and providing him with skills. In general, those home and parent factors which have been found to relate most highly to academic achievement are:

- parental concern and support for achievement and learning—how valuable parents hold schooling to be, the amount of substantive guidance and support the parent is able to give the child in his school-related and other learning activities, how much the parent knows about his child's progress in school.
--the amount and kind of verbal interaction between the parent and the child

--maternal teaching style--the manner in which the mother interacts with and responds to her child

--home resources for general learning--magazines, books, toys and games.

Bloom (1964) put forth the notion that differences in academic and cognitive development can be traced to the value placed on education in the family and to parental reinforcement of the child's activities in school. (also Cloward & Jones; Hyman) Bloom argues (1965) that when the home and the school are "mutually reinforcing", optimal conditions are present for a child's academic growth and achievement. Conversely, when there is an inconsistency in values and attitudes between home and school, Bloom maintains that compensatory efforts are bound to fail.

To this point, Deutsch (1967) argues that there are critical disparities between the "socio-cultural milieu" of the lower class child and that of the school. A number of investigators (e.g. Brookover, Coleman, Deutsch, Douvan, Eells, Reissman, Rosen and Wilson) have concluded that problems thought to arise from these disparities do not exist to the same extent for middle class youngsters. Lower class children have been found to be less likely than their middle class peers to possess the attitudes, skills and habits of mind requisite to school
Poor children are reported to have less persistence in matters academic, less desire and preparation to achieve in school and considerably less self-confidence and sense of self-worth than their middle class contemporaries.

Several investigators have considered whether these attitudinal and behavioral differences are an inevitable result of variation in S.E.S. or whether they are the result of other variables in a child's home and family background which may or may not covary with S.E.S. In one of a series of studies conducted at the University of Chicago, Dave (1963) considered the direct effect of SES versus other background variables. He constructed six variables: achievement values, language models, amount of academic guidance and support, general learning stimulation, intellectual interests and activities of the parents and work habits stressed in the home. After interviewing 60 mothers, randomly chosen, and relating their responses with the scores of their children on a battery of achievement tests, Dave found that the overall index of home environment, as he constructed it, correlated .80 with the entire achievement battery. Dave then contrasted this correlation against the correlation of .50 or less usually found for other home variables more immediately related to SES and level of parent education and
concluded that it seems to be what the parents do in the home rather than their status which most influences the achievement of their children.

Wolf's (1964) study of 60 fifth grade, inner-city, children and their mothers replicated Dave's results. After interviewing the mothers and compiling academic ratings for their children, Wolf found that the best predictors of academic performance were not social class or level of parent's education. Rather, they were: parental expectation for the child's academic achievement (how far they thought he would go in school); the amount of information the mother possessed about the intellectual development of the child (did the mother know the name of her child's teacher, what was happening in the classroom and how her child was progressing?); the number of opportunities provided in the home for the child's vocabulary development; the extent to which the parents assisted the child in discovering, understanding and learning as well as the degree to which parents created or initiated learning situations in the home.

A review by Freeberg and Padone (1967) also reports evidence of a strong relationship between a child's cognitive growth and a number of factors which are status related but not status determined: parents' willingness to spend time with the child and assist him in his efforts.
to learn; parental aspiration for the child's achievement in school; provision for the intellectual needs of the child and the degree to which the parent utilize the "external resources" of the community, such as the library and parks.

Given that it seems to be what the parents do in the home rather than SES which most significantly relates to academic achievement, it is not surprising that maternal teaching style, by which we mean the nature and quality of a mother's responses to her child's questions and general efforts to learn about the world, has been found to be one of the most important of the home and family background variables. A study by Wicgerink (1969, cited in Barbrack 1970), for example, underlines the importance of maternal teaching style in predicting a child's measured ability. He examined four variables: maternal teaching style, maternal SES, maternal personality rating and maternal language facility. Results of a step-wise correlation indicated that maternal teaching style accounts for more variance (27%) in the child's Binet I.Q. score than any of the other maternal factors.

Studies which have examined the ways in which the teaching styles of lower class mothers are likely to differ from those of their middle class counterparts report highly consistent results. Bee(1969), for example, compared the teaching style of lower and middle income mothers and reported that middle class mothers were less controlling,
less disapproving and gave more information and attention to their children than lower class mothers. A longitudinal study by Walters and Crandall (1964) reported that, using the Fels Parent Behavior Scales, maternal coerciveness was inversely related to social class. The higher SES mothers in this study were seen to be significantly less "dictatorial" in their attempts to influence their child's behavior.

Hess and his colleagues (1969) related inadequate mothering and teaching styles to feelings of "powerlessness" generated by the lower class mother's lack of control over her own life and environment. A sample of 160 Negro mothers and their four year old children was selected from four different social status levels. Data about the social and material circumstances of the families was gathered in two interviews and by observations; achievement test scores were collected for the children. Like studies cited previously, Hess found that the mother's use of resources in the home to stimulate her child's development and maternal support for the child related highly to the child's academic achievement. However, a variable found to correlate significantly with performance on reading readiness tests was what Hess termed "maternal orientation toward the non-family world." L. S reports that the correlation between a mother's activities in the community and the child's reading attainments suggests that the mother's integration into the institutions of her community, her readiness to confront and engage in exchange with organizations of her neighborhood provide the child with incentives, information and learning opportunities. Thus, the initiative of the
mother and her tendency to meet the environment and enter into interaction with it appear to be an important variable in the development of the child. Hess argues that a mother cannot teach her child a world orientation she does not share nor can she relate to or interact with her child in a manner greatly different from her relations with the "non-family world".

Scheinfeld (1969) reached similar conclusions. In a study of 145 lower class black families, he found that the parents of those children who were doing well in school were also those who felt they had something valuable to pass on to their children. These parents tended to perceive themselves as effective individuals who possessed enough knowledge to assist in the development of their child. Schienfeld, like Hess, argues that "parents cannot construe their child's relationship to the world in ways that are fundamentally different from the way they construe their own." (p. 2)

The findings of two large surveys undertaken in this country and in England are germane to the conclusions presented by the literature we have examined. While the Equal Opportunity Survey (the Coleman Report) did not expressly look at parent attitude and value factors, the survey did include a measure of PTA attendance. A reanalysis by Marshall Smith (C.E.P.R.) of data taken from a representative sample of sixth grade students in the urban north showed that

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*Center for Educational Policy Research, Graduate School of Education, Harvard University.
even when a large number of individual background characteristics such as SES and school-wide measures were controlled, the relation between PTA attendance and three measures of academic achievement were significant at the .05 level for black students. (see Table I) Interestingly, PTA measures did not correlate significantly with the achievement scores for white students. At least three explanations of this finding are feasible: one that PTA attendance is most important for black families, who are currently the least involved in school affairs (n.b. Wolf's variable, amount of information parents possess about school affairs) or two, PTA attendance could be measuring the attitudes concomitant to involvement (n.b. Hess) or three, it could be that the sort of school administration that encourages and supports a PTA will work well with black families.

"Children and their Primary Schools" (the Plowden Report), issued in 1966 by the Central Advisory Council for Education (England) addresses itself expressly to an extensive analysis of the relation between home, school and academic attainment of children.* The Council was chiefly interested in collecting information which could be

* The Plowden Report is a rich source of information concerning not only the importance of parent attitudes but also the relative effectiveness of different strategies to involve parents. We will deal here only with the general conclusions of the report. The specific implications for program designs will be considered in Part II.
utilized in the formulation of educational policy:

The last three reports of the (Central Advisory) Council have shown how closely associated are the home and social circumstances and academic achievement. Is this just one of those given facts about which the schools and community can do nothing? To try to answer this question, we set on foot a national survey. (p.1, vol.1)

The Plowden Report Examines data gathered from a survey of about 3000 students from a total of 173 schools. Background information about each child was gathered from interviews with the parents, and the class teachers. Interviews with the head teachers provided information about school organisation and staffing, and the relationship of the school with the parents. The attainments of the children were measured by reading comprehension tests and, for the younger children, picture intelligence tests. The issue of parental attitudes was of central concern to the Council:

The surveys carried out for the last three reports of the Central Advisory Council, and other research, have provided powerful evidence linking home circumstances with the pupils' educational progress. It was clear that the association between the occupation of the parent and the achievement in school of the child must arise, at any rate in part, from the association between occupations and attitudes and that the variations in attitudes might account for a good deal more of the variations in achievement. If therefore seemed desirable to attempt to estimate the influence of occupation, irrespective of attitudes and of attitudes, irrespective of occupation. p. 91, vol 2

The Council found, in fact, that when all other variables were controlled,
parent attitudes were the single most significant predictor of academic achievement.

The variation in parental attitudes can account for more variation in children's school achievement than either the variation in home circumstances or the variation in the state of the school. p. 181, vol 2

At both 8 and 11 years, the highest scores, controlling for status and school factors as well as individual starting points, were made by children whose parents were rated as "interested" in their education; the lowest scores were made by those children whose parents were the "least interested".

Further, the Council pursued the effect of status factors on parental attitudes and found evidence which suggested

...that parents' occupation, material circumstances and education explain only a quarter of the variation in attitudes, leaving three quarters or more not accounted for. This implies that attitudes could be affected in other ways and altered by persuasion... Parental attitudes appear as a separate influence not monopolised by any one class... (therefore) schools can exercise their influence not only directly upon children but indirectly through their relationships with parents. p.36, vol 1

A reanalysis of the Plowden data undertaken by Henry Acland (C.E.P.R.) suggests, however, that while parental interest is important, the Council misspecified the central features of this variable. The Council, as we will discuss in more detail in Part II, considered "parental attitudes" or "parental interest" to be reflected and generated by frequency of contact with the school. With this in mind, the Council in fact designed and implemented a "Minimum Programme" intended
to increase school-parent contact. Acland, to this point, has demonstrated that when individual parent differences in frequency of school contact are controlled, the level of parent participation maintained by a school (the contextual effect) has no significant relation to school achievement. Thus, for example, in a school which evidences a high level of parent involvement in PTA meetings, the child of a parent who does not so participate will not score significantly differently on achievement tests than will his peer whose parents are active in school meetings. One can conclude from Acland's reanalysis that the overall climate of parent contact with the school, per se, does not significantly affect individual student achievement.

The general issues to which efforts to involve parents should be addressed are fairly well established by the literature: the critical parent variables fall into the area of attitudes and behavior, net of social class, evidenced by parents in their interaction with the child and in the climate of the home. The literature does not deal, however, with the question of how best to implement change in these important variables. The Council's conclusion regarding this question is most apt:

...although we may be confident that there is ample scope for persuasion, (we recognise) that to find the right kind and amount of persuasion will be a difficult and delicate experiment, needing much ingenuity and tact. (p. 82, vol II)
Several different and specific program designs are suggested by the literature; indeed, existant program strategies are almost as numerous as the variables considered in the literature.* On the whole, however, parent involvement programs fall into one of two general groups:

1. PARENT PARTICIPATION: programs which seek to foster improved home-school relations and understanding through (a) increased parent participation in school sponsored activities or (b) parent participation on advisory groups.

2. PARENT TRAINING: programs which expressly aim at providing parents with training designed to furnish them with skills specifically relevant to involvement in their children's education.

In considering the relative success of each parent involvement strategy and the contribution made by parents to program outcome, it is useful to examine the techniques and methods chosen by various programs to implement their objectives. Descriptions of parent involvement programs will be used to illustrate the specific program designs employed in each of the general program models. The programs outlined were drawn from a review of university demonstration projects, some 500 Title I programs**, an examination of the general compensatory

*Because goals and objectives often overlap, we have found it helpful to classify programs by the primary focus of their implementation strategies rather than by objectives. The terms "goals" and "objectives" as used in this paper refer to the long range and specific outcomes formulated by the programs reviewed--what the programs are trying to accomplish. In many instances, the available documents did not include statements of observable, measurable goals. In such instances, an attempt was made to infer goals from described activities.

** Title I evaluations were collected by O.E.P.R. in conjunction with a study of Title I undertaken for the Office of Education. State Title I coordinators were asked to recommend programs of any size or location which were (con't next)
education literature. In addition, field trips were taken to Connecticut, Nashville and California. Three criteria constrained program selection:

1. the success of the parent program and the project of which it was part;
2. replicability of the program design;
3. quality and comprehensiveness of the program evaluation *

PARENT PARTICIPATION MODEL

Concomitant with goals of "significant gains" in student achievement, programs adopting strategies of parent participation also articulate a number of common attitudional and behavioral objectives. Universally, programs employing parental participation as a part of a compensatory effort hope to effect change in parent attitudes and behavior which relate to education generally and the school specifically. These programs hope to encourage a consistency and mutuality of values and goals between the home and the school with the view that a change in parental attitudes about the school and knowledge of school affairs

***(con't) "successful", in that they met their own objectives, cognitive or affective. The evaluations of projects so recommended constitute our sample. Programs which contributed most substantially to the conclusions presented in this paper are listed in the Bibliography section.

