DOCUMENT RESUME

ED 135 459 PS 009 074

AUTHOR Johnson, Dale L.; And Others
TITLE Houston Parent-Child Development Center. Final Report.
INSTITUTION Houston Univ., Tex. Dept. of Psychology.
SPONS AGENCY Office of Child Development (DHEW), Washington, D.C.
PUB DATE Aug 76
GRANT DHEW-90-C-379
NOTE 197p.

EDRS PRICE MF-$0.83 HC-$10.03 Plus Postage.
DESCRIPTORS Bilingual Education; Child Rearing; Community Services; Cultural Factors; *Home Programs; Intervention; Language Development; Learning Activities; Low Income Groups; Measurement Instruments; *Mexican Americans; Objectives; Parent Child Relationship; *Parent Education; Parent Participation; Parent Role; *Preschool Children; *Program Descriptions; *Program Evaluation; Socioeconomic Influences
IDENTIFIERS *Houston Parent Child Development Center

ABSTRACT

This final report describes the development and evaluation of a parent education program, the Houston Parent Child Development Center in Houston, Texas. Funded by the Office of Child Development the Houston Model was especially developed to meet the needs of low income Mexican American families with preschool children. Major components of the program consisted of home visits, language development, a Parent Advisory Council, family workshops, community services and an in-center program. Chapter I of the document covers the economic and educational backgrounds of the families, their access to resources such as health services and family values. Chapter II considers the research basis for parent education including parent role and parents' own expectations for their children. A third chapter discusses program goals for mothers, fathers and children. Chapter IV gives a description of the model in terms of family involvement, professional staffing, educational methods and the bilingual/bicultural aspects of the program. Chapter V is an overall program description. Chapter VI presents the evaluation strategy and design, Chapter VII the program evaluation itself. (MS)

FINAL REPORT
Grant No. DHEW-90-C-379
Office of Child Development

HOUSTON PARENT-CHILD DEVELOPMENT CENTER

by

Dale L. Johnson, Principal Investigator
Alfred J. Kahn, Data Coordinator
Hazel Leler, Replication Field Coordinator

Department of Psychology
University of Houston
Houston, Texas 77004

August, 1976

SUMMARY

The final report for Office of Child Development grant #DHEW-90-C-379 describes the development and evaluation of a parent education program, the Houston Parent-Child Development Center.

The general design of the program was developed in 1969 and the first pilot groups of families entered in 1970. Continuing with the basic model the program was improved, staff trained and curricula written during the next two years. Although refinements in program implementation continue and some modifications are made in response to inputs from participating families, the program as reported is highly developed and stabilized.

Background

The instigation for the program was a concern for the educational future of the young child of a low income, minority group background. For a great many reasons, these children often find schooling a frustrating, unrewarding experience. The PCDC project was begun on the assumption that this school experience could be more productive and rewarding if the child's parents could be enlisted as effective preschool teachers of the child. With the help of a parent education program, the parents could provide the children with conceptual, social and verbal skills to make the most of the opportunity provided by the school. The parents' own attitudes about education would be expected to have an influence on the child's motivation for learning. In making these assumptions we also realize that schools are not always benevolent; depending on talents, attitudes and resources of teachers they may bring out the best in the child

or inhibit any existing interest in learning. Thus, the parents may need to become forceful advocates for the children in the educational system.

Goals

The ultimate goal of the program is to help parents help their own children to optimize their school performance. This is a long-range goal and attaining it depends on meeting a number of immediate goals. These goals were determined through a survey of parents of young children in the relevant Houston neighborhoods, and through a review of the literature of research on parent-child relationships and the development of child competence.

Major goals to be attained at program's end were as follows:

Mothers who benefit from the program will be affectionate, use nonrestrictive control, provide opportunities for exploration and curiosity, encourage verbal interaction, view the home as a learning environment, provide for interesting, challenging play experiences and view herself as a teacher of the child.

Fathers who benefit willunderstand the program, support the participation of their wives in it, and see themselves as important teachers of their children.

Children who benefit from the program will be competent cognitively, linguistically, and socially.

In all of the above, the goals are assumed to have been met if program families achieve higher standing in evaluation measures than control families.

This set of goals does not completely describe the full array of goals for the program, but only those goals for which evaluation

assessment was carried out.

Program

The family is enrolled in the program when the child is one year of age. They continue for two years until the child is three. The first year consists of a home-based program and a series of four family workshops. This first in-home year was considered essential because of the home-centered orientation of the Mexican-American population and the mother's role in the home.

During this first year paraprofessional home educators visit the home once weekly for about one and a half hours. Families are invited to four family workshops, each held all day on a weekend. These workshops include the entire family and provide a group experience with other families. This program component is a response to the family-centeredness of the Mexican-American population and the presence and role of the father in the home.

During the second year, mothers and two-year-olds attend a center program four mornings weekly for three hours each morning. Half of the curriculum consists of home management activities, including nutrition, budgeting, health, sewing and driver's education. Sessions dealing with child development and the mother's teaching skills form the other half. In both home visits and in center-based child development sessions, the focus is upon the mother teaching her child. The center's children's classrooms serve as a laboratory for the mothers. Fathers are included in two evening discussion sessions each month and in the Parent Advisory Council.

Evaluation Design

Families entering the program in annual cohorts were selected

through door-to-door recruitment and screening for income eligibility and interest. They were then randomly assigned to program or control groups. For cohorts D and E all control families received general services; e.g., transportation to clinics, assistance with family problems, etc. The F and G cohorts included two control groups, one which received the services mentioned and another that received only medical examinations for the index child and the annual evaluation assessment.

A thorough analysis of randomization and attrition data has indicated that the program and control groups have been generally comparable on a large number of demographic characteristics. The D cohort is an exception in that the D control families had more middle class characteristics.

The numbers of families who began the program and completed it for each cohort are as follows:

Cohort	Began	Completed
D		
Exp	53	20
Con	35	24
E		
Exp	27	17
Con	22	17
F		
Exp	50	25
Con-S	47	30
Con-N	29	10
G		
Exp	55	20
Con-S	33	13
Con-N	22	7

Total		
Exp	185	82
Con-All	188	101

The evaluation strategy included both process and outcome measurement. The process measures, designed to monitor the quality of the on-going program, are very briefly reported here. Outcome measures were selected to determine whether program goals had been attained. The assessment procedures included assessment of mother behaviors as well as tests of the child's performance. Both behavioral and verbal-attitudianl measures were used, but the former were given priority. Child assessment included both general intellectual performances and program criterion measures.

Evaluation Results

Interviews with parents who had completed the program indicated a high level of satisfaction and a willingness to recommend it to other parents. Observer ratings of the affective states of children in the nursery school part of the program clearly show that the children are happy while participating.

A videotaped mother-child interaction procedure was used to assess the mother's behavioral style with her child in both structured and free play situations. While differences obtained between program and control mothers depended on the cohort and the task used, there was a general pattern of results indicating that program goals had been attained. In group by time analyses, program mothers tended to be more affectionate, to use praise more often, to use nonrestrictive control techniques and to be more encouraging of their child's verbalizations. Program children responded with more verbalization.

Caldwell's interview and observational procedure for measuring the richness of the home as a learning environment (HOME) also yielded significant differences over time favoring the program mothers.

No differences between program and control mothers were found on any of the verbal-attitudinal measures. The results of an attempt to measure the mothers' acquisition of English as a second language were equivocal.

For the children, significant group differences favoring the program group were obtained on both the Bayley Mental Development Index at age two and on the Stanford-Binet at age three. A program criterion measure, Palmer's Concept Familiarity Index (age three) found the program children significantly higher.

A striking feature of the results obtained for the four cohorts included in this assessment is that a pattern emerged showing stronger program effects for the more recent cohorts. It was reasoned that this occurred becaues the quality of the program itself had improved over time.

Conclusions

The report concludes that the program has attained the immediate goals desired for participating families and yet cautions that a full evaluation of its effectiveness awaits follow-up study of the children in school.

Thorough evaluation of the effectiveness of the Houston Parent-Child Development Center model cannot rest on evaluation of the Houston program alone. Before the model can be recommended for widespread application, it is necessary to demonstrate that it can

be replicated and that the replications are effective. That process is now underway.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTPODUCTION

That each child has a right to an education is universally accepted, and in America the child's participation in formal schooling is required by law. Education is highly valued by virtually all segments of society, as it is seen as necessary for full social membership. It is widely believed that a better education tends to open doors to greater economic prosperity and general happiness.

While the right to an education is guaranteed, it is made with the stipulation that the level of educational achievement depends on the resources, intellectual, linguistic, social, economic, and physical which the child can draw upon. Children do not all achieve at the same rate, and quite likely there are great differences in learning potential which result in a wide distribution of achievement, but it is also apparent that much of the difference in achievement is directly related to the influence of the environment and differences in access to needed resources. Much of the difference has been accounted for in terms of economic level, or by the somewhat different concept of social class. One of the most stable findings of educational and social science research is the relationship between economic status and economic level.

If we believe the child has a right to an education, does the child not have the right also to fully realize his or her potential to benefit optimally from educational opportunities?

The Houston Parent-Child Development Center was developed from a belief that this right does exist, and the program of research reported here is seen as a step toward assuring this right by helping families mobilize their resources for realizing this potential in their children.

The Houston model was especially developed to meet the needs of low-income Mexican-American families in Houston, Texas. This group was selected because at the time the project began they were identified from 1960 census data as having the lowest income level, lowest years of education, and most children under five in the city. They were also lacking in most community services, and a need existed to develop educationally related services for families with young children that would be responsive to the needs of this ethnic group. Attending to language, cultural, and other factors that are unique to Mexican-Americans has led to the development of a particular kind of parent education program, different from what it might have been if another group had been selected.

Throughout this report, reference will be made to the situation of the Mexican-American. Despite this emphasis, we have no compelling reason to believe that the model that has been developed would not be as effective with other ethnic groups or in other places. Of course, the particular attention to family-centeredness suggests matching the program with groups having high family values, and the concern with bilingual development suggests application with other bilingual groups, but these are flexible rather

than basic elements. Their place in the total model will be reviewed in later chapters.

Economic Level and Educational Achievement

Educational research on economic level and education has shown differences for all school grades, and importantly, for all ethnic and national groups. It is evident from results published by Carter (1970) that the school situation for the Mexican-American child of low-income families is particularly critical. The statistics on Mexican-American educational achievement in part describe the educational situation. In a 1967 survey of adult mean years of education in the Southwest for all ethnic groups, Anglos had 12.1 years, Blacks, 9.0, and Mexican-Americans, 7.1. The situation was much worse in Texas where the mean years of completed education was 11.5 for Anglos, 8.1 for Blacks, and 4.8 for Mexican-Americans.

For Houston, a modern industrial city, these figures were 12.1, 8.8, and 6.4 for the three groups. In a highly technical society five or six years of education excludes one from nearly all adequate jobs.

Examining dropout rates, the same picture emerges. Estimates vary for a number of reasons, but most educators agree that only 15 to 30 percent of Mexican- American children in the seventh grade will actually complete high school (Carter, 1970).

For another source of evidence about the relationships of social class to educational attainment, we turn to one of the

largest social science studies ever conducted, the Equality of Educational Opportunity study or, as it is also known, the Coleman report (Coleman et al, 1966). Note in Table 1 that data from this study show differences between Mexican-Americans and Anglo-Americans at each social class level indicating that more than social class is involved in achievement. This difference may have to do with language and cultural differences as well as with ethnic group prejudice in its many forms. It is also apparent that there are great social class differences within each ethnic group, indicating that economic differences have different implications for education for each group. These differences may have to do with the schools' inability to serve adequately the linguistically-different child, and possibly due to low expectations held by teachers of the low-income Mexican-American child, not to mention the cultural insensitivity of many Anglo educators.

Educational Achievement and the Family

School problems have for many years been treated as though they were problems of the child. Children were seen as lacking aptitude, skill, motivation, or whatever is necessary to adjust to the school situation and to learn. When the children did not learn at the expected rate, remedial efforts were attempted to change them by altering any of the above-mentioned characteristics. In many cases this has been successful, but often enough, it has not worked. The problem seems too complex or the remedial efforts insufficient. It appears that the remedial approach is an attempt to remake the child, implying that the child is inferior

TABLE 1

GRADE LEVEL EQUIVALENTS ON ACHIEVEMENT TESTS

FOR SOCIAL CLASS GROUPS

Grade	Social Class	Mexican-American	Anglo-American
6	Low	4.1	5.6
	Medium	4.8	6.5
	High	5.7	7.5
9	Low	6.9	8.1
	Medium	7.8	9.5
	High	9.0	11.4
12	Low	8.9	10.6
	Medium	9.8	12.6
	High	11.6	(about 14)

From T. Okada, W. M. Cohen & G. W. Mayeske as reproduced in F. Mosteller & D. P. Moynihan (Eds.) On equality of educational opportunity, New York: Vintage, 1972. (p. 23)

rather than looking at the school and seeing how it can be changed to better meet the child's needs, both linguistically and culturally. The PCDC is an effort to demonstrate what a culturally and linguistically sensitive educational experience can produce.

In understanding the educational plight of the low-income child, one must stop blaming the child and insisting that he be the one who must do all the changing to fit the expected mold of the school. Rather, attention must be placed on the environments that most affect him, and efforts then can be made to optimize those environments and the relationships between them so that the child can flourish.

The Coleman report (1966) and the various reanalyses of the original data (Jencks, 1972; Mayeske et al,1973; Mosteller & Moynihan, 1972) have suggested that the family must be involved in the child's education. The data on correlates of educational achievement overwhelmingly show that much of the outcome is associated with such family characteristics as income, but that parental expectations for the child, encouragement of learning efforts, and provision of educational materials in the home are also of great importance. This is seen in the Mayeske et al (1973) reanalysis of the Coleman data. They report that for all racial-ethnic groups combined, "...48 percent of achievement was associated with Family Background, 21 percent with School Characteristics, and 32 percent with both" (p.13). The authors conclude that what is really important for parents is "The nature of their involvement in the educational process" (p.14). They go on to suggest,

> Among the .... measures that might be undertaken... [are] programs run by the schools to instruct parents on the importance of educationally related child rearing activities in the home (p.147).