* This last criterion is particularly problematic in the instance of Title I programs. As the recent Congressional and intra-O.E. debates attest, the issue of parent involvement is particularly thorny. Although all Title I programs are required by law to involve parents, a large number of programs afford "paper" involvement at best. Consequently, it is often difficult when reviewing Title I evaluations to distinguish between the efforts of an evaluator to meet federal guidelines and genuine attempts to involve parents. In addition, many states did not require description of parent activities in Title I programs until fiscal year 1971. Consequently, a number of programs, following state evaluation formats, may have failed to report and evaluate effective methods of parent involvement.
will facilitate and support student development. (n.b. Bloom, Deutsch, Wolf) Many programs, in addition, try to assist parents in improving home conditions for the child and for the family as a whole. Some administrators and many community members see increased parent-school contact as a means by which teachers will gain better understanding of the needs and problems of the low income child. Parents are included on advisory councils, ostensibly to this end, as well as to suggest specific ways in which the school can better meet the needs of their children.

A number of methods have been developed by compensatory programs to achieve a high degree of parent participation with these ends in view. Compensatory programs have utilized the following participation strategies singly or in combination:

1. school sponsored group meetings such as the PTA, lecture or demonstration meetings and informal social gatherings

2. involvement of parents as volunteers in the classroom

3. parent membership on parent or district advisory councils or on "task oriented" parent committees

4. invitations to parents to visit the school for open-houses or for teacher conferences.

5. school initiated contact with the home—utilizing teachers, social workers or community members as home visitors or home-school liaisons.

Typically, these programs have not been evaluated in a fashion which is helpful in answering the questions posed by this paper—what are the outcomes of parent involvement strategies? Most programs measure and report only the overall program success in raising student achievement;
little attention is paid to the effectiveness of parent programs, per se, or to the specific contribution of parents to program outcome or to the effect of participation programs on the parents themselves. Measures of success with parents, where employed, are commonly locally constructed instruments designed to measure parent response to the program or parent attitude change. Teacher questionnaires which also address these questions are of the same genre, thus affording little in the way of comparability between programs or strategies.

Despite these methodological difficulties, inherent in a parent-teacher questionnaire interview assessment of effect, a review of program evaluations does make it clear that there are a number of similar things happening in programs that have been successful in reaching parents and maintaining a high level of participation. Generally, all of these programs report increased parent understanding of their child and what they can do to help him, and increased parent-initiated contact with the school. It is also typically reported that, as a result of increased parent participation, parents know more about the "special" program in which their child is enrolled and that parent morale about the school and its efforts to help their child is higher than before. Also reported frequently is a change in teachers' attitudes about and understanding of low-income children and their families. Evaluators report that both teachers and parents have achieved a more realistic view of the problems faced in the home and in the school. The
comments of a Newark evaluator are representative:

As a result of participation by community people, there is greater understanding on the part of the community of the problems in the schools. In addition, school personnel have a better understanding of how the problems of the school relate to the conditions and needs of the immediate community. Those groups of parent and educators have less fear of each other and greater appreciation of the contributions each can make. (Newark Title I evaluation, FY 1968-9, pp.21-2)

Our choice of programs illustrating successful parent participation techniques will be made clearer by a composite description, at the outset, of the "usual" or typical parent participation strategies, most particularly those found in Title I programs. The vast majority of compensatory programs report (implicitly or explicitly) disappointing relationships with parents and low attendance at parent functions. Where these results are reported, one will typically find that parent participation is sought through PTA-type meetings which are formal in structure and tone and run almost entirely by school personnel. Such programs spend a great deal of time on organization business matters and their programs usually consist of guest lecturers or presentations by the school staff. The scheduling of these meetings rarely acknowledges other demands made on the time of low-income parents by jobs, children or the like. Oblique invitations to school open-houses and non-specific notes from teachers to "come-and-see-me-sometime" are also common. The notes from the teachers which follow this beginning of the year communique usually concern classroom problems.

* A bi-lingual parent in Santa Ana, California, said that the absurdity of this program format for low-income parents cannot be fully appreciated until one has heard Roberts Rules of Order translated into Spanish.
By law, all Title I programs are required to have a District Advisory Committee (DAC) which includes parents and through which parents can make their feelings regarding resource allocation and program design known. We were unable to locate an evaluation which indicated a DAC functioned as intended by law. In a large number of instances, the parents who do find themselves on DACs are either (1) hand-picked by school officials for their past "cooperation" or (2) also employed by the school system as a teacher's aide and thus owe their job to the school system or (3) never told of their membership. (Martin-McClure Report; also conversations with State Department of Education officials in Connecticut and California; conversations with community members in Hartford, Los Angeles and Santa Ana.) Where DAC membership and responsibilities are understood, parents are often prevented from assuming them. For example, the Chairman of a DAC in Los Angeles was not invited to any of the staff meetings which discussed the budget for the coming year and was shown the budget, which requires his signature, only two hours before it had to be submitted to the state.

The programs presented below, then, are atypical not only in their degree of success in effecting parent participation but also in the strategies employed to that end.

*New federal guidelines for F.Y. 71 and a number of new state guidelines are more specific regarding DAC composition and membership. Thus, the current dearth of DACs which evidence genuine parent participation may be alleviated somewhat.
SUCCESSFUL PARENT PARTICIPATION STRATEGIES

As we noted, program evaluations often comment gloomily about lack of parent participation in school meetings, particularly those following a PTA type format, and draw conclusions about parent "apathy". Sprigle's LEARNING TO LEARN preschool demonstration program in Jacksonville, Florida, is an example of an imaginative yet instructive means by which parent participation in school meetings is promoted but which circumvents many of the usual school-parent-teacher meeting difficulties. The aim of the LEARNING TO LEARN program was to help children acquire flexible strategies for dealing with challenges and problems. Program planners were therefore concerned that parental teaching styles reflect the philosophies put forth by the program and thus continue efforts in the home. Parents were involved through monthly discussion groups, held on Sunday afternoons. The program director made telephone calls to all parents not present 15 minutes before the meeting; parent attendance was always nearly 100%.

Many programs have experienced poor attendance at parent meetings precisely for the lack of such last minute reminders. Most programs typically send out schedules of parent meetings weeks, if not months, before the meeting is to take place. Such policy assumes a kind of organization and planning not typical of the population to which the compensatory efforts are addressed. Even last minute reminders, however, will not result in high parent attendance unless the meetings themselves are of interest to the parents and/or conducted in an informal, flexible fashion.*

* The experience of the Howard University Preschool Project is a case in point. The parent participation mechanism, "adult activities", (con't next)
At the initial "LEARNING TO LEARN" meetings, parents were asked to indicate "how can we help your child this year?" and "what help would you like to get from the discussion groups?" At the beginning of the parent meetings, the program director, teachers aides, and teachers described what they did in class. Videotapes were shown to parents so that they could see the connection between what was actually happening to their children and the objectives they, the parents, had articulated in the beginning. "In this way, the videotapes subtly set up the LEARNING TO LEARN approach as a model parents could emulate in their at-home interactions with the child." Following a discussion of the videotapes, activities were suggested which the parent could initiate at home with the child.

The "LEARNING TO LEARN" project was evaluated by comparing the performance of the experimental children to two control groups. One control group

*(con't) involved group meetings or social gatherings at prearranged times. The schedule for the meetings was distributed at the beginning of the year; the meetings were of lecture format and the social gatherings merely that. Attendance at the Howard group meetings ranged from 1 to 8 parents, the median being 4 (out of 36 families). The same 11 families accounted for 75% of the total attendance at group meetings. The second year of the project, slightly fewer parents attended and more did not attend at all. The Howard program, like most Title I programs, failed to acknowledge the difficulties involved for lower-class parents in attending school functions—attendance may mean loss of job time, baby-sitting expenses, or at the very least more demands on the time of a parent who is already fully occupied with the difficulties of day-to-day living. That 24 out of the 26 families were represented at the first Howard meeting would indicate that parents would have made the effort to attend if they felt the meetings to be of value to them.

** In this program, as in a number of program descriptions that follow, the program formats presented would appear to belong more accurately to a parent training model. These programs are included here, however, since the explicit purpose of the program was not to train parents but rather to increase school-parent contact through attendance at group meetings. As we will see, programs which offer parents some substantive help in working with their child (as opposed to other program foci) are most successful in getting parents to the school and in maintaining high participation.(con't next)
had been exposed to a traditional nursery school curriculum and the second control group had received no preschool treatment. At the end of the preschool program, the experimental group was found to be significantly superior (p < .001) to both control groups on the Binet, the PPVT and the ITPA series (see Table 2). In a followup comparison at the end of first grade, significant differences remained. One year after the end of treatment, the LEARNING TO LEARN children remained greatly superior to the children having no preschool (p < .001) and also performed significantly better (p < .05) than the children exposed to the traditional nursery school (see Table 3). These follow-up comparisons also revealed that the differences between the control group children were no longer significant. Beyond mention of high attendance at parent meetings and parent expressions of interest and enthusiasm at seeing films of their children, there was no attempt made by program evaluators to look at the parent component of this program. The continuity of program effects, however, might suggest that parents did in fact continue to use the LEARNING TO LEARN techniques after the end of treatment.

The experience of the EL RANCHO UNIFIED SCHOOL DISTRICT in California also underlines the importance of program content if parents are to be involved through group meetings or group activities. The 1970 evaluation of the EL RANCHO TITLE I elementary program states that a major objective for the year was the development of parental understanding and support of classroom

***(cont)*** The strategies presented under this model, then, are thought of as techniques for achieving parent participation, not parent training.
learning activities through involvement.

A reading of the EL RANCHO evaluations for previous years reveals that this Title I program has not always experienced their present success in reaching parents. The major change in program design for F.Y. 1970 was a shift away from a formal program structure to a more informal means through which parents and teachers could meet and talk. A program called "instructional materials" was developed as a result of consultation with a number of Title I parents. Teachers were asked to list each child's special area of difficulty and specify the type of instructional material that would best aid and motivate that particular child. Each child's problem was explained to the parent and material needed to alleviate the problem was provided. Together, parents and teachers worked to devise materials to help the child. For example, if the child was weak in math, the mother made simple addition and subtraction face cards. Flash cards were made by mothers whose children needed help in vocabulary. Each item was taken home and kept there. In addition, the mothers made educational games for the children to use in the classroom. As a result of this class, side groups were formed by the parents. These groups consisted of parents whose children had common problems and needs. The parents discussed the problems, offered possible solutions and related how each of them had dealt with certain difficulties of their own children. For many parents, this was the first contact with other parents of school-age children in their neighborhoods.

The school hired a community member to serve as a bi-lingual community
relations advisor. She made visits to Spanish speaking parents to interpret the child's progress in school and discuss possible ways the parents could help the child. Teachers also made home-visits, once a relationship was established through the parent group meetings.

Other meetings were set up at the request of the parents--classes on nutrition, home decorating and the like. A class was begun, at the parents' request, to acquaint those applying for the instructional assistant position with the mechanics of taking an exam. A year long effort was put forth by the parents to establish a library on the school campus. The mothers catalogued books and the fathers cleaned and painted library shelves. Evaluators report that this project gave the parents considerable pride in themselves and in their school.

Standardized instruments were used to assess gains in grades two through six in reading and math. The gains between pre and post testings for these students range from a 6 month minimum to a nine month maximum--a minimum of a month for month gain. While these gains did not succeed in closing the gap between the Title I and non-Title I students, the rate at which students had been falling behind was retarded. The results in math were not as strong, but still represented a month for month gain. (see Tables 4 & 5)

The parent involvement of the EL RANCHO project was evaluated by a
parent questionnaire. Parent attitudes about the program and the school were strongly positive. For example, 92% of the parents stated they felt the program had brought them closer to the school. (We have included this questionnaire as Table 6, as it is representative of this type of instrument). The spirit and sense of mutual cooperation which was established between parents and the schools in this program is genuinely unusual in the Title I universe. The strategy employed in this program—engaging the parent and the teacher together in activities for the benefit of the child—is one of the most successful means by which to approach the barriers of social distance and parental hesitation.*

The PRESCHOOL PROGRAM in FRESNO, California, is a Title I program which has made effective use of parents in the classroom and appears to have an effective Parent Advisory Committee, although the evaluation does not describe the PAC in detail. The program, which emphasizes language development, enrolls children from 3 to 5 years of age, the majority of whom are Spanish-speaking, Mexican-American children. The bi-lingual nature of the community served by the Title I program as well as the program emphasis on high

* A study of special primary programs in five schools (Jenkins and Phillips) drew the same conclusions. The five project schools had had difficulty in reaching parents. According to staff reports at the conclusion of the study, parents involved in the special programs responded directly to the needs of their own children but not to the broader social and business needs of the school or community. The project staff found that parents would be more likely to attend a meeting where his own child was performing or where his child's work or specific problem was being discussed. In fact, in four of the five schools, the administration found no other adequate method of involving parents. The fifth school had somewhat more success with other parent involvement techniques because, from the outset, they had involved the community through local community councils, thereby making school problems community problems and establishing from the beginning an atmosphere of mutual trust and respect.
adult-pupil ration gave impetus to efforts to involve parents. Evaluators state that contact with the parents and their participation is the classroom was essential to the success of the program.

The goal toward which we worked was to have a parent or responsible adult from each child's home participate one day a week at school, attend parent meetings and join the class for study trips.

Spanish speaking aides from the community were employed to make non-English speaking parents feel more comfortable at school and urge their participation. Each classroom was staffed by at least one parent volunteer in addition to the teacher and teacher's aide. Parents were allowed to play a "full instructional role" in the discussion-activity group of which they had charge. Teachers in the FRESNO program put forth considerable effort to prevent parents from feeling that they were merely "helpers". This program thus avoided a pitfall commonly encountered when parents are encouraged to volunteer in the classroom and subsequently given nothing but menial and janitorial responsibilities. Not surprisingly, many parents feel such assignments are degrading and decline to participate in such a role. Many of the parents in the FRESNO program went on to become paid teacher aides, with full staff involvement, after their volunteer experience in the instructional program.

Parent meetings were scheduled twice a month, at times established by the parents. The meetings were informal and of discussion format. They centered for the most part on topics in which the parents had expressed interest: child rearing, nutrition, basic adult education and family health. Study trips to nearby areas were considered an important part of the curriculum. Often, parents were taken on the bus trip beforehand in
order that, on subsequent class trips, they could serve as guides and instructors for their children. Parents who were unable to attend classes, parent meetings or other school activities were kept informed of the children's and the school's activities through bulletins, letters and telephone calls and home visits made by other parents or teacher aides. In this way, parents who originally expressed hesitation about participating in the preschool activities were encouraged to take part.

PPVT were administered to assess the success of the program. Pre-test/post-test comparisons showed average gains of approximately 15 points, a gain significant at the .05 level. Teachers and social workers rated the effects of the program on parents and children as "positive." Evaluations also indicate that the program had prompted important changes for the parents themselves. It was observed that during the school year, parents of the preschool children became interested in furthering their own education. All mothers whose children were enrolled in the classes at one location, for example, attended an adult school sponsored jointly by the county welfare department and the Fresno Adult School. It was also noted that, as a result of becoming involved in the preschool programs, many parents and aides assumed leadership positions in the public schools as their children entered and went through the grades. Indeed, Dr. Richard Scanlon (Research for Better Schools) reported that Fresno was the one IPI program site in the country where the "community is really running their program". (conversation with Dr. Scanlon, October 15, 1970)
DOES PARENT PARTICIPATION MAKE A DIFFERENCE?

While the preceding program examples illustrate methods which have proven successful in enlisting the support and participation of parents, they tell us little if anything about the specific contribution of parent participation to program outcome. In addition, there has been little experimental work which has attempted to assess the effectiveness of parent participation. We were able to locate only three such efforts. Two were generated by the Plowden findings reported in Part I and the third reports a long-term demonstration project conducted in Illinois.

The first, undertaken in cooperation with the Institute of Community Studies, was a small scale demonstration project designed to "show the kind of thing that might be done by teachers to influence parental attitudes". (Plowden, p.43, Vol 1) (This study is reported in full by Young and McGinley.) Two experimental and control schools were selected in an inner city area. These schools were chosen to be typical of the three-form entry junior schools throughout England; most of the fathers were manual laborers. The "Minimum Programme" recommended by the Council for improving home-school relations was initiated in the two experimental schools. All parents in the experimental schools were invited during the school year for a private talk with their child's teacher; parent group meetings were held at which current teaching methods were explained. Leaflets were circulated giving information
about the school, its objectives and the methods employed in the school. The educational performance of the children, judged by tests of verbal and non-verbal intelligence and standardized reading and mathematics tests, was determined in the beginning of the school year, before the efforts to involve parents more closely began and again in May, after the program was completed. We are told that

...on the whole, both parents and teachers appreciated what was done. Most parents considered they knew more about the school towards the end of the year than they had at the beginning and teachers that they understood the children somewhat better for knowing more about their home environment. (Plojden, p.43, Vol 1)

The results of the cognitive measures, however, did not indicate highly significant differences between experimental and control groups. There was some improvement over time in the children's performance, particularly in math, but generally the experimental results were disappointing. When the scores were stratified into two groups, high-ability/low achievement and low-normal ability/high achievement, it was found that the underachieving group appeared to benefit most from the experimental treatment. This finding, possibly, is nothing more than a regression effect.

The results of a second investigation conducted by the Council were even less positive. The Council measured the achievement of students in a subsample of the sample schools where relations between parents and the school had been judged by the H.M. Inspectorate to be unusually good. Subsequent site visits by the Council supported the judgment of the
H.M.I. These schools in fact had excellent relations with parents and high parent participation in school activities.

One school, for example, made a point of arranging evening functions for parents two or three years before their children were old enough to enter the school. Displays of pictures, books and toys were arranged and informal discussions were held about ways of bringing up young children. Other schools wrote to parents when their children first entered school, explaining ways in which they could help with their child's education and detailing the objectives and methods employed by the school. In another school, fathers more than mothers were the moving force in the almost 100% active PTA. For example, the parents built a swimming pool which is open in the evenings and on weekends and a greenhouse in which the children raise flowers for the school. The school also sponsored an annual summer school for the parents, divided for the most part into groups for the study of methods used in the school for teaching math, reading and so on. In another PTA, the parents formed a "money raising force" which organised a series of fairs at which articles made by the mother were sold. The proceeds were then given to a group of fathers who, under the guidance of a few skilled men, learned to use tools new to them. An information center was built on the school grounds and while it was being erected, the children wrote scores of letters to obtain material and data for the display. Later, a children's
theatre, a nature museum and a nature laboratory were built by the fathers.

At every stage, the children helped their parents by drawing up plans and preparing costings as part of their math lessons. As a result of all of this, the pattern of home-school relationships began to change. Instead of only meeting parents who had chips on their shoulders, my staff found much smoother and more positive relationships for all of us to work with... in schools which give practical help of this kind, discussions with teachers about methods used in school often arise informally over the job and enable parents to understand how the school works and how to help their children more effectively...

(Plowden, pp.38-9, Vol I)

However, when the achievement scores of children from this subsample of schools having "good" parent participation were compared to the scores of children from the larger, representative sample, no significant differences were found.

When looking at data such as that reported by the Institute for Community Studies and other program evaluations, one wonders if longitudinal data might not illuminate effects of parent participation not immediately apparent on a short-term, academic year basis. A study by Liddle, Rockwell and Sacadat does look at the effects of parent participation over time. The authors were principal investigators in a four year demonstration project run in the Quincy, Illinois public schools. The objectives of the demonstration project were:

1. to understand the child more fully through information
obtained by testing, interviewing parents and observing children.

2. to provide a richer background of intellectually stimulating experience for the child through a better use of community resources, school facilities and materials

3. to enlist the support, interest and cooperation of the parents in helping to motivate the child and to develop his interests and abilities (p.60)

Rather than selecting a sample of children who were the "most disadvantaged" and thereby labeling them as such, the investigators decided that the percent of culturally disadvantaged youngsters in the school was so high that probably any child who grew up in the neighborhood was to a degree disadvantaged. Thus the experimental group consisted of all children in one grade of the four project schools, located in the oldest section of the city. The control group included all children who attended kindergarten in the four project schools a year previous to the experimental children. Around 75% of both groups were available for post testing at the completion of the study four years later. By including all eligible children in the study, possible confounding effects of school or teacher differences were thereby eliminated.

The basic design of the study was to look at one group as it passed from kindergarten through the primary grades and compare the group at the end of the third grade with the next group to enter kindergarten, the experimental group. The investigators hoped to improve the life experience of the experimental group through curriculum modification,
work with parents and after school and summer experiences utilizing volunteers. Liddle et al report that perhaps the most important curricular modification was the initiation of a "June kindergarten" to which each child came for one week in the June prior to his school entrance to meet with five or six of his classmates and his teacher. During this week, parents were encouraged to meet with the teachers. Home interviews were begun at this time to collect information about the home and the degree of the child's "cultural handicap". Home visits by teachers were continued throughout the four years of the program.

Liddle found it essential that the home visits and services were offered in a non-punitive fashion:

Most of the parents have met a succession of relatively untrained public welfare workers and probation officers and expect home visits to be unpleasant experiences. Like their children, the parents need to feel that they are doing a good job at least in some areas.

The worker talked with parents about developing their own abilities and expanding their horizons in the community. As a result of these discussions, several of the parents went back to school part time.

Parent participation was encouraged through group meetings at the school. In the beginning, attendance at the PTA in the four project schools was poor. In some cases, teachers outnumbered parents at meetings. Parents told family workers they did not attend PTA meetings because they disliked the formality of the meetings and the business programs.
The staff therefore used a new approach to parent meetings which then became an integral part of the work with parents. The meetings were conducted informally, over coffee, and were used as an opportunity for parents to meet on a group basis with other parents having similar problems with their children. As in the population Hess examined, the authors observed that "in some neighborhoods, the parents have a strong need for social contact with other families because they do not belong to organised groups." The parents in the project schools were found to have no voluntary memberships, few social contacts and no civic involvements.

The parent meetings served to interpret the child's progress to the parent and to provide social experiences in which the parent and the teacher could interact. Since it was difficult for many of the parents to attend a meeting without a strong feeling of security, family workers made home visits prior to the meetings and often accompanied the parents to the school. Provision of babysitters solved additional problems. Parents determined program content; they wanted to know what the children were doing in school, what report cards meant and what new teaching methods were all about. Demonstrations by teachers and pupils focused on the child's class activities. In the spring, parent programs centered around the summer vacation and what the parents could do to help their children be better prepared for the fall.
Parents played an important part in class field trips. They were responsible for planning many of the trips and arranging transport. Parent participation in the field trips was seen by staff as important "...because it demonstrated to the children their parents' interest in their schooling and gave the parents a chance to see how the teacher capitalized on informal learning opportunities."(p.22) When a child's father worked at a place that was being visited, every effort was made to have him serve as guide and teacher for the children.

The evaluation of this demonstration effort makes it clear that the staff was very successful in raising parent morale, involving them in school activities, and establishing new and more positive relations between parents and teachers. However, even this successful parent program does not generate measurable parent effects. The outcome measures indicated that the experimental group, which began the experiment somewhat more "disadvantaged" than the control group in that their parents were less well educated their IQ scores were significantly lower and reading readiness scores poorer, had caught up to and passed the control group on IQ and achievement measures and had somewhat more positive pictures of themselves as learners and classroom citizens. The improvement of the experimental group was most evident in children rated initially as "most disadvantaged"; because of the sample selection and measurement procedures, this could not be a regression effect and represents
genuine gains. (see Tables 7 A, B, and C)

The authors then utilized the scores of the experimental children and control children having the same parents in an attempt to separate curriculum and enrichment effects from the effects of the program for parents. It was hypothesized that since these children had had the same teachers and the same parents, group differences might logically be attributed to the effects of field trips, summer programs and the efforts of volunteers. This analysis indicated that on the WISC and PPVT measures, the average scores of the control children went down over time while the average scores of the experimental siblings went up. These results suggest that parent participation efforts in fact had little influence on achievement and that measured achievement gains could be attributed to other components of the program treatment. (see Table 7D)

CONCLUSIONS AND IMPLICATIONS

Although parental enthusiasm for the compensatory programs and their part in these efforts is a universal finding, there is scant evidence which would allow us to conclude that parent participation leads to significant achievement gains. Indeed, the Plowden and Liddle findings suggest that, in fact, parent participation and consequent improved relations between home and school have little or no positive influence on student achievement. Acland's reanalysis of the Plowden data would lead us to expect these findings. Our own review (C.E.P.R. memo to the Office of Education, August 1970) cannot provide exception.
Even though C.E.P.R. 's review of "successful" Title I programs found that parents do participate in the overwhelming majority of successful programs* and that parental involvement of any kind is conspicuously absent in programs which fail to meet their objectives, all that can be said with justification about this finding is that successful programs and parental participation appear to covary together. While it is tempting to infer that the participation of parents in some way contributes to the success of the programs, it is perhaps closer to the truth, as we have suggested earlier, to say that the personnel who staff successful programs are also the personnel who work well with low income individuals and who, with or without parent participation, can implement a successful program. Dr. Alexander Plante, Chief of Compensatory Education in Connecticut, made the same observation. (conversation with Dr. Plante) In his view, only program administrators who are "secure" will not perceive the involvement of parents as "threatening". Dr. Plante defined "security" as confidence in one's ability and capacity to implement a good program and requisite to any genuine efforts to involve parents. The Racine, Wisconsin, Title I Home Reading Language Project is a case in point. In program design, this project looks not unlike examples of "good practice" we have seen. However, the program did not produce significant gains on standardized tests nor significant participation by parents. An unusually honest program evaluator

* The American Institute of Research and the Great Cities studies report similar findings.
suggested that the prime cause for program failure lay in staff attitudes and in staff-home relations:

By and large...the relationship between the home, parents and the aide was poor...There seems to be a definite lack of communication among the personnel in this program and a marked lack of cooperation on the part of the classroom teachers. Many teachers seemed to feel that the HRL program placed too much of a burden on them and hence, were unwilling to carry out the prescriptions of the program supervisor.