Reasons for Economic Level Differences in Achievement

Calling attention to the family's role in the child's school achievement has been described by some as "blaming the victim." It is seen as shifting attention from the quality of schooling offered, or from the role of society at large in providing for all of its citizens, to the family as the source of the problems. This misses the real point which is that home and school must both be involved in the child's education, sharing skills and knowledge in the best interest of the child.

Differences in achievement associated with economic level can be viewed at two levels: one having to do with skills necessary for school success, and the second, the farious factors responsible for these skills. Thus, differences along economic status lines have been found on many cognitive, language, perceptual, motivational, self-esteem, and other measures (Hess, 1970; Deutsch, 1973). But why, in turn, do these differences exist?

A case has been made by Pasamanick and Knobloch (1966), Sameroff and Chandler (1975) and many others, that economic disadvantage places the child at risk in a number of ways. It is known that the following factors are found more often in lower income families:

Poor prenatal nutrition

Poor prenatal medical care

More children

Children more closely spaced

More medical problems

All of these have to do with physical factors, and all are now known to have adverse effects on the intellectual and perceptual development of children. All are also potentially preventable and, therefore, may be viewed as problems of access to resources. Access to resources, in turn, is commonly a function of economic well-being, but the lack of money is tied in with other matters that also limit access to resources.

Access to Resources

A major problem for the Mexican-American family is that of gaining access to resources for the family. Analysis of the family's situation in urban areas such as Houston, demonstrates that the problem exists for virtually every area of family functioning.

Occupational

Access to jobs typically requires fluent knowledge of the majority language as an essential, even coming before knowledge and skills related to performance of the job itself. Lack of fluency, commonly means that the family wage-earners must content themselves with low-status, low-paying jobs. In the Houston PCDC, where almost all of the families have the father present,

family incomes are still low because fathers are employed in minimum wage jobs. It should be noted also that many wage earners in this group are held to low-paying jobs because they lack adequate education; fathers in the PCDC average about seven years of school.

Educational

Schooling for the Mexican-American child is often a frustrating experience. Observational studies have shown that these children receive less attention from teachers, and less praise and encouragement than Anglo children (Cosca & Jackson, 1973). This attitude and behavior on the part of the teacher may have a damaging effect on the self-concept of the child.

In addition, the language difference that typically exists between the child's home language and that of the school is a major factor. Bilingual education programs are correcting this disparity to some extent, but for many children, access to a full education is limited by language differences and the inability or unwillingness of the school to deal effectively with the child who is linguistically different. Many studies have shown that English language fluency is the first line of success for Mexican-American children in schools where English alone is used. Because only English is used for instructional purposes, children with English fluency on entering school get off to a better start in all subjects than their less fluent peers (Hutton, 1969). In bilingual programs where children who are dominant in Spanish are instructed in Spanish there has been little difference in achieve-

ment levels. In good bilingual programs, children achieve even higher than their monolingual counterparts (Lambert & D'Anglejean, 1975). When children do not have an opportunity to communicate freely, the consequence is poor academic performance, discouraged motivation, and loss of self-esteem.

Styles of interpersonal relationships may also play a role in creating a frustrating school experience. Most American schools call for a remarkably competitive attitude on the part of students, with each pupil expected to assert himself and compete with others for the teacher's attention. The Mexican-American child has often been reared to avoid displays of intense competition, and instead, to be cooperative (Kagan, 1972). There is also accumulating evidence that Mexican-American children may have a tendency to acquire a perceptual or cognitive style that is different from that of the Anglo child. Ramirez and Castañeda (1974) contend that since Anglo-American schools do not address the Mexican-American child's style of learning, the child is at a disadvantage.

In these examples we can see that access to full educational participation is limited by value differences between schools and pupils which lead to severe discontinuities in expectations for the Mexican-American child. The child's value orientation is shaped in one way in the home and is required to change markedly on entering school.

Health

Seeking medical attention under even the most favorable of circumstances is an emotional experience. It is often compounded

by the stress of illness of self or relative and the anxiety that accompanies facing unknown situations. Even preventive care, such as physical examinations and immunizations may be anxiety-provoking.

When this emotional situation is further complicated by language, social status, and cultural differences, anxiety levels can become intense and needed medical care is not obtained. Adequate medical care is dependent on communicative clarity, and this is rarely achieved if the practitioner and patient do not speak the same language. It is well-known that doctors and nurses often assume greater understanding than actually exists. Communication also requires a common vocabulary and some commonality of technical understanding. When instructions are given about the use of medications, for example, comprehension requires more than just a literal understanding of the words spoken; there must also be an understanding of the rationale for the procedures. Communication depends on some commonality of belief systems; if the system of beliefs about the function of the body, the working of medicines, etc., that characterize modern medicine has not been acquired by the patient, doctor or nurse and patient will have difficulty working well together. This kind of shared belief is apparently acquired in one's own familial experience, in the schools, and through the mass media.

We could cite many examples of access to resources limitations on Mexican-American families in the health field, but will mention only a few for emphasis.

Family Planning: Most Mexican-American women, even though largely of Roman Catholic background, prefer to effectively plan their families. Yet, communicative and value differences have placed them in the position of being relatively ineffective family planners (Urdaneta, 1976).

Physical Handicap: Many kinds of physical handicaps in children require long-time continued physical therapy with repeated visits to clinics and complex home care. Families are limited by transportation problems from full utilization of services available,and because of communicative unclarity cannot effectively carry out prescribed home treatment (Johnson, 1964).

Psychiatric Services: Mexican-Americans are known to underutilize available psychiatric services despite critical needs. Alcoholism, juvenile violence, and emotional disorders are also relatively common among low-income groups, and yet families take little advantage of community services. Padilla and Ruiz (1973) have pointed out that it is the system for delivering these services that is inadequate because it does not fully provide what people want.

Pediatric: Young children often fail to receive physical examinations during the crucial years and are not protected with immunizations. In the Houston PCDC, it was found that on entering the program at age one, 85% of the babies had not had either examinations or immunizations. Services were "available", but not used.

In the area of health care we can see that economic factors (having to rely on public facilities, transportation problems), communication factors (language and educational differences), values (distrust of public agencies, different medical belief systems), and ethnic discrimination and rudeness on the part of the majority, all interact to place the Mexican-American in jeopardy.

Parenting Skills

Parents get most of the information they need about child care and childrearing experience from their own parents; this comes from advice given at the present time and from the new parent's recollection of her own childhood experiences. To the extent that new parents have ready access to the grandparent and to the lore of tradition, they are in some ways advantaged, but many new parents live far from these traditional information sources and need other sources.

Furthermore, this traditional lore may be somewhat limited on many matters that have taken on modern technological features. These include illness prevention and preparation for school. For these, parents today seem to count on magazine articles, radio programs, and books.

The Mexican-American parent in Houston is frequently isolated from relatives and thus cut off from this important source of childrearing help, and also, by virtue of the language differences, cut off from many of the other sources of information. There is no Dr. Spock to read, no Parents' Magazine, or Redbook articles. There are, of course, Spanish-language counterparts of these books

and magazines published in Latin-America, but they are hard to find and quite expensive.

Just how important these sources are for parents is difficult to assess and how much usable information they convey is not known, but one fact is inescapable: they are popular. Parents seek them out and read them. Many of the childrearing books, such as those by Spock, Ginott, and Salk, are best-sellers. The point to be made is that to the extent that they offer useful information, the Mexican-American parent tends to be lacking this information. It is another example of limited access to a potentially useful resource concerning childrearing.

Family Values

There is evidence that Mexican-Americans tend to differ from Anglos in being much more family-centered. Basically, this amounts to placing a relatively higher value on matters associated with family than on other matters such as occupation, education and the like. As examples of these value differences, Ramirez and Price-Williams (1974) report the results of interviews with a large number of Houston mothers. Several items of their questionnaire are relevant here:

	Percent of Agreement	
	Mexican-American	Anglo-American
If parents have a culture or a background different from that of the majority of people in the United States, they should try to keep it and pass it on to their children.	80	56
Relatives are more important than friends.	66	31

	Percent of Agreement	
	Mexican-American	Anglo-American
It is a good idea for a child to have some friends whose backgrounds are different from his own.	42	89
For a child, loyalty to his family should come above all else.	84	71
Children who work should turn their money over to their parents.	70	22

In these results, we see large differences between the two groups regarding the place of the family in the life of the individual. The differences mean that in a larger society where much is made of institutions such as school and medicine, where these are relied upon as common resources becoming a kind of extension of the self, and where Mexican-Americans find it difficult to view them in quite the same way, they will be less able to take advantage of the offerings of these agencies.

Another way of viewing the differences noted here is that the Mexican-American may be more oriented toward personal relationships, while the Anglo is oriented toward professional relationships. The preferences for "personalismo" rather than "professionalism" could have an impact on relationships with a great many agencies, including, certainly, schools, clinics, and hospitals.

What we have intended to communicate here in this introductory section is that while low-income families have special needs for preschool services to children, low-income Mexican-American

families have other, additional needs by virtue of their cultural and linguistic differences from the majority society. These differences require services from programs that are designed to be responsive to the differences so that while reaffirming the strengths of the culture, these strengths can be built upon by providing a wider range of alternatives, thereby adding to the repertoire of coping skills that a truly bilingual, bicultural person must possess to function in this society.

CHAPTER II

THE RESEARCH BASIS FOR PARENT EDUCATION

Having described in the first chapter some features of the Mexican-American's educational situation and indicated that a need exists for educational systems that are sensitive to the families' requirements, we now turn to questions about the kinds of educational experiences that might be most useful. In this chapter we will try to answer three questions:

1. What kinds of additional experiences would be most useful?
2. What do parents themselves want for their children?
3. What can parents do to have a positive influence on the development of their children?

In answering these questions we also describe the theoretical framework of the program model.

What Kinds of Additional Educational Experiences Would Be Most Useful?

That the educational experience for many Mexican-American children has been unsatisfactory there can be no doubt, nor can there really be any argument with seeking many ways for improving this situation. The avenue that we have found particularly promising, whether the other approaches are tried or not, is that of supporting parents in the task of guiding and teaching their young children.

Family relationships are basic because they provide the child's primary socialization. The world that the child first

encounters is that of the family; the family also defines what early relationships mean, and even provides the ways for knowing about the social and physical world.

Hollingshead (1975) has commented on the pervasive and lasting influence of the family in the conclusion to his recent restudy of Elmtown, a midwestern community first visited a generation ago:

> The vast majority of a child's experiences during preschool years occurs in his parental home and in the immediate neighborhood. Concomitantly, the essential aspects of the culture which characterizes the family are transferred through the subtle processes of informal learning from older persons to younger persons, primarily the mother and other siblings to younger children. What the child learns in the home is carried out to the neighborhood with little or no awareness on his part of the connection between home influence and behavior. In this way, family background goes along with the child wherever he goes, and what he has learned in the home acts as a powerful influence on his behavior in nonfamily social situations.

For young children, at least, almost the entire social world consists of family. Later, as the child enters the wider neighborhood and school, other children and adults take on more significance, but nevertheless, throughout the school years, family influences continue to be strong. All of the theories of child development and education acknowledge this influence, and call for further exploration of its implications. In view of this, it is strange that when an interest in what is commonly called compensatory education arose in the 1960's, most program development was devoted to non-family involvements for the child. Head Start is but one of many programs that were developed at this time,and, as the largest, tends to represent the entire type. This type of

program states that the child's educational future can be enhanced if he spends time each day in a classroom with other young children and professional teachers. The main effect is assumed to be from teacher to child.

Compensatory education in the preschool years now appears to be inadequate by itself. That is, if the low SES child attends a preschool program, such as Head Start, it is likely that his scores on tests of various kinds will go up as long as he is in the preschool program. This was true of Head Start in general and of a number of other special programs. However, we now realize that these gains are usually lost when the special programming is left behind and the child goes on into ordinary schooling. What has become evident in the many analyses of the effects of early childhood education (Bronfenbrenner, 1974) is that continuity of enriched experience is required. One way to achieve this is to continue attempts to upgrade the elementary schools and, in effect, see that they provide whatever additional learning experience may be necessary. Another way is to enlist the parents in providing a richer, more stimulating, and encouraging learning environment. This second approach is quite new and still rather undeveloped, but nevertheless, extremely promising. Both approaches operating simultaneously, would be of most benefit for the child since they are not mutually exclusive. The advantage of building the parents' skill comes in the fact that they have a more constant, lasting and pervasive influence on the child during his educational career. It has been said that the parent is in a position to be the child's best advocate.

The results of the work of pioneers in parent education (Gordon 1968, Levenstein 1970, Karnes, Teska, Hodgins & Badger 1970, Weikart & Lambie 1969, Schaefer & Aaronson 1972) have been most encouraging. It appears that some of these programs have been able to effect long-lasting changes in child performance. In a sense, the Schaefer and Aaronson program was most revealing in perceiving the need for parent education. They used trained tutors to provide cognitive stimulation to infants. These tutors ordinarily worked directly with the baby; mothers were encouraged but not required to participate. At the end of the program, tutored infants had higher scores than the control group, but follow-up testing showed rapid losses of these higher scores. They also noted that children with accepting, warm mothers retained their gains better than those with rejecting mothers. The authors concluded that tutoring the child without helping the parent to develop her teaching abilities, formally or informally, was a waste of time.

The promise of lasting positive effects from the parent education oriented programs may have been realized in the work of Levenstein (Madden, Levenstein & Levenstein, 1974) and Gordon (Gordon & Guinagh, 1974), inasmuch as both of these programs have now presented follow-up results for children whose mothers were trained earlier. The program children show better school performance than controls, suggesting desirable effects, but evaluation design problems for both of these projects make the results somewhat equivocal.

What these studies have done is open the way to a new approach to early childhood education, one that will have lasting effects on the child, and involve many aspects of the child's life.

It appears, however, that differently structured programs will have different consequences for the child. We have identified several models in current use.

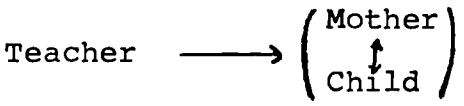
Model A (e.g., Fowler, 1971; Head Start; Schaefer, 1969; Palmer, 1970)

Teacher ⟶ Child

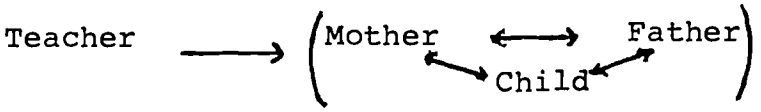
Model B (e.g., Karnes, et al, 1970; Gordon, 1968)

Teacher ⟶ Mother ⟶ Child

Model C (e.g., Levenstein and Sunley, 1968; Weikart, 1969)



Model D (Houston PCDC)



Model A is designed to have direct effects from the teacher to the child. An assumption is made that what the child learns in this teaching situation will be retained over long time periods. Although this model does not include the parents it does appear in several different forms. Thus, the traditional nursery school is one version, as is the Head Start program. In these, child-to-child interaction in small groups is a part of the program and should be included in the model. Another version is the teacher-to-child situation where they interact in a tutorial way. Palmer's

(1969) program is an example of this.

Model B includes the mother and focuses educational effects on her so she will become a more effective teacher of her child. At times this model operates in a tutorial manner, as in Gordon's program, but mothers are also involved in groups, as in many parent education programs (Hereford, 1963). It is assumed that lasting effects for the child will be achieved because it is the mother who is trained and her greater maturity tends to assure greater stability of learning.

Model C offers a new dimension to the previous models' inclusion of the mother. It makes the same assumptions about the mother providing continuity, but additionally, has the mother and child learning together as an interacting dyad.

Model D, the Houston PCDC model, is basically the same as Model C in that it also calls for much of the experience to take place with parent and child together. One great advantage of this approach from a pedagogical standpoint is that the interaction provides the ultimate in real situations in which to practice. Learning may deal with abstractions, but is certainly concrete as well. This real setting provides rich opportunities for feedback and for immediate changes in practices. The Houston model differs from the preceding in including the father (and for that matter, the entire family) in the scheme. Here the assumption is made that while mothers may have a major role in the socialization of young children, fathers and siblings also have a strong influence.

This discussion of program structural variations brings us to the next point: to the extent that the Houston program is theory-based, the primary theoretical orientation is reflected in the model above.

The theoretical orientation that seems best to typify the Houston model is what has come to be called a transactional approach. There are three essential features: (1) child development takes place in a social setting, (2) parents and children have a mutual influence on one another, and (3) as the child deals with the social and physical environment there is a continual interaction of constitutional and learning factors in ways that might be called self-generative.

The transactional model has been recently described by Sameroff (1975) in a paper in which he contrasts it with two less satisfactory models of development. One of these is the main effects model. In this, single variables, e.g., heredity, are seen as causing some other single factor, e.g., intelligence. Most of the research to be reviewed in this chapter in support of the relationship of early parental behavior to child behavior will be of this type.

The second model described by Sameroff is an interaction model. In this model the effects of two factors, such as genetics and environment are viewed as interacting to cause some effect such as intelligence. The limitation of this model is that it is still rather static. The transactional model, on the other hand, views the organism as plastic in the sense of continually changing

in response to new situations and continually affecting the environment in turn.

We are using the term transactional to characterize much of the orientation of several theoretical positions, but have chosen it over others because it seems to encompass a broader range of behavior. Thus, it would include the general approaches of Piaget, Kohlberg, Werner, and Erikson. It does not include social learning theory unless much of that orientation is recast to provide for a more active role of the person in shaping the environment.

We cannot elaborate the theoretical point of view here, but will refer to its implication in later sections of program description and evaluation.

What Do Parents Themselves Want For Their Children?

The possibility exists that a program might suit the developers quite well, but not fit the perceived needs of the families involved. To avoid making this error, we began very early to conduct a series of surveys of representative families in the project neighborhoods. The main focus of the inquiries was to learn what the families thought about preschool education and what they wanted for their own children.

The procedure began with interviews with parents of young children using a Sears-type interview on child rearing and parental aspirations. Later, observations were made in selected homes, some for several hours duration. Later, we set up pilot groups of families and involved some of them in a series of dis-

cussion groups while others were visited in their homes regularly.

This report will not attempt to be thorough in describing these early studies; only the main points will be presented. These can be divided into two parts, responses to specific questions and observations by the people doing the surveys.

Occupational and Educational Expectations

Most of the parents would like their children to become professionals or businessmen. About half of the parents desired college degrees for their children and the other half wanted at least a high school education. Educational and occupational aspirations show a high concern for upward mobility.

Preparation for School

It was clear that most parents had not given much thought to the preparation of the child for school. Answers were rated as "vague" or "no plans" in nearly all instances. Nevertheless, there was a keen interest in education in general and an obvious concern with providing the best possible preparation for their children. Interviewers repeatedly found themselves being asked, "What can we do?" "How can we help?" Parents were clear about their own importance for the child's education, but not about the means to achieve their goals.

Parent as Teacher

Mothers said they had not tried to teach their own young children anything special, and few of them could relate anything that had been taught. They tended to see themselves as responsible for preparing the child for school in the sense of assuring

compliance to the teacher, but not for providing cognitive stimulation, etc. Thus, in response to the question, "What would you tell your child if he were to start school tomorrow?", most emphasized the need to conform to the rules of the school.

Parents found the idea of being a teacher of infants and toddlers particularly unusual. In the group discussions, babies were rarely mentioned, even though all of the mothers had infants and the group leaders tended to steer the discussion in this direction. Instead, concerns were with husbands and with school age children, particularly those with problems.

Language

On the subject of second language training there were very strong feelings, but much uncertainty and quite a variety of wishes. About half of the parents emphasized the importance of learning English, even if this meant not learning Spanish. The other half was as strong for the necessity for their child to learn both languages--English for school and work, Spanish for family. Only a few preferred Spanish only. As to when the child should learn a second language, some felt it should be on school entry, about the same number felt it should be in the preschool years, and a small number believed both languages should be learned together. On the questions about who should teach the child, the parents were again divided with a large number replying that the mother should teach, and about an equal number insisting on the school. A few others thought the father was most appropriate, or both parents, or the older siblings.

The questions about language training provoked lively discussions about timing and methods. Parents seemed quite willing to let experts lead the way on this provided they did offer means to achieve linguistic skill. All parents emphasized the importance of the child's being able to express himself clearly and even eloquently.

Role of the Father

While it was apparent that fathers were acutely interested in their children's development and felt they would have a major influence on this development, there was a tendency to feel that most of the responsibility for the preschool child was the mother's. Fathers expressed a willingness to participate in parent education programs, but their wives were skeptical about their actual attendance. This was based on their observation that the fathers, for a variety of reasons, spent little time with their young children and babies. Nevertheless, mothers felt it was vitally important that the fathers be supportive of early educational efforts.

Other Concerns

It was apparent that it would be difficult for parents to participate if provision for transportation was not made. Furthermore, most had several children and they were concerned about child care during meetings.

Mothers were very interested in the possibility of developing their own skills as homemakers and felt that they had not had opportunities to do so as they would have liked.

Health problems were very frequently mentioned as being major causes of anxiety in the family and a drain on family financial resources. Furthermore, many of the parents felt extremely frustrated about the prospect of finding adequate medical help within their economic limitations. They showed little concern with preventive help, perhaps because so many were nearly overwhelmed with more critical health problems. A large number of women expressed displeasure about their most recent pregnancy, feeling that they had enough children, or that the latest child had arrived too close to the one preceding. There was an intense interest in obtaining reliable information on family planning.

Observations

The interviews and observations also led to a number of generalizations that we deemed important for the program.

1. Home visits to mothers would be by bilingual women only.

2. The home-centeredness of the families suggested an in-home teaching experience for the first year.

3. Fathers would have to be involved in all phases of the program, and this could probably be accomplished best in a setting that included the entire family at one time.

4. Parents wanted to provide good developmental experiences, but were uncertain about ways of preparing children for school.

5. Mothers tended to verbalize very little to their babies, but to handle them in a warm, nondemanding way. While they were relatively unconcerned about the development of the infants and young children, they wanted to know more about handling school age children's learning and behavior problems. The program would have

to provide ways of productively linking these two orientations.

What Can Parents Do to Have a Positive Influence on the Development of Their Children?

Although the child development literature is vast beyond comprehension, remarkably little of it bears directly on the question of what parents need to know or do to best rear their children. There is, as everyone knows, no dearth of theoretical answers to this question; developmentalists of all persuasions have rushed forward with advice. In developing our program we followed some of this advice, but for laying out the main directions of the project, of setting goals and putting a program into action, we preferred to rely on empirical evidence as much as possible.

In reviewing the literature, we mainly looked for studies that would tell us what kinds of early child experiences, especially with parents, were forerunners of competent, able behaviors later on. We also reviewed studies of parent-child interaction and concurrent measures of child competence.

The term "competence" is used here and throughout this report to describe a set of desirable characteristics of children. Although the term lacks precision, it has come to acquire meaning through repeated use by developmentalists. Ryan (1975) has offered a general definition:

> Competence refers to the potential that an individual possesses for coping effectively with the specific demands of the environment. This concept embraces both cognitive and effective components; that is, pertains to both a set of rules about

> problems and problem-solving as well as the organization of motivational factors that determine the direction and persistence of action (p. 306).

In their discussion of intellectual development, Rohwer, Ammon, and Gramer (1974) use competence to mean "what a person can do", as distinct from performance, what a person "does in a particular situation", and process, "how he does it" (p.130).

This emphasis on what a person can do includes a wide range of activities; e.g., facing difficulty without appeals for help
playing constructively
taking initiative
seeing the other child's point of view
being socially assertive
assuming responsibility appropriately
expressing aggression appropriately
intellectual achievement

(Clapp, 1968)

Bronson's research on the subject has led her to formulate the following definition:

> In its first use, I intend to evoke a fundamental fact of development: that unless irreparably damaged, the growing organism will necessarily move towards successively more differentiated and organized modes of interacting with all aspects of its environment--that by its very nature it will seek to become progressively more competent in sustaining its own development. For the second use, I have a very different referent in mind; namely, that elusive set of attitudes and expectations which enable some individuals to perceive in the necessities of coping a satisfying opportunity to expand their own effectiveness--and so, to affirm their own sense of competence. In the one instance I am speaking of developmental process, in the other about differences among individuals..."
>
> (Bronson, 1974, p.275)

Other writers have used the term in slightly different ways, but a common thread of meaning does emerge. It has to do with the development of the child's potential, and the changes in this

that occur through experience. Thus, competence is a term that fits our transactional point of view well. It deals with the interaction of potential experience over time and directs our attention to the nature of on-going experience. Yarrow, Klein, Lomonaco and Morgan (1975) comment on this as follows: "...one of the most important goals of enrichment programs should be the development of a sense of competence in the young child, a feeling that he can have an effect on his environment." (p. 492)

But before going on to describe a program that can promote this sense of competence, it is necessary to investigate what kinds of experience are most conducive to its development. The following survey is not exhaustive, but it is fairly representative of the area. It is concentrated primarily on research with children from about two to six, but some studies of older children have been cited.

In a series of studies carried out in Chicago, interviews were conducted with parents about a wide range of family characteristics and parental behaviors, and these were used to predict school achievement. Bloom (1964, p. 190) has summarized the main home characteristics involved in the child's developing competence as:

1. Stimulation provided in the environment for verbal development;
2. Extent to which affection and reward are related to verbal reasoning accomplishments;
3. Encouragement of active interaction with problems, exploration of the environment, and learning of new skills.

These attributes have been found to hold for many populations in a number of countries, including Australia, Britain, Canada, Trinidad and the United States.

Bayley and Schaefer (1964) found many significant correlations for boys, but not for girls, when maternal behavior was rated for the first three years and compared with child IQ at ages five to seven. The main pattern was that maternal rejection predicted low intelligence scores.

Sontag, Baker and Nelson (1958) compared children who showed steady increases in intelligence between the ages of four and twelve with those who showed a decline during the same time. When they examined the parental behaviors of these two groups early in the life of the children they found the parents of ascenders had used more control by rational and democratic means and more acceleratory behavior.

In one of the most comprehensive studies of this type, Moore (1968) found that the home situation at child age two and a half correlated significantly with the child's school performance and IQ at age eight. The emotional adjustment of the child and the presence of toys, books and new experiences were strong predictors of school success, but the factor having the most pervasive influence was the home's emotional atmosphere. Warm, concerned parents had more competent children.

A number of research studies have been done recently on the specific behaviors in mother-child interaction and how these in-

teraction styles vary across social classes, and how certain interaction patterns are related to child performance on other tasks.

Rather than review these studies in detail, the main results are summarized in Tables 2 and 3. Table 2 shows social class differences that have been found in a number of mother-child interaction studies. The greatest differences that occur are in the areas of control style, affective relationship and verbal interaction. Middle-class mothers are more likely to use reasoning, are less restrictive, are warmer, engage in more verbalization, and are more specific in their instruction giving. These findings seem to hold well across ethnic and national groups.

When child competence is viewed as an outcome of mother interaction style, as in Table 3, we find much the same pattern. Again, warmth, autonomy granting, verbal encouragement, and sensitivity to the child emerge as significant.

It might be noted that other major reviews of this topic have found much the same result (Hess,1969,1970; Schaefer,1972; Vernon, 1969; Bruner, 1971).

Only a few studies have been done of Mexican-American parent-child relations and child competence. Those that are available tend to be in line with the research just reviewed, with one notable exception which will be dealt with last.