Our review of compensatory programs, however, would lead us to suggest that the conclusions presented by Acland, as well as the implications of the Institute for Community Studies report and the Liddle results, must be viewed as conditional. That is, while we concur with the general thrust of Acland's findings regarding the contextual effect of parent participation, we would suggest that a simple measure of level of parent participation in school activities does not take into account content difference of parent activities or participation strategies. The Plowden "Minimum Programme" and the Liddle participation designs, for example, were primarily concerned with raising parent morale and increasing frequency of parent contact with the school. These participation techniques did not, on the whole, provide parents with concrete suggestions of ways in which they could contribute to their child's educational development. This is an important distinction. The question of the effects of parent participation on student achievement might be answered differently if a finer analysis were made taking into account differences in program content.
Thus, while the question of the effectiveness of a parent participation strategy remains unresolved, this review makes it clear that the content of the parent program, and the means employed to reach parents, maybe critical to the success of this type of program and that general participation strategies do not work. We have seen that it is futile to employ middle class strategies to reach lower class parents and sustain their participation. Brunner (1967) has observed that parents of low income students are not ordinarily school oriented. Indeed schools appear hostile and threatening to adults who themselves were victims of the system (Narburger). A number of studies have demonstrated that parent participation in school activities or any formal activity, like the academic achievement of their children, covaries with social class. (Correl cited in Remson), Liddle (1963), Loeb, Havinghurst, Flownden, Sexton, Warner, Wrightstone) Parent participation strategies which either fail to recognise these social class differences or merely try to overcome them with "more of the same" are bound to fail.

Successful parent participation programs have not merely expanded existing efforts to reach parents but have initiated new measures, such as those we have outlined, aimed specifically at the needs and interests of low income parents. Lower class parents, will not risk embarrassment or financial penalty to attend formal and irrelevant school functions such as the PTA, afternoon teas, nor will they respond
to invitations from the teacher to "drop by sometime". Parental participation will be sustained only by programs and agendas which have immediate and practical import for the parents and which are structured so as to minimize the social and educational distance between the parents and the school.

While lower class parents will listen politely to school personnel requests for participation, they respond indeed only to invitations issued by other members of the community, whom they trust and who share many of the same problems and difficulties. Parents in Waterbury and Hartford, Connecticut told us that the problem of non-response is not solved completely even by employing professionals or teachers of the same ethnic group who make home visits or parent contacts. In the eyes of the community, even they cannot completely understand the problems and fears. Black mothers in Hartford said, further, that black administrators and teachers are viewed by the community of parents as "cop-outs", cooperating with a system which is destroying their children. Dr. Alexander Plante has worked extensively with black and Puerto Rican groups in Connecticut. He maintains that the only way he has found to reach low income parents is to enlist the cooperation of a small group of parents in similar circumstances and let them devise and implement strategies to contact.

* As a parent in Los Angeles said: "After working 48 hours a week, I'm not going to take time to go to a damn tea party. I just want what's in it for me and what's in it for my kid."
parents and enlist their participation. Community and state department of education people in California told essentially the same story: successful parent participation programs are designed and run by the parents for the parents.*

What would be the anticipated outcomes of parent participation programs meeting the above criteria? For one, it is our feeling that only in programs providing parents with specific suggestions for helping their child is one justified in looking for student achievement gains as a direct result of parent participation. That such effects will be found, however, for the moment must remain conjecture. We can conclude with more confidence, however, that effective parent participation can play an important part in identifying and developing indigenous community leadership as well as acquainting parents with new opportunities for their own personal development. Successful parent participation has also been seen to go along way in reducing the misunderstandings and misconceptions on both sides of the academic fence. Undoubtedly, too, the knowledge and information parents gain about the activities of their children and about the school, regardless of program focus or content, allow parents to better understand if not actively

*Results of an experiment by Heisler and Crowley underline this point. The authors examined the effectiveness of two parent participation strategies in reaching parents. In the first year of a compensatory program, a newsletter was sent to parent, a series of teas were held at which the parents received information about school procedures. Teachers with a social work background served as home-school liaisons in an attempt to encourage parent participation. Few parents responded and the level of parent participation remained unchanged from the previous year's virtual non-participation. The second year, a steering committee of parents was added to the program. The committee met every week, outlined program content and assumed total responsibility for contacting parents. The committee parents made telephone calls, wrote letters and made home visits to every parent in the school. Parent involvement, as measured by attendance at school functions, increased two fold in this second year.
contribute to the schooling of their child.

**PARENT TRAINING MODEL**

Parent training programs run the gamut from modest efforts to train the mother to work more effectively in the home, to paraprofessional training programs; to workshops to train parents to participate intelligently and effectively in school affairs. The parent training model subsumes all of the cognitive and affective objectives articulated by parent participation programs but, in addition, attempts to effect change in parent perceptions about themselves, as the first step toward change in school related attitudes, aspirations and behavior. Through skill training, programs of this model hope to increase parental self-confidence, sense of worth and dignity and consequently their ability to participate in their child's education.

Two assumptions are important to this type of program: one, that the lower class parent is "trainable" and two, that once trained, can contribute substantially to their children's cognitive growth, classroom affairs and/or the conduct of school affairs. There is consistent evidence in the literature to support an assumption of "trainability". For example, Levenstein (1969) reported success in stimulating cognitive growth by encouraging change in maternal teaching style. Over a seven month period, a total of 28 toys and books were demonstrated
to mothers by home visitors and left in the home. The purpose of the toys was explained to the mothers and they were shown how to continue use of the toys. Mean I.Q. gains of 17 points were found in the experimental children after an average of 32 home visits.

Merle Karnes also conducted a program designed to investigate the "trainability" of low income mothers. Karnes and her associates selected as subjects children between three and four years of age, whose mothers received Aid for Dependent Children. The subjects were divided into two groups, neither of which was enrolled in any kind of preschool program. The mothers of the experimental children were invited to attend an 11 week, 2 hour a day training program where they received instruction in teaching their child at home and assembling materials from objects in the home. The mothers were paid at the rate of $1.50/hr for their participation in the training sessions. Pre and post tests with the Pinet and ITPA instruments showed that as teachers, these mothers achieved Binet I.Q. gains in the children's post test measures averaging 7.46 points as compared to a .07 gain observed for the control group children. The ITPA results also significantly favored the experimental children.

An experiment conducted by Earlaleen Badger, as part of the Karnes demonstration program, reported similar results. The experimental and control groups of mothers were matched for educational level as well as racial mixture and sex of the target child. The experimental
mothers were given training similar to that given by Karnes. At the end of a two year period, the infants of the trained mothers attained a mean I.Q. on the Binet of 106.3 while those children of the control mothers averaged 90.6, a difference significant at the p<.05 level.

SUCCESSFUL PARENT TRAINING STRATEGIES

Dr. Susan Gray's experimental work, conducted at the Demonstration and Research Center in Early Education (DARCEE), George Peabody College for Teachers, Nashville, provides the most carefully designed and evaluated parent training programs we have encountered.* Because of their thoughtful and extensive documentation, the DARCEE programs are worth examining in some detail. They pull together in one series of evaluations all the points of "good practice" we might wish to illustrate with any number of similar programs.** DARCEE has experimented both with programs designed to (1) train mothers to work with the child in the home through home visits and (2) train mothers by means of a highly structured paraprofessional training program which involves parents directly in the classroom. ***

*The DARCEE evaluations do not define DARCEE's sampling procedures. We learned from Dr. Gray that the only parameters restricting selection for the DARCEE demonstration projects was physical and mental health plus the economic guidelines adopted by Head Start. The original Early Training Project samples were drawn from families in one housing project in the inner city whose children had been seen at the Well-baby Clinic. Dr. Gray reports that the acceptance rate among those parents approached was "very high" (c.90%) and that those parents declining usually did so because of job requirements. Thus Dr. Gray does not feel there is any reason to suspect that the DARCEE sample is biased in any way. She feels that the mothers and children participating in the projects are representative of their SES group.

**Of particular interest here are the similar programs run by Dr. Ira Gordon in Gainesville, Florida and David Weikart in Ypsilanti, Michigan

*** The few public school programs explicitly providing parent training (as opposed to parent participation strategies) usually do so (cont next)
Indeed, perhaps the greatest single innovation to result from Title I legislation has been the use of Title I monies to initiate and expand opportunities for paraprofessionals in the schools. It is important to note, however, that there are several explicit objectives in the employment and training of paraprofessionals:

- creation of jobs for the poor,
- relief of professional manpower shortage,
- teacher assistance,
- provision of a closer link between the school and the community,
- provision of more personalized instruction for the child.

There are, in fact, two really quite antithetical programs implemented under the same rhetorical and legislative umbrella.

Programs of the DARCEE variety take as a goal the training of low income individuals and emphasize a "consumer as participant" concept. Such programs are, in practice, rarely found in Title I projects; indeed we could locate none to use as illustration. Although programs of this genre as closer to the legislative intent, the great majority of Title I paraprofessional programs are intended primarily to relieve the classroom teacher of non-teaching responsibilities. Further, teacher aides recruited for these programs are usually required to have at least a high school diploma—many are college graduates. Therefore, these programs are screening out the very people who, as we have seen, are best able to serve as liaison and interpreter. The paraprofessionals employed by Title I programs are generally neither parents nor, in many cases, even members of the local community. While these programs thus tell us little about the training of parents, specifically, the problems experienced by the public school para programs do give insight into the difficulties usually experienced by this type of program as well as illustrate, by contrast, why the DARCEE programs seem to be so successful.

Teacher resistance and hostility plagues the initiation and implementation of para programs in the public schools. Objections generally take three forms: one, teachers see the hiring of paras as an expenditure of resources which could be used to raise their salary levels; two, many teachers express a fear that the "hard-core" individual will be a "bad influence" on their students; a third and most critical concern is that of classroom control. The great majority of teachers cling to the "professional mystique" and find the idea of shared responsibility untenable. Teachers see the entrance of paras in the classroom as undermining their authority and find it difficult to assume what is essentially a new role, that of coordinator. Interestingly, these objections appear to fade over—through one means or another—paras are installed in a school. In fact, surveys noting these experiences also report that such objections arise mainly in schools yet to initiate para programs.

The carefully designed and sequential para role present in the DARCEE programs does not exist for the most part in Title I programs. Instead the perceptions of the teacher and the para as the role and responsibility of the Paraprofessional are often at variance. This results not only in dissatisfaction on both sides but also in either underutilization or exploitation of the para. Further, despite talk of "career ladders", the majority of Title I programs define jobs that are deadend. A lack of opportunity to grow plus the fact that most paras are paid at the minimum wage, with no consideration given to differential responsibility or length of service, lead to considerable dissatisfaction on the part of the paraprofessionals.
There are several points about the DARCEE programs which should be underlined at the outset. First, the home visitors were carefully selected not only for expertise in the area of child development but also for their demonstrated ability to communicate well with all social levels. In later studies which employed low income mothers as home visitors, the same careful consideration was given to the mothers’ interpersonal skills. Second, nowhere in the DARCEE programs is a "group" approach employed. Each program design explicitly takes into account individual-and family differences and makes every attempt to meet the parent on her ground and structure the program to her needs. There is also recognition given to and accommodation made for the financial, physical and emotional demands typically made on this group of mothers. Third, DARCEE's emphasis on "success" and immediate feedback to the mothers concerning their efforts in the home or in the classroom is a central feature and has contributed substantially to the success of the DARCEE programs. Further, the DARCEE programs do not try to teach the mother the "right" way to interact with her child, implying that she has been "wrong". Fourth, in none of the DARCEE programs are parents given menial or mindless assignments. From the outset the mothers are treated as "teachers-in-training" or as mothers having important contributions to make to their child's development. Fifth, the emphasis placed on the parent programs in the overall design is not seen elsewhere. DARCEE's efforts to work with parents are considered central, not coincidental, to the work with the children. The staff responsible for the parent programs is not employed in any other capacity--as teacher, social worker.
or the like. In most compensatory programs, the involvement of parents is seen as just another and usually peripheral variable in the program design, no more or less important.

The Home Visitor programs which are a part of this general model differ from those seen in parent participation programs in that they are explicitly and primarily intended to teach the mother new ways of interacting with her children and new uses of home and community resources. (Home Visitor programs in the previous model were designed to facilitate the exchange of information between parent and school or to provide the parent with needed social services.) Several DAREE demonstration projects have utilized the home visitor approach as the primary means for training parents. While the specifics of the home visitor programs have varied somewhat from one project to another, the general concept remain the same. Because it provides longitudinal we have chosen to describe the techniques employed in the original Early Training Project (Gray and Klaus 1970).