Deschner (1972) worked with mothers and their three-year-olds in the Houston PCDC. The unique feature of this study is that it explored the relationship of each separate unit of mother-child interaction to determine the extent to which certain kinds

TABLE 2

PARENT-CHILD INTERACTION AND SOCIAL CLASS

Investigator(s)	Year	Child Age	Groups	Results for Middle Social Class
Hess & Shipman	1965	4	MC and LC	Fewer appeals to authority and more to reason
Bee et al	1969	4-6	White MC Black LC	Less restrictive control; less disapproval
Brophy	1970	4	Black LC and MC	More verbalizing, more labeling, more focusing; More adequate post-response feedback
Schoggen & Schoggen	1971	3	MC and LC	More verbal interaction; more specific instructions; more positive affect
Feschbach	1973	4	American, English, Israeli MC & LC	More positive and less negative reinforcement

MC: Middle class

LC: Lower class

TABLE 3

PARENT-CHILD INTERACTION AND CHILD COMPETENCE

Investigator(s)	Year	Child Age	Parental Behaviors Leading to High Competenc
Leler	1971	2-3	Affectionateness, acceptance, praise rewarding of independence, reasoning pressure for child's achievement, ar encouragement of child's verbalizati
Radin	1971, 1972	4	Maternal warmth, consultation with child, sensitivity, paternal nurtur- ance
Wiegerink & Weikart	1967	4	Positive motivation and less negati reinforcement, more specific informa tion
Baumrind	1967	4	Warmth, rational contro_ nforma tion giving
Shipman	1973	4	Warmth, specific language use, reli on verbal feedback from the child, encouragement of verbalization, pos tive controling techniques, and rea ing rather than power or restrictio

of maternal behavior would be followed by competent child behaviors. She found child competence was greatest when mothers were autonomy-granting, warm, used praise, provided structure, and were responsive to their child.

Stewart and Steward (1973) found a number of differences in the teaching styles of Anglo-, Mexican-, and Chinese-American mothers and their three-year-old sons. Mexican-American mothers were different from the other groups in giving more negative feedback, despite the fact that their children were highly compliant. They also presented fewer "teaching loops", the authors' term for the mother's instructional interactions with her child.

Spencer Kagan's (1972) study of maternal effects on child cooperation-competition is relevant for our inquiry into the parental influences on child competence, but of a type that differs from most of the studies. Kagan and Madsen (1971) have published a series of experiments with Mexican, Mexican-American, and Anglo-American children. They report that the Mexican youngsters are extremely cooperative in the "game" situations and the Anglos are as extremely competitive. The Mexican-Americans in Los Angeles are intermediate. In exploring the parental correlates of this behavior, Kagan asked mothers in rural Mexico and the United States (urban Anglo) to help their children play several simple games. Mothers of the two cultures differed sharply in the way they related to their children in the tasks. Mexican mothers allowed their children to stand closer to the target, making the task easier. After failure by the child, United States mothers

expected their children to try again at the same level of difficulty, but Mexican mothers allowed their children to attempt an easier problem. Mexican mothers gave rewards, regardless of success or failure, while the United States mothers rewarded success almost exclusively.

Kagan's point is that neither of the above two child rearing styles is in itself better or worse, adaptive or maladaptive, but that one trains for a competitive orientation and the other trains the child to be cooperative. There are many implications of these findings if indeed they may be generalized to other situations. The implication that seems most relevant here is that the United States mother is more likely training her child to fit into the individually competitive American school, whereas, the Mexican mother is training her child for something quite different.

Henderson's (1972) research on the environmental predictors of academic performance of Mexican-American children yielded results that are highly consonant with the results of other researchers working with Anglo or Black families. The Environmental Press Variables (EPV) were obtained at age six and used to predict child IQ at age nine. The EPV total correlation was .55, Achievement Press was the highest, .61, and Language Models, Activeness of Family, and Academic Guidance were all in the .45 to .55 range. Other variables were significantly related, but at lower levels.

The research that is at odds with the others, particularly that of Henderson, was done by Cicerelli (unpublished). He investigated parental influences on Head Start children's later

success in school. He found family variables had different effects on Black, Anglo, and Mexican-American children, although there was a fair amount of similarity for the Black and Anglo groups. For the Anglos, the best predictors were gross socio-economic measures such as "father's occupation". For Blacks, such variables as "desire for more schooling" and "educational expectations" were the best predictors. The results for Mexican-Americans were most surprising because variables such as "mother's educational aspirations for the child", and the "home learning environment" were negatively associated with the child's later school success. In other words, a stimulating home environment in this group predicted poor school achievement.

It is not possible to reconcile the differences between the Henderson and Cicerelli studies on the basis of information given. The two studies are presented here only to point out that the relationship of family practices to child competence is less well-understood for Mexican American families than for other ethnic groups in America.

The recurring theme in the mother-child interaction results is that child competence is enhanced when mothers:

1. are warm or affectionate
2. use positive reinforcement
3. encourage verbalization
4. exert control that uses reasoning and is not too restrictive

In this learning context, children seem to thrive.

It seems worth noting that the maternal behaviors involved are not as specifically training-oriented as one might expect. Achievement expectations are important and, no doubt, this carries with it an element of pressure on the child, but this aspect does not seem to be as important as the emotional context the mother provides. The most commonly mentioned aspects were maternal warmth, affectionateness and use of positive reinforcement or appropriate praise. This context provides a secure home-base from which the child can operate. In Erikson's view, a sense of trust is established from which the child can go on toward autonomy and initiative. Skinner's (1968) emphasis on positive reinforcement as a powerful learning influence is also relevant. Furthermore, a warm relationship with the parent makes the child more willing to learn from the parent. Stayton, Hogan, and Ainsworth (1971) found that even eleven-month-old babies were more obedient if the mother was warm.

Language skills are definitely important for schooling. What is not clear is whether certain kinds of language experience are more important than others. According to Carew (1975), sheer amount of verbal interaction is the first consideration. Children who frequently talk with their parents seem to be more competent. Beyond that, the studies reviewed indicate that language is important to the extent that parents specifically focus on the task at hand and use verbal reasoning in their control of the child.

The control techniques that are most encouraging of competence are those that combine consistency, reasoning, and recognition of the child as an autonomous person. Some investigators

have described this control as "democratic". Baumrind calls it "authoritative" in contrast to a more rule-bound "authoritarian" or to the other extreme, "permissive", which has a weaker control aspect. Quite likely, this type of control helps children develop into competent individuals because it helps them to direct their attention to tasks, develop self-control, and become persistent. It is not only genius that is 10% inspiration and 90% perspiration; persistence in early education is also valuable.

CHAPTER III

PROGRAM GOALS

The primary goal of the Houston Parent-Child Development Center is to optimize the development of the child by influencing the family environment. By helping parents to develop their skills as teachers of their own young children and as advocates for their children we intend to have an indirect, but lasting, influence on the development of the child.

The goal as stated here is quite general, and while valid, it is too broad to be really useful. That is, specific goals need to be set in order to select the most relevant program elements and to provide an organization for them. Goal setting is also important in evaluation. In order to know whether a program has been effective, it is necessary to know if goals have been achieved. By carefully stating goals at the beginning and implementing them through program activities and then testing for their achievement, it is possible to tell whether the intended program effects were obtained or not.

The goals we have set are largely based on our review of the relevant literature on child development and particularly on how parent-child relationships tend to affect child abilities. We have also surveyed representative families in the barrios of Houston for views on what the parents themselves want.

While these two sources have provided our basic set of goals, we have also relied on expert opinion of various kinds and on our

own experience with families and children. While we would like to say that the program was based on a solid foundation of behavioral science research, this is not entirely possible. The research provides leads and does certainly represent an important knowledge source, but looked at critically, it can hardly be said to offer a foundation of much solidity. In our view, this project and others like it will play an important role in establishing a sound basis by feeding back worthwhile information into the scientific system. Applied research is a response to a current problem which draws on previous research, both applied and basic. In the course of applied research (or problem-solving) some old questions may be answered, and new ones are raised, which leads to the next round of studies. Thus, the PCDCs may provide greater closure than we have had on some issues, but there are inevitable new questions and lingering old ones yet remaining. These still unanswered questions should be honored as the valuable and expected products of research, not as signs of failure.

Criteria for Specific Goals

The set of goals stated here are those which are both justifiable because of their importance or multiplicity of source, and seem achievable. Many worthwhile goals are not included, for either or both reasons.

The broad goal has been broken down into a set of goal areas stated at a general level. These general goals are then stated in behavioral or observable terms. Goals that are marked with an asterisk are assessed in the program evaluation.

Goals for Mothers

The ultimate goal for the mother is that she be an effective teacher, caretaker, advocate, and source of support for her child. Ideally, specific goals differ from one mother to another since mothers differ in effectiveness in various areas. In the transactional model of child development that we have adopted, the most effective mother would be one who is able to care for and relate to her own child with his or her own individuality in the most productive way. The program itself is designed to provide for just such mother-child differences.

It would seem that the most important goal for the mother is that she be sensitive to her child as an individual. As Wanda Bronson (1974) points out,

> "...sensitivity to the Other is the core requirement for smooth functioning of any dyadic system, and, hence, for creating a milieu in which early experiences of one's own competence in coping are confirmed and expanded into enduring competencies " (p.299).

This sensitivity includes an awareness of the child's readiness to learn, a sense of the appropriateness of activities for the child's developmental level, and ability to judge the child's needs at the time.

Affective Relationships

Relationships can be described along affective dimensions such as warm or cold, loving or hostile, and affectionate or rejecting, and are of undeniable importance in parent-child relationships. Affective relationships provide the motivational base of interpersonal relationships: as an example, "I want to

do that for mother because I like her". In Hodges' insightful essay on early childhood program evaluation and design (Hodges, 1973) he cites the importance of knowing how programs elicit involvement of children, arguing that involvement is essential for adequate interaction of the child with program contents. In the PCDCs the child "Program" is carried out day by day at home and a high level of involvement is assured if the mother's relationship to the child is affectionate or warm.

Goals for mothers would therefore include the following behaviors:

*1. Has warm affective relationship with the child

*2. Uses positive reinforcement of the child's behavior, including praise when appropriate

Control Techniques

Love is not enough. Children seem to need firm, consistent control by their parents if they are to develop into competent, self-directed, socially able individuals. The problem for the parent of the young child is to provide enough control for safety, but not so much that curiosity, exploration and creativity are stifled. As Erikson (1963) has put it, "Outer control at this stage...must be firmly reassuring" (p.252), but also "From a sense of self-control without loss of self-esteem comes a lasting sense of good will and pride; from a sense of loss of self-control and foreign overcontrol comes a lasting propensity for doubt and shame" (p.254). Modern parents frequently feel confused about how to manage effective control, and feel the need for guidance.

There are sets of conflicting goals for the development of the child in all areas: social, cognitive, emotional, etc. One set of goals is the actualization of the child's individuality--his motives preferences, pleasures, values, choices, etc.--his ultimate mature independence. The other set of goals are those of socialization and conformity, to be a cooperative, social adult. The task of the mother is to socialize the child with both sets of goals in mind.

The classic authoritarian-permissive dimension is a description of parents' attempts to negotiate this problem. The PCDC goal is to help mothers rear their children in such a way as to avoid a stereotyped pattern at one end of the dimension and to help optimize achievement of both sets of goals in the best possible compromise for the child.

In our program the following goals are selected for the control area:

*1. Uses control techniques which recognize autonomy-striving of the child.

2. Maintains clarity and consistency of disciplinary rules.

3. Uses rational, conceptual rather than arbitrary regulatory strategies.

*4. Grants freedom and responsibility keyed to the child's developmental level.

*5. Provides opportunities for self-reliance and independence.

Language Interactions

In a very real sense the world the child comes to know is conveyed in language contents and forms. The capacity for language is universal among humans, at least as much so as the capacity for

walking, but the elaboration of language development depends on the models and encouragements together with things to talk about provided by the child's intimate social world. Despite a flood of research on this topic in recent years little is yet known about the specific social conditions that give rise to competent communicative skill. For that reason we have selected a few rather general goals that seem to be germane:

*1. Verbal interaction emphasized.

2. Provides elaborated language models.

3. Gives child reasons and explanations for instructions, commands and discipline.

4. Has bilingual skills.

Provides Intellectual Stimulation

Most recent early childhood programs for low-income families have focussed on this area to the exclusion of other matters, but our general interest in competence development of a broad sort compels the consideration of other aspects of development. Nevertheless, the program does have goals for intellectual stimulation and in no way do we wish to depreciate their importance. Our guide in search of appropriate goals for this area is Piaget who had remarkably little to say to parents, but often gave advice to teachers. The central theme of this advice is that the teacher who wants to encourage the intellectual growth of a child should provide opportunities and let the child actively explore them individually or with age-peers. The teacher intervenes to pose questions and provoke the child to look at the problems from new angles. That the child must act on concrete materials is emphasized over and over. If we

convert these general Piagetian principles to mother-child activitie the following goals appear:

*1. Provides engaging, interesting toys and other play situations.

*2. Provides books and other written materials.

*3. Provides world expanding opportunities such as trips to stores, zoos, and parks.

*4. Engages child in imaginative play.

*5. Views the home as learning setting and uses everyday experiences to teach concepts, classifications, and relationships.

*6. Encourages the child's spontaneous learning efforts.

Achievement Expectations

Although most research on parental educational aspirations for their children and achievement encouragement has indicated that thes concerns are related to the child's later achievement success, the results for Mexican-American families, as noted in the previous chapter, are less clear. Common sense tells us that if parents have high expectations for their children, these will be internalize by the children as their own values, and they will try to do well. Again, however, the important issue is whether the parents are sufficiently in touch with their child to realistically appraise what the child is capable of doing at a particular developmental level. We set a goal of helping mothers to take a realistic stance on this matter and expect their children to realize their capabiliti Thus the following goals seem relevant:

1. Sets standards for her child's achievement that are consistent with the child's developmental level.

2. Values intellectual mastery and achievement, not only in school but in everyday problem-solving.

Self-Concept

If the mother is to be more than a mere tool of the child, she must be regarded as a person in her own right and to function effectively in her roles as mother, wife, and homemaker, she has to be fairly comfortable about who she is as a person. To be effective she needs to have reconciled her relationship with her own parents and to value herself and her own maturity. What seems to be particularly important for her caretaking role is that she feel that she really does have an influence on her own and her child's life, that she have a sense of efficacy. We have thus posited the following goals:

1. Has a feeling of high regard for child and self.

*2. Views self as having personal control of her own and her child's situation to the extent that this is possible.

3. Is able to socialize effectively with her own peers.

Goals for the Father

The above goals for the mothers may apply just as well for the fathers, but the lack of research evidence on the matter and the relative unavailability of the fathers in the Houston PCDC for training or evaluation has led us to state a shorter and more general set of goals for the fathers. In fact, the program efforts are primarily directed toward enlisting the father's understanding support of the mother's child caretaking efforts. Specific goals are the following:

1. Understands the program and supports mother's participation in it.

2. Supports the mother's teaching efforts.

3. Sees self as a teacher of his child and actively participates in this role.

Goals for the Child

The primary goal of the program is to enhance the child's school-related competence. This is an extremely broad goal, but still narrower than such goals as enhancing the child's life satisfactions. School related competence was selected because success or failure in this area plays such an important part in a child's life. The child spends much time in school, it is the site of greatest peer interaction, and school success here has implications for occupational opportunity later on. We have assumed that school failure in the early years leads to a greater likelihood of dropping out early and this in turn places the individual in a disadvantaged position in the job market.

The skills, intellectual and social, so important in most school situations are also valuable in other life-situations, with family and friends. We have placed less emphasis on these settings simply because so much less is known about child performance outside of the school arena.

The goal is for broad-based competence, rather than for some narrower goals such as higher intelligence. By competence, we mean to include high level functioning in all of the areas listed below.

Cognitive and Perceptual

*1. Able to use concepts.

2. Capable of creative, imaginative thinking.

*3. Has problem-solving skills and general learning aptitude.

*4. Has a broad range of information.

*5. Perceptual development is age-appropriate.

Linguistic

*1. Able to function with age-appropriate linguistic skills in one language.

*2. Is well enough grounded in one language to be able to profitably learn a second language.

Socio-emotional

1. Has a positive and distinctive self-concept.

2. Enjoys social relationships.

3. Able to express feelings.

4. Able to learn from others and to draw on the skills of others as resources.

Motivational

1. Wants to learn.

2. Shows a high level of exploratory and curiosity motivation.

3. Is task-oriented.

Another area that is not a competence as such but is related to the basis of competence is physical well-being.

*1. Enjoys good health.

*2. Is protected from major illnesses.

3. Is adequately nourished.

*4. Shows normal physical growth rate.

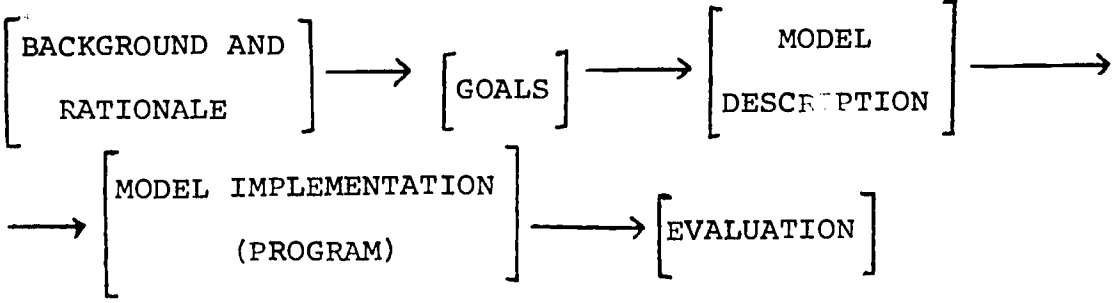
CHAPTER IV

DESCRIPTION OF THE MODEL

What we speak of as the Houston model is an abstract representation of a program. It exists in the concepts that are written. Its practical form, the program, may be thought of as a model application or implementation. The model has the same relationship to the program as a composer's score has to the performance of the work and just as various conductors and orchestras might play the score differently, with nuances of style or differences of quality, so the model might be carried out with some variation. But just as the central musical work exists in the score, so the model exists in the written description.

Here the analogy ends. Participants in the program are not like an audience. They are more nearly fellow musicians. Furthermore, this is no forty minute symphony or even a three hour opera. The program is carried out over a two year period and involves each family for about 450 hours.

Model development emanates from established rationale and specifically stated goals which are themselves formulated directly from that rationale. Programs, in turn, are actual implementations of models and may vary from one to the other as explained above. The process may be diagrammed somewhat as follows:



The model itself can be described quite succinctly in its basic elements (See Figure 1). The next level of description, much more detailed, is covered in the curriculum materials prepared (See Figure 2). It is the purpose of this chapter to present an outline of the model in order to identify its principal features.

The Houston model derives from three general principles of parent education which we have taken from the literature and our own experience. The essential features of the model follow from these principles.

I. For positive and lasting effects on the child, parent education should begin when the child is very young.

It is assumed that habits of relating to people and to learning are established very early and if a program is to have maximal impact, this should be taken into consideration. Early experience may also provide the basic impetus for motivation to achieve, to learn, and to be competent.

II. The kind of learning that is required in parent education takes place best in experiential, concrete, realistic settings.

We have assumed that there is a continuum of learning settings ranging on the concrete-abstract dimension and that parent education would proceed best if carried out in settings that were concrete rather than abstract. Learning about how to provide cognitive stimulation to a young child, for example, should be in a setting with young children rather than in a classroom of adults talking about young children.

In stating this principle we do not mean to indicate that there is no valid place for abstractions in the program. On the

FIGURE 1

ESSENTIAL MODEL CHARACTERISTICS

OF THE

HOUSTON PARENT-CHILD DEVELOPMENT CENTER

Participation is for two years beginning when the child is 12 months of age.

The program has a sequential pattern as it moves from home in the first year to Center in the second.

The model is designed to include the child's entire family.

The major program focus is on the mother and her care of her child and in the family setting.

The model is especially suitable for a bilingual population.

Learning takes place in groups of mixed sizes and in varied settings.

A variety of educational methods are used.

A sharing educational approach is emphasized.

Staff include professionals and paraprofessionals.

Supportive services are provided to enable families to benefit maximally from the program.

Program effects are intended to be preventive rather than remedial.

The program is culturally responsive.

FIGURE 2

CURRICULUM AND TRAINING MATERIALS

VOL. I. PROGRAM DESCRIPTION AND OBJECTIVES

VOL. II. IN-HOME CURRICULUM

Part 1. Visits 1-9

Part 2. Visits 10-16

Part 3. Visits 17-24

Part 4. Visits 25-31

VOL. III. FAMILY WORKSHOP CURRICULUM

Part 1. Family Workshop Manual

art 2. Family Workshop Coordinator's Handbook

Part 3. Group Leaders' Handbook

VOL. IV. IN-CENTER CURRICULUM

Part 1. Home Management Curriculum

Part 2. English Language Lessons to Accompany Homemaking Classes

Part 3. Child Development Curriculum for Mothers

Part 4. Child Curriculum

Part 5. Palmer Curriculum

VOL. V. ENGLISH LANGUAGE LESSONS FOR SPANISH-SPEAKING ADULTS

VOL. VI. COMMUNITY SERVICES

VOL. VII. HEALTH CURRICULUM

VOL. VIII. PROCESS MEASURES

FILM: PARENTS AND CHILDREN: THE GOLD OF THE BARRIO 30 min., 16 mm. sound and color film.

Slides: Color slide presentations of various aspects of the program have been prepared.

contrary, we believe it is very important for parents to be able to conceptualize and verbalize what they do, but we see this as growing out of experiences in real, concrete settings.

III. Programs designed to help parents rear their children must be sensitive to culturally organized family values.

The family is the cradle of culture in the sense that it is in the early socialization of the child by parents that the major values, ways of organizing experience, and norms of behavior are passed on from generation to generation. These values and organized ways of behaving tend to be self-evident to members of a culture and to persist with great tenacity over time. Cultural contexts are also organized into systems with parts so interrelated and interdependent that change in one element may lead to changes in many others.

When programs of parent education are planned they need to be carefully developed so they will be congruent with the values of the participants: the program should fit the culture and not run at cross-purposes to it. Without this congruence people are apt to find the program strange and uninviting and will not participate. Even more serious, program interventions might cause disruptions in the family as a system which could have serious negative effects. On the other hand, a culturally sensitive and responsive program could build on the strengths already existing in the family system and help families to attain their objectives more effectively.

Essential Model Characteristics

The model characteristics listed in Figure 1 are the main features of the Houston PCDC approach to parent education. The

reasons for including these features are discussed in the following sections.

Program Length and Age of Child

The Houston model calls for two years of family participation in the program. The decision to use this length of time was based on a number of considerations.

The initial OEO contract stipulated that the program be designed for families with a child younger than three years. Thus, a three year program was the maximum length possible. The question was whether to plan to use the entire available time or to focus on some shorter period. How could a program be long enough to accomplish the educational objective but at the same time short enough to accommodate family mobility patterns and hold parental interest? Cost factors were also involved because a longer program would cost more than a comparable program of shorter duration.

Most parent education programs have been of very short duration. Hereford's (1963) project on changing parental attitudes through group discussion, a program that was better in most ways than other group discussion programs, consisted of only six one- and one-half-hour sessions. Many other group discussion-oriented programs have been of about this length.

An emphasis on training parents of very young children brought in a new wave of programs with longer training periods. Levenstein's (1973) home visitor mother training program for two- to three-year-olds was made up of 92 sessions over a seven-month period.

The Karnes (Karnes, Teska, Hodgins & Badger, 1970) program functioned with one two-hour session per week for 15 months with children beginning at 12 months.

The High/Scope program (Weikart & Lambie, 1969) consisted of weekly in-home visits for 16 months with children varying in age from three to eleven months at entry.

These programs ranged from seven to sixteen months. A longer program was Gordon's (1968) which lasted three years from birth to age three. This training was done in two phases, in-home for the first two years and in a center the last year.

Because of substantial differences in methods and contents, the effectiveness of the programs cannot be directly compared to give clues as to the best time period. What does seem significant is that these programs, longer than their predecessors in the parent-education field, were also more effective. Apparently, in this area of education, longer programs are more effective than shorter ones.

With that assumption, we decided to construct a program of at least two years. The triple considerations of assumed parent interest span, cost of program, and need to produce some evaluation results in a fairly short period of time led us to settle on two years for the program's full length.

The question of child age and optimal time for beginning special educational programming has been the subject of much debate, but research evidence on the matter has been scant. Lambie, Bond, & Weikart(1974) did compare differences in program effectiveness for infants entering the same basic program of in-home teaching at ages 3, 7, and 11 months of age. After 16 months, there was no differences between these age groups although the experimental children were ahead of the controls on outcome measures.

One study is inadequate to validate the question of optimal intervention time. At issue is how one views change in the development of the child, the parents, and the parent-child relationship. The emphasis has typically been on the child with little concern given to the other aspects.

One view has held that the optimal time would be during certain "critical periods" for learning. This idea was based on animal research which showed that some kinds of rapid learning called "imprinting" occurred best during rather narrow periods in the young animal's development. It was natural that the attempt be made to apply these findings to the development of humans and the fact that intellectual change is so rapid in infancy suggested that there may be "critical periods" for learning in infancy or the preschool years. To date, however, there is no convincing evidence that this is the case.

Another view, the extreme environmentalist position, places much more emphasis on the continuity of environmental influences. It says, in short, that children thrive when the environment is encouraging and reinforcing and wane when it is not. There is much research evidence to support this view, but it does seem to fully recognize the development of conceptual structures or habit systems which provide a certain continuity of functioning through adversity and prosperity.

Our own view of the matter as far as the child is concerned is Piagetian in origin. The child is seen as having a potential for development which is genetically determined but also a function of such physical influences as nutrition, health, etc., and in-

fluences of the sociopsychological environment. That is, children develop according to genetically programmed sequences, but the rate of development is largely a function of the relative richness of the environment. As this point of view does not specify that learning proceeds more effectively at one age than at another, the question of best age to begin the program was resolved by viewing the family as an interactive learning system. One thinks not only of child development, but of family development. Certainly if one looks at ordinary families engaged in child rearing, one sees the child's developmental changes but one also sees the changes in parental behavior as they adapt to the changing child. Failure to make this adaptation, to treat the five-year-old as a two-year-old, is inappropriate and damaging to the child.

It is this view of the parent-child system that finally led us to settle on age one to three for the two-year program. There are advantages to beginning at birth, or even during the prenatal period if one wishes to emphasize nutritional and health aspects of development, but this is counterbalanced by the fact that the infant is not as socially responsive as is the older child. The child from one to three is much more socially and physically active. Thus, the mother deals with him more nearly as she would deal with an older child. We wanted her to have practice in the management of the active, autonomy-striving child which would prepare her for problems of rearing an older child.

There is also research evidence suggesting that age one to three is important for cognitive and language development. Infants

everywhere seem to do about equally well on developmental tests such as those devised by Bayley, Cattell, and Griffiths, but marked social class differences in intelligence have been noted for children in the three to six year range. The most relevant study is that by Golden, Birns, Bridger, and Moss (1971) which showed no social class differences for babies, but when the same children were retested at age three a 23-point mean Stanford-Binet IQ difference appeared. Middle class children retained their previous level, but lower class children showed a decline. The Houston program was designed to have an immediate effect on this potential decline as well as a skillful mother present to prevent later decline.

Our concern with language was two-fold. First, there was the goal of optimizing this development and helping to avoid the social class difference in language functioning so often noted (Templin, 1957; Blank and Solomon, 1968). Again, age two to three is a time of extremely rapid language development and the child may be especially susceptible to environmental influence at this time. Just how malleable development is in this period, or for that matter any period, is not clear. At the time the program was planned there was considerable optimism about the modifiability of language, but Brown's (1973) recent review of early language development is much more conservative on this question.

Another reason for working with children from one to three was found in Piaget's writings. This period includes the last stages of sensorimotor development and the beginning of conceptualization. The abilities to symbolize, classify, and reflect

develop with great rapidity at this time and are perhaps most vulnerable to environmental influence, positive or negative. Providing a favorable influence on these abilities would be vital for later school performance.