This demonstration project, which began in 1961, employed certified black elementary school teachers, women in their 40's and respected members of the community, as home visitors. They made weekly home visits to each mother and child in the program for the nine month duration of the program. The mothers all lived in the same housing project and were of similar SES and educational levels. Each target child was also enrolled in a
preschool program at the Center. The home visitors kept the mothers informed of activities at the Center, arranged for each parent to visit the school, meet the staff and observe class activity. Mothers were assisted in planning educational activities for their child that capitalized on the daily routines in the home and made optimal use of the mother's already limited time. For example, laundry day was utilized to teach the child about color and sorting; dinner preparations were used as a time to talk about food, how it grows and so on. The home visitors concentrated on helping these mothers to "cope"... that is, more effectively and efficiently manage general household responsibilities while still finding time to work with the target child. As Della Horton (who has been involved with the project since its inception) put it: "How can a mother worry about playing blocks with her child when she is also worried about getting downtown to get her food stamps." (conversation with Della Horton, March 17, 1971)

Instructional materials used by the teachers and work done by the children were sent home to the parents for their own use with the child. The home visitors stressed the importance of parental encouragement and interest as well as the positive role the mother was playing in her child's development. From the beginning, the project devoted considerable time and energy to the development of self-esteem, self-interest and confidence in the mother. The home visitor also
attempted to keep the parent apprised of local opportunities in adult education, housing and employment. Each home was given a subscription to EBONY, a magazine which emphasises blacks in the professions. Role playing was frequently used by the home visitors to help the parent develop confidence in her ability to help her child.

In a follow-up study at the end of fourth grade, Gray and Klaus report that, seven years after the initiation of the Early Training Project, the experimental children remained significantly superior to the control children on I.Q. tests. (see Table 8) On standard measures of language and achievement, the experimental children were still outperforming the control children although the differences were no longer significant.

It was in this original study that "vertical diffusion" effects were noted. That is, the younger siblings who had received no preschool treatment appeared to be brighter and more responsive than other children of the same age in the neighborhood or than their older sibling, the target child, had been at that age. Standardized tests of mental ability confirmed this impression. A second study was undertaken to test the hypothesis that the effects of a mother's training will be reflected in the performance of her younger children. The second DARCEE training strategy, the Mother's Training Program, was developed for use in that study.

The DARCEE Mother's Training Program (MTP) represents one of the
most effective paraprofessional training programs encountered in the literature. The MTP originally aimed at changing the nature and the quality of the mother-child interactions by furnishing the mother with skills and resources she could use to stimulate her child. The mothers were taught through direct involvement in DARCEE classroom activities. They were paid for the time they spent in the program and cooperative babysitting arrangements were made. The program was composed of a sequential process of skill development and moved the mothers at their own individual pace from supervised and directed activities at the Center to classroom involvement to actual responsibility for class activities. (see Miller 1969) In addition to training at the Center, a teacher met weekly with the mother at home to encourage use of her newly acquired skills. Group meetings were held by and for the mothers in the program so that they could share their successes and problems with other mothers. The MTP, like the home visitor programs, stressed immediate feedback and a "success orientation"... "indicating to the mother that she was a competent person." (Miller, p. 22)

The second DARCEE study, for which the MTP was designed, tested for vertical diffusion effects. The subjects, who were the younger siblings of the DARCEE preschool children, were divided into four groups:

1. children whose mothers were enrolled in the MTP

2. children whose mothers were involved through home visits only

3. children whose mothers were not involved in the DARCEE program in any way
Two separate analyses were made of the resulting data. (see Gilmer 1969) Groups 1 and 2 were compared to Groups 3 and 4. Then Group 1 was compared to Group 2 and Group 3 to Group 4. On all measures, groups 1 and 2 were found to be significantly superior to groups 3 and 4. No significant differences were seen between group 1 and 2 or between group 3 and 4. (See Table 9) Gilmer also notes that the absence ratio for the target children of mothers in Group 3 was almost twice that of target children of group 1 and 2 mothers. Gilmer concluded that "from these results, the effectiveness of intervention programs in stimulating younger children is attributable to the variable of maternal involvement (rather than older sibling involvement)" (p.24)*

In addition, both DARCEE (Miller 1969) and Gordon (1969) note what they have called "horizontal diffusion" effects of mothers' training. Mothers involved in the parent training programs appear to be communicating what they have learned to their neighbors and thereby influencing neighborhood maternal teaching styles. Children in the immediate neighborhood of MTP mothers appear to be developing at a faster rate than children in like neighborhoods lacking MTP parents. Thus the

*Similar findings are reported by Ira Gordon (1969)
effects of mothers' training are thought to be seen not only "vertically"— in the development of their younger children — but also "horizontally — in the children of mothers in their immediate neighborhood and social group.

Gilmer, Miller and Gray (1970) point to the economic implications: The DARCEE home visitor program costs approximately $400 per mother. DARCEE preschool programs run around $1500 per child per year. (Figures supplied by Dr. Gray) In other words, these data suggest that mothers can be trained to become "educational change agents" (DARCEE's term) for a little more than a quarter of the cost of enrolling her child in a preschool intervention program. Further, the effects of this training appear not only to sustain the achievement of the target child (Gray and Klaus 1970) but also stimulate the cognitive growth of her younger children and even children living nearby (Gilmer 1970).

Another result of the MTP, unexpected at the outset by program designers, also has important economic and educational implications for the families. Miller (1969) examined the effect of the DARCEE treatment on the life styles of the mothers. All of the mothers were employed as domestics when the project began. By 1969, over 50% of these mothers had gone on to finish high school or had enrolled in vocational training courses. Almost a fourth of the mothers completed courses in nurses training; those who took no further training returned to full-time motherhood. Two of the mothers who were functionally illiterate have
learned to read. The involvement of the mothers in community affairs has also increased. Several mothers are serving on church boards for the first time; one is working on the Metropolitan Action Council elections; two mothers have served as representatives on the Head Start Council. Social communications between parents and other members of the community were seen to increase. A parent organization, initiated by the MTP mothers, draws the whole community into social contact. Further, one of the greatest problems encountered by those evaluating the program was retention of the group in the housing project. As a result of involvement in the program, parents have started savings accounts and have become interested in buying houses outside the central city.* Although another formal evaluation of these "spin-off" effects has not been undertaken by DARCEE, Della Horton told us that similar and even more impressive changes in the lives of mothers (as well as a number of fathers) have been seen following participation in DARCEE training program. It is her feeling that the sense of competency and pride that is developed in the mother through participation in a training program gives her courage and initiative to seek changes and new involvements in many areas of her life.

* Badger (1970) also reports that participation in a training program (discussed previously) had a positive influence on the mothers' lives: "...the mothers) have changed their lives from hopelessness and helplessness...as a group, they are presently alive with enthusiasm to change their lives and the lives of their children." Since participating in the program, nine of the mothers have become leaders in community activities; five have taken jobs as paraprofessional teachers and one has been promoted to the position of head teacher in a Head Start Class.
The new initiative, self-confidence and willingness to be involved shown by these mothers should, if Hess and Sheinfeld are correct, also have an influence of the most fundamental and positive kind on the educability and educational performance of their children.

Gilmer's conclusions about the effectiveness of the home visitor programs as a method of preventing the dissolution of treatment effects over time and the further economy of this design in view of the "vertical diffusion" effects prompted another DARCEE study of home visitor programs with an emphasis on cost effectiveness. Barbrack(1970) describes this study in which the effects of variation in expense and professional training were examined. The study involved comparisons between three DARCEE home visiting programs, T1, T2 and T3. The data for groups T1 and T2 were drawn from previous DARCEE studies (Gilmer, Gray and Miller, Barbrack and Horton). Ten preschool children and their families were recruited to comprise T3. At the end of the study, a comparison group was selected which was similar in age, race and status characteristics to the experimental children. This group was designated T4.

The study from which the T1 group was drawn ran over 18 months and was staffed by a professionally trained and experienced teacher. It cost approximately $440/child. The families in T2 were visited by home visitors who did not have previous teaching experience but were four mothers involved in the earlier training study (T1). A
professionally trained teacher supervised the home visitors. Implementation of this program cost about $300/child. At the end of this second study, four of the treatment group mothers were selected and trained to act as home visitors in the next home visitor program, T3. The families in T3 were visited by these four mothers, who were trained and supervised by the home visitors from the previous T2 study. The efforts of the home visitor supervisors were guided by a professional teacher, experienced in implementing home visits and training home visitors. The cost of this program is approximately $225/child.

Data on general intelligence, concept development and maternal teaching style were analysed to determine the effects of the home visits on the child and on the mother as well as to compare the different treatment effects. Inspection of this data reveals little to distinguish between the treatment groups T1, T2, and T3. (see Table 10 A, B, C, & D) Results of the PPVT, the matching subtest, concept measures and the Maternal Teaching Style instrument indicate that T3 was the most cost-effective treatment. Barbrack reports that this finding was somewhat unexpected since the T3 project was staffed entirely by paraprofessionals.

On the other hand, the premise that paraprofessionals are better at relating to and dealing with low income people, together with the fact that this project was the most recent and presumably the best that DANCER had offered tend to explain and support this superiority. In any case, none of the other groups was superior to T3 and since T3 was the least expensive project to implement, it appears that from a cost/benefit vantage point to have been the most effective. (p.33)
The FLINT, MICHIGAN, SCHOOL AND HOME PROGRAM is run on a more modest scale than the DARCEE programs but reports the same virtues of cognitive gain and economy. The FLINT SCHOOL AND HOME PROGRAM is a low key parent training program designed to involve parents, by means of home visitors, in the daily reading and study habits of their elementary school children. This program is notable in that (1) it avoids the "welfare approach" seen in so many public school home visit programs and (2) that it occupied a small portion of staff time. The program proceeded on the premise that

... (parent) attitudes greatly influence those of their children and that unless they were aware of these values, (parents) could not set the kind of example that would bring about desirable attitudes and habits toward school work.

The parent home visit program was the only treatment to which parents and children were exposed... the children continued in their regular school classroom routines.

Parents were employed by the Flint public schools as home visitors. They were so successful in enlisting participation in the SCHOOL AND HOME program that the final degree of parent involvement was much higher than anticipated by program planners. At the outset of the program, teachers met with the parents to explain the objectives of the program and the participation expected from the parents. The parents were asked to do such things as provide a quiet place in the home for the child to work, encourage regular eating and sleeping habits, read to their children and listen to them read as well as
read themselves, in the presence of the child, "to show that reading is important to the parents." Materials were given to parents to help with home study: a child's dictionary (in which the parent was encouraged to write the child's name); a file box for word cards and multi-level reading materials. The mothers made reading booklets for the children by cutting up primary level reading textbooks no longer used by the school. Dr. Smith, program administrator and designer, reports that the "children were aware of their mother's participation and this stimulated additional interest and interaction on the part of the children and parents." At the end of the spring semester, parents were given suggestions for the continuation of program activities into the summer months.

The program was evaluated by means of two control groups, composed of children from other Flint public elementary school and who represented SES and other background characteristics similar to the experimental children. The Gates Revised Reading Test was used as pre and post test measure. Children in the two experimental groups showed overall gains of 5.4 months during the 5 month period between tests. Children in the control groups showed overall gains of 2.7 months for this period. (See Tables 11 and 12.) One questionnaire was sent to each family in the experimental schools to assess parent opinion about the SCHOOL AND HOME program. Parents indicated they felt the program had helped their children with their school work and that they would like to have the program continued. They also indicated that their involvement had been very helpful to them in improving their academic
skills as well. Teachers responded that they observed improvement in the child's work habits and attitudes toward the school. The HOME AND SCHOOL program also illustrates that the involvement of parents in this way does not have to be expensive...the total per pupil coat was $3.50.

A third type of parent training program--training for participation--was implemented with Title I monies in Los Angeles.* THE COMMUNITY AND STAFF DEVELOPMENT SUMMER PROGRAM (Phase I) was planned jointly by members of the Los Angeles City School District's Title I Citizen's Advisory Committee and District staff. The overall objective of the program was the "development of an effective two-way system of communication through a strong in-service training program." (p.4) As one Citizen Advisory Committee member said: "People cannot advise intelligently if they don't know what they're advising about". The specific goals of the program were:

--to merge parents and staff into a cohesive unit that would be more knowledgeable in the development and implementation of compensatory education programs for the educationally deprived child

--to increase the knowledge and skills of parents and staff in developing, financing, implementing and evaluating all compensatory education programs

--to develop an awareness and understanding of the pupils and community which the professional staff serves, thus enabling them to be more effective in their teaching.

* In addition to the program evaluation, our comments concerning this program are based on a synthesis of conversations with community leaders, parents and Title I staff in Los Angeles. The community members with whom we spoke represented a cross-section of leaders and parents in the black and the brown communities. (April 5 & 6, 1971)
The program consisted of twenty-one two-week workshops in which more than 4,000 participants were registered, 1,800 of whom were parents. Participants included parent members of the Title I School Advisory Committees, District Citizen’s Advisory Committee members and both certificated and non-certificated personnel from Title I schools. Parents and staff jointly attended workshops which were planned to give participants knowledge and skills in the areas of human relations and school budgeting as well as familiarity with the philosophy of compensatory education, guidelines for Title I, the role and organization of the local school advisory committees and the organization of the Los Angeles City Unified School District. Morning, afternoon and evening sessions were held to accommodate the varying job schedules of participants.