Program Sequence

A two-phase program sequence was originally designed to offer in-home training in the first year because our interviews with potential participants in the exploratory phase of program development suggested that Mexican-American mothers would be reluctant to leave their homes at first for this kind of activity. From our early surveys and review of the 1960 census data it was apparent that the project mothers would be primarily homemakers and few would be employed. That was, of course, ideal for our parent education aims as the mothers could be expected to be available. However, the homemaker role here goes further than just being unemployed and having the care of house and children. The Mexican-American mother is expected to be more actively involved in the care of her children than the average American mother. For cultural as w , economic reasons she rarely uses non-family baby sitters. She is expected by her husband and relatives to take care of her children in her home which is, quite literally the center of her world. She lives in it with her husband, children and perhaps other members of her or her husband's family. Outside employment or even visiting is discouraged. Our feeling was that with the relatively great emphasis placed on the home by Mexican-American families, it would be well to bring the project to them where they were most comfortable and then after a year of getting to know the

staff through home visits and through the weekend sessions for entire families, we could move the major training emphasis to the project center.

Moving to the center in the second year would also make it possible to increase the range of activities included in the mother program; e.g., the home management program with sewing, etc. Another reason was to provide a setting for peer social interaction among the mothers. Mothers would gain more if they could learn with and from each other. It is always difficult for the professional educator to know how to reach the student or how to judge the student's state of readiness for learning and this is no less true in a parent education program. One solution is to involve the participants in the process of teaching each other. Peers often understand the readiness level of the other because it approximates their own readiness level.

The group setting would also provide mothers with a group of young children to observe and with whom they could interact, that is, a laboratory experiential setting.

Very recently, since the creation of the Houston Parent-Child Development Center, Bronfenbrenner (1974) conducted an extensive review of preschool programs and in conclusion has advocated a strategy of programming that is quite similar to that of the Houston PCDC. He has also recommended an in-home initial phase followed by a group interaction phase. His other recommendations go further in that he advocates pre-parental education, special attention during pregnancy and, after age three or four, continuity through group experiences for children with considerable parent involvement.

Entire Family Involvement

The program is designed to involve the entire family on the assumption that it is not only the mother who is responsible for the child's care but that other family members are as well. Family interactive processes consitute a learning environment which functions as a system. By isolating parts of the environment, for example, the mother and child, and ignoring other family members the integrity of the system is violated. We assumed that parent education would be most effective when all persons who are closely involved in on-going care of the child participate in the educational program. It is further assumed that this participation need not be equal in terms of amount of time invested, but that there should at least be an intimate awareness of the program goals and procedures. Without this awareness it would be too easy for one member of the family to learn a great deal about child care but in attempting to apply this learning to come in conflict with other important family members who do not share the same level of understanding. This conflict could work against the best interests of the child.

The program was designed to include whoever is primarily involved in the care of the child over time. It is presumed that in most cases this would consist of the nuclear family, the father, mother, and siblings. However, it could as well include grandparents or other relatives if they had a major care responsibility. The family might consist of the mother and child only. The main point is that if the father or father figure is present in the home then he would be included in program activity.

When fathers are present in the home, and often dominant, as they have been in the great majority of the families active in the program, they have a major influence on the effectiveness of the program. Although much less is known about the influence of the father than the mother on the developing child, it is quite clear that it is substantial. For example, a number of studies have now shown that boys who have a father who interacts with them regularly do better in school than those boys whose father is absent or uninvolved. The effects on girls are in the same direction, but less distinct. In the area of sex-role taking, father involvement is as important for girls as for boys (Blanchard & Biller, 1971; Herzog & Sudia, 1973; Santrock, 1972).

Fathers are more difficult to involve in parent education programs because occupational demands reduce the amount of time available and, just as important, society expects little child rearing responsibility from them.

The Houston Parent-Child Development Center involves fathers in several ways: the family workshops, evening discussion groups, the Parent Advisory Council, and, occasionally, in special activities such as toy-making or a car repair course. Social events are also structured to include fathers.

One purpose for involving fathers is to enlist their support of the mother's learning efforts. The staff attempts to inform them fully of the program's objectives and methods and solicits their recommendations.

The role of the father as family leader is supported while at

the same time families are encouraged to open lines of communication within the family and to review family decision-making procedures.

Mother-Child Interaction in the Program

In the early years of the parent education movement, attention was directed almost exclusively to the parents, typically in group meetings (Auerbach, 1968; Brim, 1959). The effectiveness of these programs for meeting their own goals was never great, although a few (e.g., Hereford, 1963) did find some program related effects. Most, however, showed no gains at all.

The second generation of parent education, that part which was concerned with the economically disadvantaged, began to involve parent and child together (Levenstein, 1967; Gordon, 196 This probably occurred because they grew out of nursery school-type programs designed to provide cognitive stimulation for the child and parent involvement was introduced as a secondary issue.

In the Houston model, mother and child interact in many program settings. All of the first year program involves them as a pair and much of the second year program also has them interacting in learning situations. It is not essential, however, that they always function as a pair; certainly the mothers have things to learn and do that are properly presented at an adult level and the children also have a need for time spent in play and interaction with other children.

It is, however, essential that the child participate in the program as well as the mother. We have mentioned some of the advantages that are to be found in having the child present--the program is more realistic, less abstract, more practical. But

there is still another reason. In our view of the family educational process, parent and child learn together. Of necessity, because their developmental levels are so very different, they learn different things. They do, however, share the learning of a relationship.

Children have a formidable influence on their parents from earliest infancy onward (Bell, 1968; Moss, 1967). It is easy to be a warm, stimulating, clever parent when the child is eager and responsive, but another matter altogether if the child is lethargic or uninterested.

By having parent and child in the program both are stimulated intellectually and motivationally and tend, we believe, to provide stimulation to one another.

Thus, the model is based on a transactional theory of development. Parent and child develop a relationship together, they provide mutual stimulation, theirs is a learning system. Parent education programs that fail to include the child miss an important opportunity to deal with this learning system.

Bilingual Communication

It may well be that the basic ingredient of education is communication. Ideas, beliefs, feelings, point of view, attitudes, facts are transmitted from educator to student and from student to educator. If they do not understand each other, that is, if they do not communicate, there is no education.

Educational programs must be prepared to facilitate this communication process, but in addition, programs like the Houston PCDC have the attainment of more effective communication as an

educational goal. This is particularly important since the families participating in the program have a language which is different from that of the majority society around them, and to gain access to needed resources they must acquire the second language.

Communication in the educational process is managed by having nearly all of the staff fully fluent in Spanish and English. This not only assures communication but provides models of bilingual skill. Helping the family members to develop their own bilingual skill is a more difficult matter.

When we began the project we faced the question of whether to include English language training, when to begin it, and how to go about it. As the literature on Spanish-English bilingualism at that time was sparse and of little aid, we had to seek answers by making our own surveys and initiating our own basic research. When we asked parents what they preferred for their children, all replied that they wanted their children to be fluent in English, nearly all wanted equal fluency in Spanish and only a few desired English only for their children.

To put the matter simply, they wanted English for school, jobs and the wider community and they wanted Spanish for home, family, and friends. What this also said to us was that the families wanted bilingual competence and the program would have to be quite adaptable, beginning in Spanish, if that was the home language, and moving towards more use of English later on.

We were still faced with the problem of devising the best possible way of reaching the goal of bilingual competence for the children and their mothers. For the mothers, the task was quite

straight forward. We chose to embed English language training in the home management curriculum and also to arrange group lessons in English for interested mothers.

For the children, the problem was much greater. At one year they are in the very first st f language acquisition. There is little enough to guide edu al programs for monolinguals and virtually nothing for bilinguals. We decided, after many months o scussion, to help the parents enhance their child's language lopment in their preferred language. The children will need to learn English at some time, but it does not seem wise to attempt to use the program for second language training very early. Children should become competent in their family's preferred language and develop good feelings about it before going on to learn a second language.

The question has been raised as to whether the bilingual training aspect of the Houston program is an essential part of the model. The answer is that it is not if bilingual training is not important for the families participating. If the families are English speaking and living in an essentially English-speaking society, then bilingual training would not be a necessary part of the program and the model would be carried out with that program element deleted. If, however, family language differed from that of the larger society and second language learning was valued by them, then bilingual training would be introduced whether the second language was Spanish, French, Navajo, or whatever. There are just two important considerations: (1) that participants have an opportunity to improve their communication skills as they deem necessary,

and (2) the training should emphasize bilingual skill with the implication that both languages involved are valuable.

Mixed Group Size and Varied Settings

The families participate in groups of varying size. The varied interaction which results also reinforces the learning which occurs. In the home the interaction is primarily one-to-one between mother and educator, usually involving the child. In the family workshops sometimes there are peer group meetings and sometimes the families meet in units for exercises. In the second center year, the mothers usually meet in groups although certain contents may be individualized, e.g., sewing. Small groups are most suitable for some of the content and process of the curriculum. For example, in the discussions on child development, it is advisable to have a group size of up to eight parents in order to have full participation in the discussion on the part of everyone. This small group size enhances peer interaction and the feelings of mutual support which occur. Larger groups are more suitable for other contents and processes of the curriculum. For example, some of the home management topics lend themselves to a more didactic approach of demonstrating a method or conveying ideas. For this the larger group size is used for economy of time. Thus the content of the session and the process which is expected governs the group size.

The microteaching sessions offer another example of mixed group sizes. They first involve the mother interacting with her child, and then, after the mother views the tape, the group of mothers view it together and discuss their observations.

Group participation in varied settings enhances the various learnings that occur. Some sessions are conducted in the home, others at the center and some at facilities away from the center. In the center, too, sessions vary from presentations on home management topics and discussions around child development subjects with the mothers to evening discussions where topics are more often chosen by the fathers. Thus, what parents learn in one setting may be reinforced in another setting. This gives them broader experience, and one would expect that this would result in greater generalization of their learnings.

Variety of Educational Methods

A rich variety of educational methods and techniques are used which also serve to reinforce the learning which takes place. This variety makes the program more dynamic and provides for various kinds of participation. Included among these methods and techniques are the following:

Discussion. Discussion is the format most commonly used. Much of the in-home visit is carried on through discussion. Full participation is encouraged.

Didactic Teaching. More formal presentation is required for some content. This is true of content which is outside the experience of the mothers, for example, driver education and some of the home management subjects such as nutrition.

Observation. Observation is one method or technique which is used to help the parents understand more about child development. Mothers learn from observing each other and the staff.

Role-Playing. Role-playing is used in the child development sessions and the English language classes. In the child development sessions it helps the parents understand the dynamics of behavior and gain practice in using certain techniques with children. In the English classes it gives the mothers practice in using English in everyday situations.

Demonstration. Some content lends itself to demonstration. Cooking and sewing are two principal examples where a method or technique may be presented actively.

Audio-visual Presentation. Films, slides, film strips, and videotapes are used to convey some content. Parents see behavior pictured, and the audio-visual aide gives a common focus for discussion.

Written Material. Some written or mimeographed material is used. In the In-Home sessions the mothers are given home activities which are mimeographed for mothers to use at home. Parents sometimes also ask for printed material on topics of concern such as discipline.

Participation and Practice. Mothers participate in the children's classroom for practice, and this type of participation is included in other aspects of the program, to give practice with certain techniques and materials.

Use of Materials Such as Toys and Books. Parents use educational materials such as toys and books to explore with the child. In this exploration they seek ways they can help the child learn and find pleasure in learning.

Behavioral Feedback--Videotape and Discussion. Perhaps the

most powerful technique used is microteaching. Research carried out on microteaching, especially at the Stanford Center for Research and Development in Teaching and by the Teacher Education Program of the Far West Laboratory, has found that this method is the most effective method of training teachers. Teachers trained by microteaching methods have been rated as more effective than teachers trained with more traditional methods. Microteaching has also been found to be more efficient in amount of training time required than other methods. The Houston program, the Cleveland Parent and Child Center, and other programs have found that this method is also very effective with parents. In the microteaching process, mother-child pairs are videotaped interacting with toys and books. The mother views this tape for self-feedback and it is then shown to the group of mothers who critique it, the discussion primarily focused on the positive behavior of the mothers with the children. Mothers make rapid progress using this technique.

Sharing Philosophy

The philosophy followed throughout much of the program is one of sharing among staff and families. The families, especially the mothers, share from their experiences and their knowledge of the child. The staff shares from their training and experience. This means that the lecture method is held to a minimum and discussion is widely used to involve the parents deeply in the learning process. This sharing philosophy has the following advantages: (1) It enhances the parent's view of himself or herself as the most important teacher of his or her child. The parent's experience with the child is brought out and built upon. (2) If the shared learning approach is used rather than staff lectures, parents become more

active participants in the sessions in the discussions as well as in the decision-making. (3) In the shared learning atmosphere, parents more quickly develop a group feeling of learning from each other and sharing strengths, which can help them overcome feelings of isolation. The mutual support they receive increases their self-confidence. (4) When knowledge and information are shared among the parents and staff, there is a richer source of ideas and solutions to problems.

Professional and Paraprofessional Staffing

The staff consists of both professional and paraprofessionals. A "professional" is defined as someone with at least a four-year college degree in the field in which they are employed. Paraprofessionals have not received formal education in the field but have been especially trained to carry out a program role.

It is believed desirable to have a variety of skills and education represented on the staff because of the benefits of interaction among staff members at different levels. Some specific advantages of professional and paraprofessional staff members are listed below.

Professionals have the following assets:

1. Command of the body of knowledge required for the job--familiarity with research and professional practice content.
2. Training in the skills required for the job--teaching, nursing, home economics skills.
3. Service as intermediate models--families see the sequences of roles and expertise that can be achieved by ethnic group members.

Paraprofessionals from the community have the following assets:

1. Input on cultural and community beliefs, values and, needs of the community.
2. Ability to relate to the families as peers--communication on the same level, similar backgrounds, etc., which helps carry out the program.
3. Service as intermediate models--families see the sequences of roles and expertise that can be achieved by ethnic group members.
4. Promotion of the model's sharing philosophy in that the families can see that staff who are not professionals have a legitimate point of view.
5. Enhances community participation in the program, in contrast to a program which may be imposed by professionals.
6. Involvement of more community members in the mainstream of knowledge and practice in the area of family and child development.
7. Economic benefit to program--less expensive than professional staff.
8. Economic benefit to individual and community in providing employment and training to community residents.
9. Feasibility--professionals are not readily available in these fields because there is little professional training for working with infants and parents. Training is provided on the job.

Context of Support

Parent education cannot take place when certain basic family needs have not been met. Just as a child who is hungry cannot learn, so the family cannot focus upon the development of the child when they are overwhelmed with life's problems. Family

support services are needed. These include (a) medical services, including examination of the index child and follow-up; and (b) social-welfare services, which includes referral to community services, for such needs as food stamps, counseling, legal aid, and emergency assistance.

Preventive Rather Than Remedial

The model is designed to help low-income families improve the educational success of their children. The participants are selected entirely on the basis of their children being at educational risk. This, in turn, is determined by studies that have shown low-income, minority group children to have a greater likelihood of educational problems than other children. This determination is based on probabilities: it is assumed that these children are more likely to have difficulty in school without the help of special preschool programming, but the assumption is not that they will necessarily have more difficulty. It is further assumed that the children are otherwise ordinary, normal children; they do not suffer from handicapping conditions.

Thus, the program is essentially preventive rather than remedial. It may include physically or mentally handicapped children, but it is not designed to remediate specific handicapping conditions.

What this means for the program is difficult to say. We think it implies a broader, more comprehensive program effort that is intended to help parents help their own children develop optimally. A remedial program would probably be more focussed on the handicapping condition itself and would perhaps be more con-

cerned with catching up with a normal rate of development than with seeking to optimize the child's developmental possibilities.

Cultural Responsiveness

The procedures for identifying important cultural issues were discussed in the first chapter. The results of these surveys led us to structure the program in a particular way. That is, the two-phase sequence was established because our observations led us to believe that Mexican-American mothers would be initially reluctant to leave home to attend parent education sessions, extensive father involvement was based on evidence of importance of the father's role in the families concerned and the bilingual aspects of the program were introduced to deal with the desire by the participants for communicative competence in two languages.

CHAPTER V

PROGRAM DESCRIPTION

This chapter describes a concrete implementation of the model described in Chapter IV. The goal of model implementation is to carry out the model as faithfully as possible. Because the model is flexible enough to adjust to various populations and situations, slight variations can exist among several programs which all implement this model, and yet these programs can still be considered as being faithful to the model. Variations come about as a result of differences in populations and needs, human factors in staffing, and other such factors which it is neither possible nor desirable to control.

The following description is of the on-site implementation of the Houston PCDC model.

Overall Features

The overall essential features of the Houston Model were presented in Figure 1. Although this model is suitable for any population, it has been especially developed for bilingual populations and adapted for the Mexican-American population served in Houston.

First Year

The major features of the first year program are presented in Figure 3. This first year program begins when the index child is one year of age, and consists of weekly visits of about [illegible] hours each made to the home by an In-Home Educator. In these visits the Educator interacts with mother and child. During the same

FIGURE 3

MAJOR FEATURES OF THE HOUSTON PROGRAM

FIRST YEAR, CHILD AGE 1

In-Home Visits

- Visit to Mother and Child
- One visit per week, 1½ hours
- Educators: paraprofessionals
- Media of child's learning: toys, books, and household objects
- Mother practices teaching activity
- Discussion on child development

Language

- Individual and group activities in dominant language
- English class 1½ hours per week
- Educator: professional

Parent Advisory Council

- Parents elected mid-year
- Father and mother serve together
- Meet monthly, 2 hours

Family Workshops

- Entire family attends
- 1-2 socials, 4 Family Workshops per year, held on weekend days
- Socials 3-4 hours, FWs 5-7 hours
- Educators: professional and paraprofessional
- Focus on communication, decision-making, problem-solving, role-relationships.
- Activities in both family units and peer groups

Community Services

- Medical examinations and follow-up on child
- Referral for community services
- Workers: paraprofessional

period the entire family is invited to four Family Workshops held on weekends, usually on Sunday. English language classes are offered to those parents who wish to participate.

In-Home Staff Roles, Experience and Training

The In-Home Educators are paraprofessionals chosen on the basis of their acceptance of and ability to relate to community residents, their openness and willingness to be trained, their creativity and flexibility, and their ability to grasp child development material. Their training consists of orientation to and observation of the entire program, consideration of interaction with other staff roles, reading and discussion of the curriculum and child development materials, viewing and discussion of videotapes of home visits, role-playing home visits with and without videotaping, and accompanying experienced In-Home Educators on home visits, at first observing and then gradually assuming an educator's role in parts of the visit. Training also includes discussion of the role of the Educator in relation to family problems and referral for community services, human relations sessions, and group leadership training for Family Workshops.

Teaching Procedures, Curriculum Content and Sequence

About thirty visits are made to the home by the In-Home Educator during the year. The focus of these visits is on the further development of the mother's skills in becoming an effective teacher of her child.

Each visit includes a toy activity in which the mother interacts with the child with a toy or book. Contrary to some home visit programs, the In-Home Educator does not model or demonstrate this.

Instead she builds the mother's perception of herself as the child's teacher and her self-confidence by encouraging her to use the toy in interacting with the child while the Educator reinforces her efforts and makes suggestions.

Another part of the visit consists of discussions with the mother on topics of child development and learning. The mother and Educator explore and discuss ways in which the mother can promote the child's development in language and cognition, motor coordination, social relationships and self-confidence. Some of the include information from the mother about the child's typical day and her concerns about the child, and discussions on basic needs, receptive and expressive language, sensory stimulation, child guidance including discipline and positive approaches, child's feelings, the mother's feelings, structured and creative play, separation anxiety, songs and rhythms, and the selection of toys. Through discussion and application, the mother is supported in her efforts to make the home an optimal environment for the child's development and learning.

The program follows a sharing philosophy in which the mother shares from her information about the child and her experience, and the Educator shares from her training and experience. In the child development discussions the In-Home Educator uses questions to draw out what the mother knows or has experienced. She then adds from her own background and training, bringing in information from research and practice. This process involves the mother more actively in the learning process.

The topics and the toy and book activities are sequenced and structured according to the age of the child and the level of the mother. Home activities are suggested between visits which

give the parents an opportunity to practice and explore various learning activities with the child. The toys and books used in the visits consist of some which are given to the family, some which are lent them for several weeks, and others made by the parents.

The aim in the In-Home visits is not only that the mother understand the activities and their purposes but that she be able to generalize these into other activities and situations in the home. Questions asked the mother during the toy and book activities focus upon such things as: What do you think the child is learning from this toy? How could you use this toy to help the child learn other things? What else in your home could you use to teach that idea or concept?

Mothers frequently discuss family problems with the In-Home Educator. The Educator plays a supportive role and makes a referral to the project Community Worker or Nurse when service is indicated. The Educator also motivates the family's participation in the Family Workshops.

One of the last sessions consists of the In-Home Educator bringing the mother and child to the center. This serves as a transition from the In-Home program to the second-year In-Center program. An In-Center classroom teacher also accompanies the In-Home Educator on the visit to assist in this transition process.

Family Workshops

Eight Family Workshops are held during the year, a series of four for each wave of families. A family social may preceed the series of workshops. The Family Workshops are about one month apart and begin several months after the families are enrolled

in the program. They are held on a weekend day, usually a Sunday, so the father can attend. The last one or two in the series are held in a residential setting for an entire weekend if arrangements can be made.

The entire family is urged to attend these workshops. During the day or weekend, the participants meet in peer groups, the fathers in one group, the mothers in another, and the children in various age groups. Frequently, the fathers and mothers meet together. One activity requires that the family meet as a unit. Whether the participants meet in peer groups or family units depends upon the purposes of the session. The aim of the workshops is to build on the strengths of the family. Content and process both focus upon communication in the family, decision-making and problem-solving, and role relationships in the family. The children's groups engage in relevant discussions, in creative arts, nature and sports activities, and in field trips. The four workshops are planned in a sequence with the first planned entirely by the staff, and with families assuming more and more responsibility during succeeding workshops, until the final one which the families largely plan and carry out with staff assistance.

All of the In-Home, In-Center, and support staff serve as staff at the Family Workshops. Several days of training proceed each workshop with the staff trained primarily in leading groups, discussions and activities. Followup sessions are held following the workshops for evaluation purposes.

Bilingual-Bicultural Activities

Bilingual language activities are included in many aspects

of the program. The In-Home Educator relates to mother and child in their dominant language. Because the one-year-old is in the early stage of language development, the mother is encouraged to interact with the child in the language in which she feels most comfortable. In the Family Workshops, many of the discussions are in the dominant language of the participants, moving back and forth from English to Spanish as the need arises.

During the first program year, weekly classes two hours in length are offered for those parents who wish to learn or gain practice in English. The instructor is a trained language teacher and the method is more didactic than most curricular methods. The curriculum includes role-playing everyday situations such as shopping, visiting the doctor, and relating to the schools their children attend. The aim of the program is not to impose English but to offer it as valuable to the families in their school and community contacts. At the same time Spanish is used, valued, and respected as part of the culture, and a very intimate part of the individual.

The relevancy of the program to the needs and culture of the group it serves is discussed in previous chapters. Careful attention has been given to this aspect of the program. The curriculum, program activities, and staff-parent-child styles of interaction enhance cultural values. Professionals and paraprofessionals from the indigenous community serve as models of achievement. The Mexican-American culture and the larger Anglo culture are both observed in aspects as holidays and customs observed, foods served, and regular program activities.

Other Supportive Activities

Community workers offer help with family problems, primarily in the form of referral to various community services such as legal aid and counseling. A physical examination is given each index child with followup as indicated. The aim of the community workers is to give the family information about community services and help them become more independent and resourceful in using these services. The aim of the nurse and other project staff in relation to health and medical care is to be prevention-oriented rather than crisis-oriented and to project this focus to the families.

Parents' Advisory Council

The Parents' Advisory Council is made up of parents elected from among the participants in the first and second year programs. They give input to staff on family and community needs and evaluate the program. This group also serves to organize the parents for extra activities for themselves and the children that are of interest to them. Some activities are of a fund raising nature that enable them to carry out projects of benefit to the children. Other activities are sponsored for social reasons. One year the fathers chose to have a course in simple car repairs. The program responds to such needs insofar as resources permit.

Second Year

The second program year is largely a center-based one where the mother and her two-year-old child participate in center activities four mornings a week for eight months. See Figure 4 for the major features of this program year. Mothers participate in group sessions while the children are involved in nursery school activities. Half of the mothers' sessions focus upon child devel-

FIGURE 4

MAJOR FEATURES OF THE HOUSTON PROGRAM

SECOND YEAR, CHILD AGE 2

In-Center Program

Mother and child attend 4 morning sessions per week, 3 hours each
Mother spends half of her time in home management activities
Mother spends other half of her time in child development, including activities in child's classroom and microteaching
Child participates in nursery school activities
Parent educators: professional and paraprofessional
Child teachers: paraprofessional
Palmer concept curriculum used with mother and child

Evening Meetings

Father and Mother attend together, usually bring children
Twice monthly, 2 hours
Fathers choose topics

Parent Advisory Council

Continuation from first year with parents reelected

Language

Individual and group activities in dominant language
English class for mothers half hour 4 times per week
English terms used in home management activities

Community Services

(same as first year)

opment and the other half focus on home management activities.

Center Staff Roles, Experience and Training

The sessions for the mothers are conducted by professionals and paraprofessionals. While mothers are in their groups, the children are in classrooms under the supervision of trained paraprofessional teachers and aides.

Staff are selected on the basis of qualifications required for the various positions. In addition, other qualities are taken into consideration such as the ability to relate to others, willingness to be trained, and other desirable work-related characteristics. At least half of the staff are indigenous to the Houston community and all possess bilingual skills in Spanish and English. In-Center staff are involved in ongoing in-service training under the direction of a staff child development professional and a person skilled in group work, as well as outside consultants.

Teaching Procedures, Curriculum Content and Sequence

Work with the mothers and children in the In-Center program is carried out in a "team approach" fashion. The sharing between staff and families described above continues with the addition of the mothers sharing with one another in the group situation as well as with the staff.

The objective of the home management classes is to enable the mother to become more self-sufficient and better equipped to manage her family's resources. Topics include nutrition, clothing care and construction, consumer buying, and options such as driver education, time management, home decorating, and personal grooming.

Mothers who wish to do so form a cooperative buying club which

makes trips to the Farmer's Market. After each trip, cost comparison is made between this cooperative buying and shopping at the local market. Savings of fifty percent and more have resulted.

Most topics of home management curriculum are presented by the project's home economist, with home safety and preventive health education presented by the project nurse. Community resource people are utilized to add variety to the presentations. Demonstration, visual aids, practical application, and field trips are methods used in the home management curriculum.

The mothers' sessions on child development include discussions on such topics as children's basic needs, self-concept development, discipline, development of language and cognition, and the parent's role in her child's development and learning. Mothers become more aware of the effects they and others have upon the child's present and future development.

A major tool used in the child development sessions is microteaching. This is a videotape technique an individual can use to improve his teaching skills. Each mother and child pair is videotaped interacting with toys and books. The mother helps the child explore and learn. She views this tape for self-feedback, and then, with her permission, it is shown to the other mothers. Discussion centers upon the positive things the mother does to help her child learn and to enjoy learning. Other methods used in the child development sessions, in addition to group discussions, and microteaching, are observation, role-playing, viewing and discussing films, special speakers, and field trips.

The mother's role in the program varies from listener-observer to active participant with emphasis on the latter. All mothers are

encouraged to share with other mothers and staff from their experience and knowledge. They participate in discussions, role-playing situations, observations of children, observations of themselves and of others, and actual practice with their own and other children. Feedback regarding program goals and activities is sought from the mothers throughout the two-year experience.

Child Involvement

The two-year-old children are in classrooms with trained teachers and aides while their mothers attend their groups. The approach used in the children's classrooms is a holistic one resembling the traditional nursery school, but special attention is given to language and self-concept development, concept learning, and social and physical skills. The teachers speak to the two-year-old in his dominant language, since he is just beginning to master it. This provides a natural bilingual environment since some children are spoken to in Spanish, some in English. The child hears and begins to grasp both languages.

One-to-one and small group interaction are part of the children's daily program. Mothers and children interact during structured times such as the microteaching as well as during unstructured times such as field trips, lunch time, and classroom participation.