The workshop sessions were planned to include large group assemblies with speakers, films and recordings and small groups composed both of parents and staff working together under the guidance of a school staff workshop leader and a co-leader from the local community. The small group discussions were structured by discussion topics, group reports, assigned reading and group projects. Translators and Spanish speaking small groups were employed in largely Mexican-American East Los Angeles. All workshop participants, professionals and non-professionals alike, received a stipend of $4.60/hr. for a maximum of 30 hours. (This was considered to be a fee an "expert"
would receive; project staff thus hoped to underline the active role they hoped community members would take in the workshop sessions as "experts" about their community and children.) Evaluators report that one of the notable features of the two-week workshop was the high attendance throughout. The stipend to parents facilitated their participation. A number of parents commented that, without the stipend, they would not have been able to attend as regularly if at all. In addition, all of the program staff (i.e. the regular Title I staff members, the community staff, the assistant directors and the director) were paid equally "reflecting the desire of the program leaders to recognise the contributions that would be made to the project by the involvement of community leaders working with certificated staff."

Both the program evaluation and the comments of community members reflect the high degree of success and continuing impact achieved by this two-week summer program. Phillip Jordan, Zone B Title I Coordinator, told us that "Phase I is the most significant thing that has ever happened in the Los Angeles School District." William Ferrel, project director, views the participation of the community in all phases of the program—from advance planning through implementation—as the most significant factor in the program success. (conversation with William Ferrel) The involvement of community leaders in this capacity made the whole effort "believable" to the community at large. The parents with whom we spoke

*April 5, 1971
were unanimous in their praise for the program. They viewed Phase I as alleviating what they called the "95% ignorance gap" and the "Mississippi mentality" which prevented or sabotaged their involvement in the past. Chairmen of the Citizen Advisory Committees told us that as a result of Phase I, parents who were never before active in school or community affairs have become involved not only in Title I programs but also in other areas of community concern. The Chairmen felt that awareness of their rights and responsibilities motivated the parents to participate through established channels. They observed that parents are visiting the schools and their children's teachers and attending meetings for the first time...that they have begun to perceive their role as "parent" in a new light. "People are animated, angry, emotionally involved and thinking."

Title I staff and community members were in agreement, too, concerning the effects that the new awareness and participation generated by Phase I seem to be having on the schools. It was reported that staffing patterns have begun to change. In one school, change was achieved through a direct confrontation, but in all other cases, it seems to have come about through a "change in climate". That is, administrators and teachers who did not feel comfortable with the new level of community involvement and the concomitant increased "accountability" simply left. We were also told that the budgets submitted for the FY 72 Title I programs reflect changes in resource allocation directly
attributable to active parent participation on the Citizen Advisory Councils and the knowledge they gained about budgeting in the Phase I program. The new budgets reflect a shift away from expenditure on equipment to a greater allocation of monies for direct services to the child, especially more teachers. We learned that one area committee had been able to promote change in the curriculum in mid-year, increasing the amount of individual attention their children were receiving.

It remains to be seen whether or not these changes in the schools, which the parents see as a move toward a more "relevant" education for their children, will result in improved cognitive growth.

It was our observation, however, that the effects of the Phase I program on parent morale, pride, sense of effectiveness and responsibility was positive, powerful and unmistakable. Program evaluations submitted both by outside evaluators and program participants concur that Phase I met its original objective:

The strong positive response of teachers, administrators and residents to the program indicates plainly that communication between the "users" of the schools and the "suppliers" of education--however difficult--is not impossible; it has been shown that communication can be achieved. The people of the community are interested in what is happening to their children and most important they are willing to work for their schools and to apply their direct understanding of local problems to direct solutions wherever possible.

* At the time of our visit to Los Angeles, the project staff was completing planning for Phase II, workshops of similar size, structure and design to be run this summer. These workshops will not address the issue of training for participation but rather will provide training for parents specific to the educational needs of their children—what can the parent do in the home to help their child with school work. A sound evaluation of Phase II outcomes and effects on parents and children should allow us to begin to answer questions such as those raised in our discussion of parent participation programs, which we simply cannot answer now for lack of data.
CONCLUSIONS AND IMPLICATIONS

Just as in parent participation programs, program structure and content as well as the means employed to reach parents and maintain a high level of parent involvement in the program are central to the success of parent training programs. Parent training programs, like parent participation programs, must be designed with the special needs, problems and insecurities of the low income parent clearly in mind. The effects of parent training programs on parents parallel those seen in participation programs, but appear more impressively and consistently. Further, we have seen that parent training of even a modest sort (n.b. Flint program) can be said to positively and significantly effect the cognitive development of children—both the target youngsters and the younger siblings. Of the two parent models, then, parent training appears to combine most successfully all the virtues of economy and attainment of cognitive and affective objectives for both parents and children.
PART III

CONCLUSIONS

Our review of compensatory efforts suggests that quite beyond the differences we have outlined in program types, there are two quite disparate philosophies and organizational styles operant under the umbrella of parent involvement. One views parents as passive, as "recipients" of program services and efforts. The other conceives of parents as active "participants" in the overall program strategy. The great majority of compensatory programs, especially Title I, subscribe to the first formulation of parent role. Gordon has observed that we do to the poor and for the poor but rarely with the poor. Most compensatory programs, by their very design, lock the parent into the role of "recipient" and preclude the involvement of parents at any significant level in program operation or in the process of education. With the possible exception of the Los Angeles Phase I program we have seen no real effort on the part of Title I programs to understand what poor parents want for their children, to act on suggestions which might modify the school structure or curriculum to meet community needs or to involve parents in the education of their children. It is not unlikely that a major reason underlying the success experienced by the DARCEE programs and the Los Angeles workshops is the explicit recognition given to the contributions low income parents can make to the education of their children. Indeed, across program types, it is the conception of parents as active (versus passive) parts of program strategy which separates successful parent programs from those which fail to meet their objectives.
Underlying these dissimilar perceptions of parent role are disparate notions about the parental inadequacies which are supposed to contribute to a child's academic failure. The vast majority of the efforts directed at parents are constructed on the premise that parent "deficits" lie in the area of values and attitudes about and interest in education and the school. Proceeding on this premise, programs are thus designed to increase parent exposure to the school and school personnel in an attempt to "resocialize" the parent. Such attempts at "persuasion," to use the Plowden term, are essentially nothing more than public relations efforts which fail to address what we would argue are the real parent deficits in knowledge and information. We would suggest that it is precisely this misidentification of parental deficiencies (values v. knowledge) which explains in large part the lack of measured effect of parent participation on student achievement (n.b. Acland, Liddle and Plowden) While these programs may succeed in fostering good parent-school relationships, they do nothing to engage the parent in the education of the child and thus leave the situation of the child essentially unchanged.

The point is that for the overwhelming majority of low income parents attitudes and values about education are not the problem. Poor parents care very much about education which, rightly or wrongly, they see as the "only way out"; they don't know what to do to help their child or to expedite their aspirations for him. As Deutsch suggests:

Though, many parents will share in the larger value system of having high educational aspirations for their children, they are unaware of the operational steps required for the preparation of the child to use optimally the learning opportunities of the school. (1963, p. 168)
The fact one encounters again and again in evaluations of successful parent programs, and in conversations with community people, is that parents are eager to learn what they can do to help their child succeed in school and to make his experiences in school different from theirs. And that if given the means to do so, they will carry out the suggestions and responsibilities they are given, often at considerable personal sacrifice. Consider, for example, those parent participation programs which do appear to be having some effects on the academic achievement of children. While they, too, have taken "change" in parent attitudes and values relating to the school as a primary objective, they have also given parents concrete, operational suggestions about what they could do to help their child. We are not suggesting that parent involvement programs should be as elaborate or as expensive as those designed by DARCEE. It requires only a shift in focus from values to information to give parents the tools and skills with which to participate in the education of their child. When such program content is lacking, however, one is mistaken to look for an effect of parent involvement on student achievement.

When this shift in program focus is made, the most impressive, significant and possibly the most enduring outcomes of parent programs appear---changes in parent lifestyles. Although, as our review of the literature would suggest, these variables are at the very heart of achievement differences between lower and middle class children, these "spin-off" effects are for the most part ignored in evaluations of compensatory projects. The desire to help poor children has resulted in a flurry of ad hoc
program designs which do not contain any systematic provisions for evaluation. Admittedly, the problem of what to measure is difficult. If a program is aimed primarily at the parent or if a parent program is a component of a compensatory effort, what are the real criteria of measurement? When a significant amount of monies are being spent on parent involvement, does one want to limit evaluations to student achievement measures? We would suggest that an equally germane measure of successful parent programs would examine changes in the parents themselves. Parent training programs and a number of parent participation programs have accomplished what many Manpower Development Training Act programs have failed to do. They have given parents a sense of competence and confidence which has encouraged them to seek new jobs, new community contacts and involvements and more education. Involvement in compensatory efforts has been catalytic in the development of indigenous community leadership which has worked for and achieved change in all areas of community life. At a time when rhetoric about self-help is to be found in every piece of social legislation and when the nation's leader is asking that community residents assume the responsibility of working within the system, a most promising and potentially powerful means to this end is being ignored.
SUGGESTIONS FOR FURTHER RESEARCH

The difficulties in evaluating compensatory education projects are enormous; perhaps the most difficult problem is to isolate specific compensatory treatment effects. Given the many environmental factors which can influence educational programs, it is hard to set up a rigorously controlled experiment. However, the very vastness of Title I offers opportunity to systematically investigate some of the questions raised in this paper, both for research and theory and for social action.

Research and Theory

For example, as we indicated earlier, parent involvement is far from "fact" in the great majority of Title I programs. The more stringent federal and state guidelines regarding parent involvement which are currently being issued might well create a situation which would enable us to go a bit further toward answering questions about the efficacy of parent involvement or different program strategies. We have suggested that parent participation programs are typically found in "successful" Title I programs not because they contribute to program success but rather because of staff characteristics that lead both to program success and parent involvement. If this is true, it is likely that the same characteristics and attitudes would not be present in Title I programs that initiated parent involvement strategies only in response to state or federal pressures. It should be possible to locate a number of Title I programs which, until the current F.Y., have not been especially successful in meeting program objectives and
compare program outcome measures following the initiation of parent programs to measures of previous performance. Assuming that the curriculum and staff remained relatively constant across our sample, we would not expect to find significant improvement in program outcome which could be attributed to the new parent programs.

Also, a longitudinal study involving two groups of successful projects, one of which employ usual parent participation strategies and the other of which attempts to provide parents with skills and information as part of their participation program, might help us to answer two questions: one, are parent programs which use participation programs to provide parents with operational suggestions more successful than programs which employ usual participation strategies and two, do the former program strategies inhibit the dissolution of program effects over time? Do programs which give parents some form of operational information appear to go farther toward closing the gap between advantaged and disadvantaged students?

Questions for Social Action
The impressive successes experienced by the pre-school home visitor programs suggest that an exploratory study to investigate the applicability of home visitor techniques to an elementary population would be valuable. As we noted, home visitor at the elementary level have been designed primarily to provide social services for the families
or to give and collect information about the child. The economic and educational benefits of a home visitor program directed at teaching the mother ways in which she can work with her child have been well-documented and outlined by the DARCEE reports. Further, home visitor programs are able to circumvent the problems involved in bringing the parents to the school as well as, potentially, reach every parent whose child is involved in the program. The question to which such a study should address itself would be whether low income individuals can be trained in the kind of skills and/or equipped with the sort of tools appropriate to the activities of an elementary age child. This is quite a different problem from the concept and discrimination learning undertaken by preschool programs. However, it is easy to imagine activities such as those undertaken by the El Rancho program being translated into effective home visiting materials. Home visiting programs, staffed by parents; in addition to virtues of economy, also address the important issues of "powerlessness" and "maternal teaching style" which are raised by the literature by ignored by most parent programs.

An alternative formulation of this concept would suggest the initiation of urban workshops and training centers based on the sequential training model developed in the DARCEE cost-effectiveness study (Barbrack 1970). The DARCEE outcomes demonstrate the effectiveness of community members as "trainers" and as "teachers"; the Los Angeles experience, too, testifies to the capability of community members to function as educators and administrators. Following the DARCEE design, the proposed center would at the outset be staffed both by experienced
community people and professionals. As an increasing number of parents or community people become trained in home visiting or classroom presentation techniques, the entire operation of the center could be turned over to the community and run by a cadre of paraprofessionals. The center would aim not only at training paraprofessionals but also operate to assist parents who wish information as to how they can best help their child as he proceeds through school. Our review suggests not only that this is the sort of help low-income parents want and need but also that, given some assistance from professionals at the outset, this sort of aid and information is most effectively and economically provided by parents for parents.
Standardized Regression Coefficients for PTA Attendance with three Measures of School Achievement as dependent variables for a number of subgroups. A large number of individual background characteristics and school-wide measures are simultaneously entered in the equation. The data are representative samples of sixth graders from the Urban North in the NES data. One standard deviation represents approximately 1.6 school grade levels for the Verbal-Test, for the Reading Test and for the Math-Test.

### Table 1

<table>
<thead>
<tr>
<th>Sex</th>
<th>Class</th>
<th>Verbal</th>
<th>Read</th>
<th>Math</th>
<th>Verbal</th>
<th>Read</th>
<th>Math</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lower</td>
<td></td>
<td></td>
<td></td>
<td>-.122</td>
<td>.093</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>N=370</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>.066</td>
<td>.067</td>
<td>.096</td>
<td>-.052</td>
<td>-.012</td>
<td>.021</td>
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<tr>
<td></td>
<td></td>
<td>N=576</td>
<td>N=576</td>
<td>N=576</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Upper</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>.083</td>
<td>.078</td>
<td>.094</td>
<td>.029</td>
<td>.008</td>
<td>.008</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N=1425</td>
<td>N=1425</td>
<td>N=1425</td>
<td>N=11355</td>
<td>N=11355</td>
<td>N=11355</td>
</tr>
</tbody>
</table>

*Statistically significant at the .01 level.

1 Variables entered into equations simultaneously are (when appropriate) sex (of student), race, number of home items, mother's educational level, whether student's father is in a collar job, whether student has a mother and father living with him, family size, kindergarten attendance, inner-city location or not of student's school, number of library volumes per student, pupil/staff ratio, average teacher salary, average teacher verbal score, years teacher experience, whether or not the school has an auditorium, chapter's and year's present, White students in the sixth grade, race sex items for students in the school, and SES.
**TABLE 2**

Scores at the end of Preschool Treatment

Comparison of first interest from Scores for Experimental and Control Groups, Learning to Learn Program.

<table>
<thead>
<tr>
<th>Test</th>
<th>Learning to Learn (Group A)</th>
<th>Traditionally trained (Group B)</th>
<th>No training (Group C)</th>
<th>t value for A/B difference</th>
<th>p² for A/B difference</th>
<th>t value for A/C difference</th>
<th>p² for A/C difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stanford—Sine IQ</td>
<td>104.12</td>
<td>89.33</td>
<td>83.29</td>
<td>5.36</td>
<td>&lt;.001</td>
<td>7.59</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Peabody Picture Vocab. ⁴</td>
<td>54.56</td>
<td>33.54</td>
<td>35.53</td>
<td>7.62</td>
<td>&lt;.001</td>
<td>7.90</td>
<td>&lt;.001</td>
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<tr>
<td>TPA!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visual Encoding</td>
<td>20.21</td>
<td>10.79</td>
<td>10.58</td>
<td>10.60</td>
<td>&lt;.001</td>
<td>10.26</td>
<td>&lt;.001</td>
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<tr>
<td>Visual Encoding</td>
<td>13.96</td>
<td>10.12</td>
<td>3.67</td>
<td>4.07</td>
<td>&lt;.001</td>
<td>5.48</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Auditory-Vocal Association</td>
<td>15.42</td>
<td>11.42</td>
<td>9.08</td>
<td>4.63</td>
<td>&lt;.001</td>
<td>7.23</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Visual-Verbal Association</td>
<td>15.58</td>
<td>11.42</td>
<td>9.92</td>
<td>6.00</td>
<td>&lt;.001</td>
<td>7.80</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

¹Scores = number correct (or raw scores).

²One-tailed test.
# TABLE 3

## SCORES AT THE END OF FIRST GRADE

Comparison of Second Posttest Mean Scores for Experimental and Control Groups, Learning to Learn Program

<table>
<thead>
<tr>
<th>Test</th>
<th>Learning to Learn (Group A)</th>
<th>Traditionally Trained (Group A)</th>
<th>No Training (Group C)</th>
<th>t value for A/B difference</th>
<th>t value for A/C difference</th>
<th>p^2</th>
<th>p^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stanford-Binet IQ</td>
<td>101.10</td>
<td>84.40</td>
<td>84.40</td>
<td>3.12</td>
<td>&lt;.01</td>
<td>4.08</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>WAIS Full Scale IQ</td>
<td>101.60</td>
<td>84.40</td>
<td>84.40</td>
<td>3.12</td>
<td>&lt;.01</td>
<td>4.08</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Num1</td>
<td>61.28</td>
<td>52.95</td>
<td>52.95</td>
<td>3.35</td>
<td>&lt;.001</td>
<td>4.24</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Num2</td>
<td>19.32</td>
<td>13.75</td>
<td>13.75</td>
<td>2.78</td>
<td>&lt;.01</td>
<td>3.33</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Auditory-Vocal Association</td>
<td>12.79</td>
<td>12.75</td>
<td>12.75</td>
<td>2.78</td>
<td>&lt;.01</td>
<td>3.33</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Visual-Spatial Association</td>
<td>17.71</td>
<td>15.10</td>
<td>13.55</td>
<td>2.22</td>
<td>&lt;.05</td>
<td>3.33</td>
<td>&lt;.01</td>
</tr>
</tbody>
</table>

^2Corpus = number correct (or raw scores).

^2One-tailed test.
<table>
<thead>
<tr>
<th>Combined Target Area Schools by Grade Level</th>
<th>Name of Test</th>
<th>(2)</th>
<th>(3)(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>Test Results Expressed As Median Grade Placement:</th>
<th>Test Results Expressed As Mean Raw Scores:</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Caldwell</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Median Pre-Test Grade Placement</td>
<td>Median Post-Test Grade Placement</td>
</tr>
<tr>
<td></td>
<td>* Coop</td>
<td>1.2A</td>
<td></td>
<td>7</td>
<td></td>
<td>1.6</td>
<td>19</td>
</tr>
<tr>
<td>2 SAT</td>
<td>W</td>
<td>2</td>
<td>7</td>
<td>43</td>
<td>1.4</td>
<td>2.0</td>
<td>6.6&lt;br&gt;24 33 7</td>
</tr>
<tr>
<td>3 SAT</td>
<td>W</td>
<td>3</td>
<td>7</td>
<td>69</td>
<td>1.8</td>
<td>2.4</td>
<td>6.2&lt;br&gt;25 41 16</td>
</tr>
<tr>
<td>4 CTBS</td>
<td>G</td>
<td>2</td>
<td>7</td>
<td>41</td>
<td>2.5</td>
<td>3.4</td>
<td>.9&lt;br&gt;24 33 8</td>
</tr>
<tr>
<td>5 CTBS</td>
<td>G</td>
<td>2</td>
<td>7</td>
<td>37</td>
<td>3.2</td>
<td>3.8</td>
<td>.6&lt;br&gt;30 41 11</td>
</tr>
<tr>
<td>6 CTBS</td>
<td>G</td>
<td>2</td>
<td>7</td>
<td>44</td>
<td>3.6</td>
<td>4.3</td>
<td>.7&lt;br&gt;33 48 10</td>
</tr>
</tbody>
</table>

* See attached pages.
**Table 5.**

<table>
<thead>
<tr>
<th>(1) Grade Level</th>
<th>(2) Name of Test</th>
<th>(3) Test Results As Percentile Rank</th>
<th>(4) Test Results As Percentile Rank</th>
<th>(5) Test Results As Percentile Rank</th>
<th>(6) Test Results As Percentile Rank</th>
<th>(7) Test Results As Percentile Rank</th>
<th>(8) Test Results As Percentile Rank</th>
<th>(9) Test Results As Percentile Rank</th>
<th>(10) Test Results As Percentile Rank</th>
<th>(11) Test Results As Percentile Rank</th>
<th>(12) Test Results As Percentile Rank</th>
<th>(13) Test Results As Percentile Rank</th>
<th>(14) Test Results As Percentile Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>CAT</td>
<td>50</td>
<td>73</td>
<td>77</td>
<td>77</td>
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<tr>
<td>2nd</td>
<td>CAT</td>
<td>60</td>
<td>67</td>
<td>67</td>
<td>67</td>
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<td>47</td>
<td>47</td>
<td>47</td>
<td>47</td>
<td>47</td>
<td>47</td>
<td>47</td>
</tr>
<tr>
<td>3rd</td>
<td>CAT</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
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</tr>
<tr>
<td>4th</td>
<td>CAT</td>
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<td>80</td>
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<td>47</td>
<td>47</td>
<td>47</td>
<td>47</td>
<td>47</td>
<td>47</td>
<td>47</td>
</tr>
</tbody>
</table>

*See attached records.*
Table 6

1. Do you feel your child's attitude toward school has changed?

   1. My child was on the point where she didn't want to go to school, now I have no trouble sending her.
   2. My child's attitude has some way changed because she enjoys school tremendously and looks forward to all explanations which enable her to understand the kinds of learning subjects.
   3. My child seems to gain in sight into his own situation and achieve something.

2. Does your child talk about what happens in school?

   1. Yes, she does not like to talk much about school.
   2. She tells me of the good or bad things.

3. Has your child shown more interest in reading?

   1. This is the first year of elementary school and she is doing very well.
   2. She reads more books and talks about the poems and stories she reads and tells. She seems to have improved in reading.

4. Has your child expressed interest in other subjects?

   1. She has shown some interest in other subjects but not in the same degree.
   2. She is beginning to learn more about other subjects and seems to be more interested.

5. Has your child improved in handwriting?

   1. She has not shown much improvement in handwriting.
   2. She has improved in handwriting and seems to be more confident.

6. Has your child become more active in physical education?

   1. She has not shown much improvement in physical education.
   2. She has improved in physical education and seems to be more active.
<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Do you think the Pre-School Education Program has helped your child?</td>
<td>761</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>COMMENTS:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>It has helped him be independent.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I'm not sure that this is but Pre-School and Kindergarten were terrific and I thank you.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>My child has advanced more rapidly than the rest of my family.</td>
<td></td>
</tr>
<tr>
<td>7. Do you find home visits by school personnel helpful?</td>
<td>182</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>COMMENTS:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes, I could express my feeling more freely.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes, because we can talk about personal problems.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I had a teacher visit us for the first time this year and I enjoyed her visit very much.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes, teacher and parents get a chance to get acquainted.</td>
<td></td>
</tr>
<tr>
<td>8. Do you prefer parent group meetings:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>In the home: 66</td>
<td></td>
</tr>
<tr>
<td></td>
<td>At school: 18</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not at all: 1</td>
<td></td>
</tr>
<tr>
<td>9. Has this program brought you closer to the school?</td>
<td>135</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>COMMENTS:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>This only to the school, but to the teachers too.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I take more time out to listen and help my children.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes, by participating in social activities.</td>
<td></td>
</tr>
</tbody>
</table>

FILMED FROM BEST AVAILABLE COPY
### RESULTS OF LITTLE, ROCKWELL AND SACRAMENTO DEMONSTRATION PROJECT

#### A

**ANALYSIS OF COVARIANCE, SUMMARY TABLE**

<table>
<thead>
<tr>
<th>Test</th>
<th>Exp. Control</th>
<th>Variation</th>
<th>Adj. Sum Mean</th>
<th>Sources of</th>
<th>Mean Group IQ</th>
<th>Source of</th>
<th>Adj. Sum Mean</th>
<th>Mean Group IQ</th>
<th>Source of</th>
<th>Adj. Sum Mean</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>99.1</td>
<td>92.5</td>
<td>Treatment 1</td>
<td>513.4</td>
<td>513.4</td>
<td>5.60</td>
<td>N.S.</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>99.3</td>
<td>92.5</td>
<td>Individuals 297</td>
<td>204.1</td>
<td>204.1</td>
<td>2.00</td>
<td>N.S.</td>
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</tr>
<tr>
<td>WISC Verbal</td>
<td>91.7</td>
<td>95.8</td>
<td>Treatment 1</td>
<td>283.4</td>
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<td>2.27</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>WISC Performance</td>
<td>90.6</td>
<td>95.9</td>
<td>Individuals 297</td>
<td>190.9</td>
<td>190.9</td>
<td>1.95</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WISC Total</td>
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<td>95.9</td>
<td>Treatment 1</td>
<td>283.4</td>
<td>283.4</td>
<td>2.27</td>
<td>N.S.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Pre</td>
<td>99.1</td>
<td>92.5</td>
<td>Treatment 1</td>
<td>513.4</td>
<td>513.4</td>
<td>5.60</td>
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<tr>
<td>Post</td>
<td>99.3</td>
<td>92.5</td>
<td>Individuals 297</td>
<td>204.1</td>
<td>204.1</td>
<td>2.00</td>
<td>N.S.</td>
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</tr>
<tr>
<td>WISC Verbal</td>
<td>91.7</td>
<td>95.8</td>
<td>Treatment 1</td>
<td>283.4</td>
<td>283.4</td>
<td>2.27</td>
<td>N.S.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WISC Performance</td>
<td>90.6</td>
<td>95.9</td>
<td>Individuals 297</td>
<td>190.9</td>
<td>190.9</td>
<td>1.95</td>
<td>N.S.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WISC Total</td>
<td>90.6</td>
<td>95.9</td>
<td>Treatment 1</td>
<td>283.4</td>
<td>283.4</td>
<td>2.27</td>
<td>N.S.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### B

**SELF CONCEPT OF EXPERIMENTAL AND CONTROL GROUP CHILDREN**

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
<th>Critical Ratio</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>27.6</td>
<td>4.2</td>
<td>2.27</td>
<td>5%</td>
</tr>
<tr>
<td>Control</td>
<td>26.4</td>
<td>4.7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### C

**SCORES ON THE WISCHER BY DEGREE OF CULTURAL HANDICAP**

<table>
<thead>
<tr>
<th>Degree of Handicap</th>
<th>Pre-test Mean</th>
<th>Post-test Mean</th>
<th>Mean Change</th>
<th>Number of Pupils</th>
</tr>
</thead>
<tbody>
<tr>
<td>Considerable</td>
<td>98.9</td>
<td>93.2</td>
<td>5.7</td>
<td>68</td>
</tr>
<tr>
<td>Moderate</td>
<td>99.2</td>
<td>94.1</td>
<td>5.1</td>
<td>35</td>
</tr>
<tr>
<td>Little or none</td>
<td>102.8</td>
<td>107.6</td>
<td>5.0</td>
<td>25</td>
</tr>
<tr>
<td>Control</td>
<td>98.1</td>
<td>93.1</td>
<td>5.0</td>
<td>63</td>
</tr>
<tr>
<td>Moderate</td>
<td>99.4</td>
<td>93.3</td>
<td>6.0</td>
<td>48</td>
</tr>
<tr>
<td>Little or none</td>
<td>101.9</td>
<td>101.7</td>
<td>0.0</td>
<td>49</td>
</tr>
</tbody>
</table>

*Pre-post difference significant at the 5% level of confidence*

#### D

**INTELLIGENCE SCORES OF PUPILS HAVING SIBLINGS IN THE OTHER GROUP**

<table>
<thead>
<tr>
<th>Group</th>
<th>Test</th>
<th>Pre-test Mean</th>
<th>Post-test Mean</th>
<th>Change Mean</th>
<th>Number of Pupils</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>WISC Verbal</td>
<td>89.7</td>
<td>93.4</td>
<td>3.7</td>
<td>20</td>
</tr>
<tr>
<td>Control</td>
<td>WISC Verbal</td>
<td>93.5</td>
<td>91.1</td>
<td>-2.4</td>
<td>50</td>
</tr>
<tr>
<td>Experimental</td>
<td>Peabody</td>
<td>89.7</td>
<td>95.4</td>
<td>5.7</td>
<td>50</td>
</tr>
<tr>
<td>Control</td>
<td>Peabody</td>
<td>91.3</td>
<td>91.2</td>
<td>-0.1</td>
<td>22</td>
</tr>
</tbody>
</table>
TABLE 8
DARCEE SEVEN YEAR FOLLOW UP STUDY

MENTAL AGES FOR THE FOUR GROUPS ON THE STANFORD-BINET

![Graph showing mental ages for four groups on the Stanford-Binet.](image-url)
Interaction between subtests and performance of groups.

Intra-Family Diffusion Study, Gilmer (1969)
### TABLE 10  BARBRACK & HORTON COST EFFECTIVENESS STUDY

#### 10-A
Pretest and Posttest Stanford Binet Mean IQ Scores and Standard Deviations for Home Visitor Treatment Groups and Posttest Mean IQ and Standard Deviation for Comparison Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean Pre</th>
<th>Mean Post</th>
<th>Standard Deviation Pre</th>
<th>Standard Deviation Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>96.23</td>
<td>94.41</td>
<td>13.72</td>
<td>11.68</td>
</tr>
<tr>
<td>T2</td>
<td>91.25</td>
<td>90.66</td>
<td>15.33</td>
<td>13.59</td>
</tr>
<tr>
<td>T3</td>
<td>90.30</td>
<td>90.60</td>
<td>14.82</td>
<td>17.60</td>
</tr>
<tr>
<td>T4</td>
<td>82.90</td>
<td>97.90</td>
<td>10.00</td>
<td>13.72</td>
</tr>
</tbody>
</table>

#### 10-B
Pretest and Posttest Peabody Picture Vocabulary Test Mean IQ Scores and Standard Deviations for Home Visitor Treatment Groups and Posttest Mean IQ and Standard Deviation for Comparison Group

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean Pre</th>
<th>Mean Post</th>
<th>Standard Deviation Pre</th>
<th>Standard Deviation Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>70.41</td>
<td>65.70</td>
<td>15.74</td>
<td>22.50</td>
</tr>
<tr>
<td>T2</td>
<td>65.33</td>
<td>62.58</td>
<td>19.40</td>
<td>23.57</td>
</tr>
<tr>
<td>T3</td>
<td>68.90</td>
<td>60.20</td>
<td>15.67</td>
<td>20.89</td>
</tr>
<tr>
<td>T4</td>
<td>55.60</td>
<td>15.23</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE 10-C

Summary of Analysis of Variance Between Peabody Picture Vocabulary Test Posttest Scores of Home Visitor Treatment Groups and Comparison Group

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>3</td>
<td>1079.42</td>
<td>2.339</td>
<td>&lt; .10</td>
</tr>
<tr>
<td>Within Groups</td>
<td>45</td>
<td>461.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TABLE 10-D

Summary of Analysis of Variance Between Stanford Binet Posttest Scores of Home Visitor Treatment Groups and Comparison Group

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>3</td>
<td>297.08</td>
<td>1.600</td>
<td></td>
</tr>
<tr>
<td>Within Groups</td>
<td>45</td>
<td>174.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 11

**FLINT SCHOOL AND HOME PROGRAM**

#### Second-Grade Children’s Mean Gains in Vocabulary.

<table>
<thead>
<tr>
<th>Schools</th>
<th>Number of Children</th>
<th>Scores in Months</th>
<th>Significance of Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean Gains</td>
<td>Standard Deviation</td>
</tr>
<tr>
<td>Control A</td>
<td>65</td>
<td>3.6</td>
<td>3.6</td>
</tr>
<tr>
<td>Experimental B</td>
<td>82</td>
<td>5.5</td>
<td>4.9</td>
</tr>
<tr>
<td>Experimental C</td>
<td>71</td>
<td>5.8</td>
<td>3.9</td>
</tr>
</tbody>
</table>

#### Second-Grade Children’s Mean Gains in Comprehension.

<table>
<thead>
<tr>
<th>Schools</th>
<th>Number of Children</th>
<th>Scores in Months</th>
<th>Significance of Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean Gains</td>
<td>Standard Deviation</td>
</tr>
<tr>
<td>Control A</td>
<td>66</td>
<td>4.1</td>
<td>4.6</td>
</tr>
<tr>
<td>Experimental B</td>
<td>82</td>
<td>4.9</td>
<td>5.3</td>
</tr>
<tr>
<td>Experimental C</td>
<td>71</td>
<td>7.1</td>
<td>4.9</td>
</tr>
</tbody>
</table>

#### Second-Grade Children’s Gains for Vocabulary and Comprehension Combined.

<table>
<thead>
<tr>
<th>Schools</th>
<th>Number of Children</th>
<th>Scores in Months</th>
<th>Significance of Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean Gains</td>
<td>Standard Deviation</td>
</tr>
<tr>
<td>Control A</td>
<td>63</td>
<td>3.9</td>
<td>3.2</td>
</tr>
<tr>
<td>Experimental B</td>
<td>82</td>
<td>5.1</td>
<td>4.2</td>
</tr>
<tr>
<td>Experimental C</td>
<td>71</td>
<td>6.4</td>
<td>3.1</td>
</tr>
</tbody>
</table>

*Such a low probability that the difference occurred by chance may be interpreted as highly significant.

*This probability may be interpreted as moderately significant.
### TABLE 12

**FLINT SCHOOL AND HOME PROGRAM**

**Fifth-Grade Children's Mean Gains in Vocabulary.**

<table>
<thead>
<tr>
<th>Schools</th>
<th>Number of Children</th>
<th>Mean Gains</th>
<th>Standard Deviation</th>
<th>Z-Scores</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control A</td>
<td>63</td>
<td>1.4</td>
<td>8.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental B</td>
<td>70</td>
<td>6.4</td>
<td>7.9</td>
<td>3.42</td>
<td>.01*</td>
</tr>
<tr>
<td>Experimental C</td>
<td>54</td>
<td>6.1</td>
<td>8.1</td>
<td>3.01</td>
<td>.01*</td>
</tr>
</tbody>
</table>

**Fifth-Grade Children's Mean Gains in Comprehension.**

<table>
<thead>
<tr>
<th>Schools</th>
<th>Number of Children</th>
<th>Mean Gains</th>
<th>Standard Deviation</th>
<th>Z-Scores</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control A</td>
<td>63</td>
<td>1.8</td>
<td>9.0</td>
<td>.31</td>
<td>N.S.</td>
</tr>
<tr>
<td>Experimental B</td>
<td>70</td>
<td>1.3</td>
<td>9.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental C</td>
<td>54</td>
<td>5.7</td>
<td>10.3</td>
<td>2.17</td>
<td>.051</td>
</tr>
</tbody>
</table>

**Fifth-Grade Children's Gains for Vocabulary and Comprehension Combined.**

<table>
<thead>
<tr>
<th>Schools</th>
<th>Number of Children</th>
<th>Mean Gains</th>
<th>Standard Deviation</th>
<th>Z-Scores</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control A</td>
<td>60</td>
<td>1.7</td>
<td>6.4</td>
<td>1.60</td>
<td>N.S.</td>
</tr>
<tr>
<td>Experimental B</td>
<td>70</td>
<td>3.7</td>
<td>6.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental C</td>
<td>53</td>
<td>6.0</td>
<td>6.4</td>
<td>3.55</td>
<td>.01*</td>
</tr>
</tbody>
</table>

*Highly significant.
**Moderately significant.
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SELECTED LISTING ESEA TITLE I EVALUATIONS
( Includes evaluations for FY 1965 through FY 1970 unless otherwise noted)

CALIFORNIA
Arcadia Unified School District, Arcadia
Lincoln School, Paramount Unified School District, Paramount
Lynwood Unified School District, Lynwood
Redondo Beach Unified School District, Redondo Beach
South Bay Unified School District, Hermosa Beach
Santa Cruz City High School District, Santa Cruz
Santa Rosa City Schools, Santa Rosa
South Whittier Elementary School District, South Whittier

COLORADO
Denver School District, Denver (Academic year and summer program evals.) 1967-1970 evaluations only

DELAWARE
Milford School District, Milford 1967-1970 evaluations only

INDIANA
Gary School District, Gary; Academic Year and summer
Indianapolis School District, Indianapolis
Mishawaka Schools, Mishawaka 1969-1970 evaluation only

KANSAS
Paola Unified School District, Paola
Turner Unified School District, Kansas City; summer and academic year; 1967-1969 evaluations only
Salina Unified Schools, Salina
Wichita Unified School District, Wichita; 1968-1970 evaluations only

MARYLAND
Baltimore City Schools, Baltimore; academic year and summer; 1967-1969 evaluations only
MICHIGAN

Ann Arbor City School District, Ann Arbor; academic year and summer; Big Rapids Schools, Big Rapids; 1967-1970 evaluations only
Clare School District, Clare; 1969-1970 only
Dearborn City School District, Dearborn; 1965-1969 evaluations only
Pontiac City School District, Pontiac; 1966-1969 only
Roseville Schools, Roseville; academic year and summer
Traverse City School District, Traverse City
Van Buren Public Schools, Belleville; 1969-1970 only

MINNESOTA

Robbinsdale Public Schools, Robbinsdale; 1969-1970 only

MISSOURI

St. Louis City Schools, St. Louis

NEVADA

Clark County School District, Las Vegas

NEW JERSEY

Union Township Schools, Harrison
Vineland Elementary Schools, Vineland
Willingboro Township Schools, Willingboro

OHIO

Cincinnati City Schools, Cincinnati
Cleveland City Schools, Cleveland
Columbus City Schools, Columbus
Dayton City Schools, Dayton
Lorain City Schools, Lorain
Maple Heights City Schools, Maple Heights

OREGON

Rockwood School District, Portland; 1969-1970 only

RHODE ISLAND

East-Greenwich Schools, East Greenwich; 1968-1970 only
South Kingston Schools, South Kingston; 1968-1970 only
UTAH
Jordan School District, Sandy

VIRGINIA
Norfolk City Schools, Norfolk

WEST VIRGINIA
Cabell County Schools, Huntington
Ritchie County Schools, Harrisville
Wyoming County Schools, Pineville

WISCONSIN
Milwaukee Unified School District, Milwaukee
Phillips Central School District #1, Phillips
Racine Unified School District #1, Phillips
Superior Unified School District, Superior