Bilingual-bicultural Activities

The daily schedule of events for the mother includes a short English class. Mothers are also invited to attend the Friday two-hour session planned primarily for the first-year mothers. The English classes emphasize vocabulary useful in other aspects of the

program. English terms are used in the Home Management sessions to acquaint the mothers with the names of materials and products they need to purchase or terms useful in community contacts. Throughout the two years, then mothers are offered functional language training that can be helpful to them in dealing with the schools, community agencies, and in other community contacts.

The bilingual activities of the children have already been mentioned. The two-year-olds also learn English from older siblings who attend school.

The bicultural emphasis continues with value and emphasis placed on the indigenous culture as well as the provision of exposure to practices of the larger society.

Father Involvement

Although ninety percent of the project families are two-parent families, the father, being the only wage-earner in most cases, is unavailable during the day. Therefore, efforts are made to involve the father not only in the first year through weekend workshops but also in the second year through evening meetings held twice monthly. Topics of discussion for the evening meetings are selected by the fathers. Some topics chosen in the past have been "Communication between parents and children", "Buying a home", "Stretching the food dollar", "Safety in toys and children's clothing", "Health services", "Family planning", and others.

Supportive Services and Parents' Advisory Council

The services of the community workers and the nurse continue throughout the second year of the program. As the need arises, the families' use of medical and social services is facilitated by

the nurse, the community worker, and by the aide. The Parents' Advisory Council also continues. In response to desires expressed by the families, alumni activitie will also be planned with them.

Program Differences Between Cohorts

The preceding program description provides an overview of the program that was offered to participants in the four cohorts included in this report. These four cohorts, or annual groups of participating families, are the ones that have completed the program to the present time. Three other cohorts are now active in various phases of the program, but no evaluation results are available for presentation in this report.

Although cohorts D, E, F, and G all took part in the program broadly described, it is very important to note that there were great differences in quality as the program moved from a pilot stage to a fully-working stage. The first two cohorts, D and E, were essentially pilot groups. They were involved not so much for a sound parent education experience as to help develop the program and to provide opportunities for the staff to gain experience. The second cohorts, F and G, participated in more developed programs, but even here, limitations should be noted. The strengths and weakness of the programming for the four cohorts are described below.

Cohort E

This group took part in only the second year of the program; they did not have the first year experience. It seemed the best way to prepare the second year program curriculum and procedures was to enroll a number of families in this aspect of the total program.

In some respects, the E cohort participated in a fairly strong program; the staff were able and enthusiastic. On the other hand, there were many serious limitations. There was no curriculum for mothers and many of the learning experiences were prepared on a day-to-day basis.

Cohort D

This cohort undoubtedly received the weakest program experience. In the first year, the In-Home staff were untrained and, as para-professionals without previous early childhood education or parent education experience, limited in their ability to convert general program goals into specific educational experiences. There were no curriculum materials; these had to be prepared by the In-Home staff. The initial emphasis was on the teacher showing the mother how to teach her child. The sharing of experiences approach adopted later had not yet been developed.

The Family Workshop component had a rather uneven experience. Although some of the sessions were highly successful, attendance at these full weekend residential events was low. Again, training procedures were developed as the sessions were held.

Although this cohort has the benefit of entering a second year program that had been existence for one year, their experience was in some important ways less enriching than that of cohort E. One major change was that, for reasons of economy and space limitations, the D cohort attended the Center only two mornings per week instead of four as was the case for E and for the later cohorts. This, of course, meant that they had only half as many hours of program experience. Furthermore, the shorter time per week resulted

in difficult problems of mother-child separation. In the second year, it s essential that the two-year-olds be able to stay in nursery school with the other children and teachers and allow their mothers to participate in the adult classes. In the four-morning program the separation process is quite smooth, but with only two mornings, as might have been predicted from learning theory, the process was long and emotional. Some children never really adjust to being away from their mothers.

There were quite a number of staff changes just before and during the D cohort year and staff relationships can be mildly described as turbulent. In part, this came about because no Center oordinator had been hired and the Associate Director was doing double duty as Center Coordinator.

Other problems for this group included the absence of day care provisions for older siblings, few parent evening discussion group meetings were held, and the Parent Advisory Committee met infrequently.

Cohort F

This cohort had a much better experience in all ways. This came about largely through the addition of new staff members, the further development of curriculum materials and the change to a four morning per week Center program. Nevertheless, the group experienced a program that was not yet documented in prepared curricula. Very little had been prepared for the In-Home part of the program and only portions of the second-year curricula were ready.

Cohort G

Perhaps the major difference between this group's program ex-

perience and that of those preceding was that the staff was better prepared. Most of the curriculum materials were also available and procedures in general were in better shape. In every way, the program was stronger.

Later Cohorts

Cohorts H, I, and J were participating in the program, at some stage, during the preparation of this report. A review of their program experience to date suggests that it is richer than that of any of the cohorts considered in this evaluation report.

Implications

It is clear that the development of complex educational programs takes time. While it is often said that new programs obtain positive results largely on the basis of novelty--the Hawthorne Effect-- our experience is that they are less productive because they are not fully functioning. Assessment of program effectiveness based on early program experiences is not likely to yield positive results.

CHAPTER VI

EVALUATION STRATEGY AND DESIGN

The evaluation of programs like the PCDCs presents special problems because the intended effects of the program will not be fully known until several years after the program's end. That is, programs working with parents of young children at educational risk can be evaluated at the end of active participation, but the results attained at that time do not necessarily mean that the long range intended effects in school will be achieved. That evaluation awaits follow-up until the child has actually performed in elementary school. But more immediate evaluation is desired and we find that we are confronted with the question of what parental behaviors early in the child's life will be most conducive of eventual school success. We might also ask what child behaviors early in life predict later behavior. These issues have been reviewed in Chapter III on goals and need not be repeated in detail here. The goals which have been set determine the sort of program and participant characteristics and behaviors which have been examined.

Evaluation Design

The evaluation design followed the conventional experimental procedure of comparing experimental and control groups before and after treatments. As the subjects were randomly assigned to experimental or control groups it was possible to use either a repeated measures analysis or, in cases where measure continuity was lacking because of developmental changes in the child, post-only analyses.

The design also calls for the careful specification of the treatment condition. We have attempted to do this in a four-fold way: 1) by describing the program thoroughly in the curricula and manuals, 2) by carefully and systematically training staff, 3) by measuring participation in the program and the quality of the program presentations, and 4) by using a formative approach to evaluation whenever possible to measure the degree to which small units of the program were being assimilated by the participants.

Recruitment, Assignment and Enrollment Procedures

Recruiting of families proceeded in several steps. First a pool of eligible families was formed. Going door-to-door through the neighborhoods within the PCDC area boundaries, PCDC recruiters sought families with children under one year of age. When such a family was found, the mother (or other related caretaker) was asked if she would be interested in participating in a study of young children and their families by the University of Houston. If the mother showed any interest, the Family Survey Form was filled out by the recruiter based on data obtained from the mother. The mother was then told that if she were eligible, a staff member would return near the time of her child's first birthday to describe the study and invite her to participate. Families eligible for the assignment pool were those in which the mother (or caretaker) was not working and the family income was within that allowed in OEO guidelines. Up to 20% of the sample were allowed to have incomes exceeding those specified in OEO guidelines by up to about 40%, if neither parent had attended college.

The second step was assignment of families to treatment groups. Families were assigned in monthly batches, shortly before the child's birthday. Generally, monthly quotas for each group were used to determine the proportion of the pool assigned to each group. These proportions vary from month to month in relation to timing of entrance into program. Assignment was done by toss of coin, or die, or use of a random number table.

Cohorts F and G included two control groups. The first was made up exactly like those for cohorts D and E with control families receiving the same medical and community services available to the experimental group. The second control group provides a control of the possible impact of these services on the families. These control families received no services. They received only the assessment battery.

The third step was a full presentation to the family of the program they were assigned to and a commitment to participate was sought. Because this contact sometimes took place up to nine or ten months after the previous one, some families had moved or the mother had started working, and thus they were not available for participation. For the remaining families who agreed to participate, an appointment was made for the initial research procedure, the Bayley Scales. When the Bayley appointment was kept and the child tested, the family was considered officially enrolled in the PCDC. A few families agreed to participate but never came for the Bayley; these families were counted as not desiring to participate. Failure to continue at any time after official enrollment was counted as loss of participant.

Participants enter the program annually in cohorts designated alphabetically. Figure 5 shows the progress of the various cohorts through the program and into the follow-up period. It is planned that families will be followed until the index child is nine years old.

Cohorts A, B, and C are not shown in Figure 5 because they were "exploratory" groups that functioned to provide information for planning the PCDC program. The parent education these groups received was minimal and they will not be followed longitudinally.

The basic features of the Houston PCDC Evaluation design appear in Figure 6.

Characteristics of the Sample

Table 4 presents selected demographic data on families in Cohorts D, E, F, and G. Data are included for experimental and control groups at the time of enrollment, and for those participants in each group who stayed with the project for the full two years (one year for Cohort E as it received only the second year of the program). The effectiveness of the randomization procedure and the effects of attrition are analyzed in detail in the appendix. A brief summary follows.

Cohort D

An analysis of data available at the time of group assignment revealed that there were 10 variables on which experimental and control groups showed a significant difference favoring the control group. There are no significant differences favoring the experimental group. The totality of the significant differences, with the considerable but nonsignificant differences favoring the

Figure 5

PROGRESS THROUGH PROGRAM OF EXPERIMENTAL GROUPS

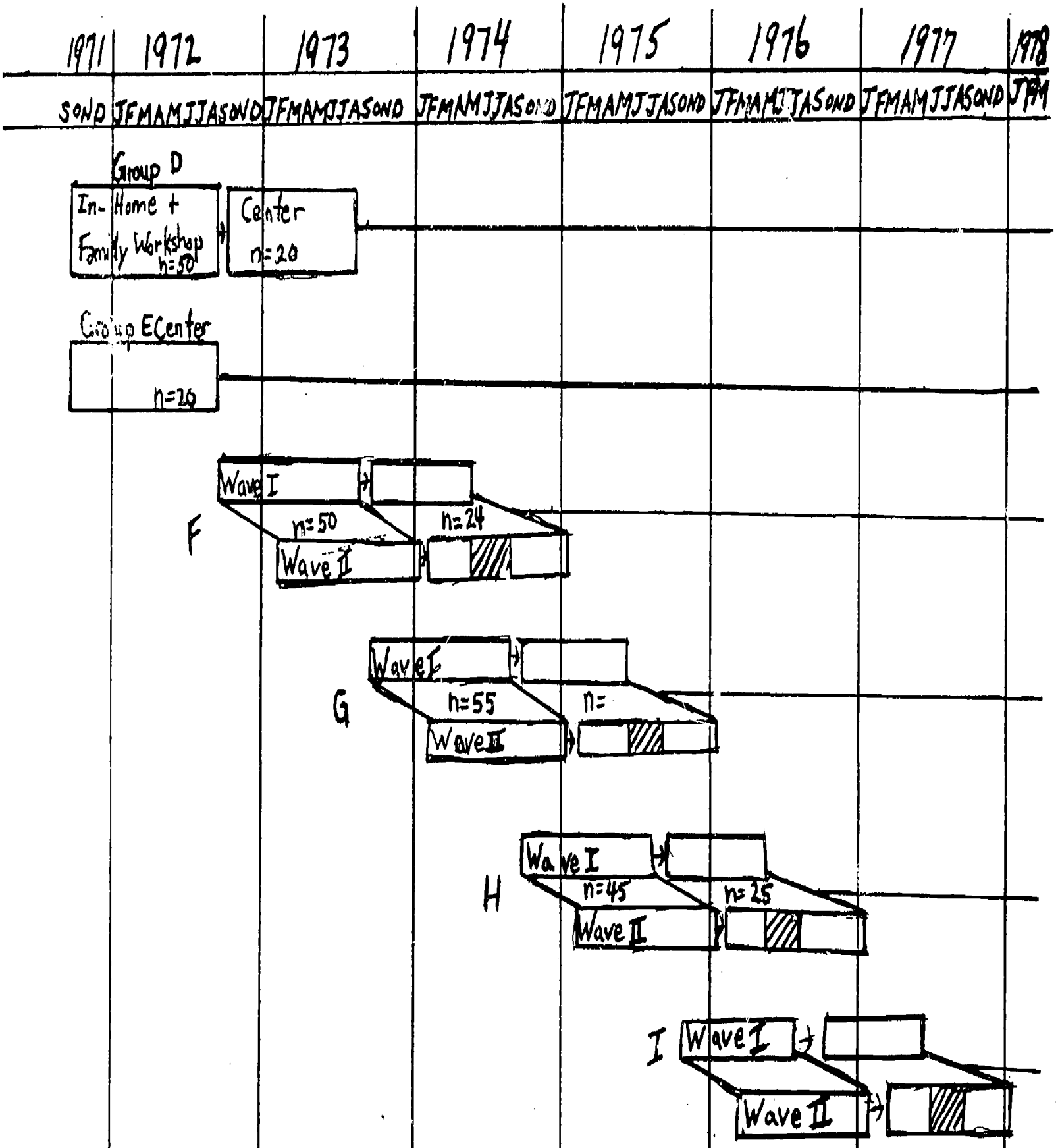


Figure 6

EVALUATION DESIGN FEATURES

1) Random assignment of subjects to experimental or control groups
2) Successive cohorts provide replications of program effects
3) Relatively large sample sizes
4) Assessment on an annual basis beginning at child age one
5) Longitudinal design with follow-up of family to child age eight planned
6) Behavioral measures emphasized
7) Bilingual assessment
8) Evaluation of mothers as well as child
9) Use of standardized and custom-made evaluation instruments
10) Evaluation of process as well as outcome with link between the two kind of measures.

TABLE 4

DEMOGRAPHIC CHARACTERISTICS OF FAMILIES BY COHORT AND TIME

	Cohort D				Cohort E			
	Experimental		Control		Experimental		Control	
	T1	T3	T1	T3	T2	T3	T2	T3
N	53	20	35	24	29	17	22	17
% Fathers Present	91	95	74	83	93	94	77	76
% Spanish Only Usage: Mothers	40	50	26	22				
Years of Education Fathers	7.0	7.0	8.6	9.5	7.6	7.5	7.1	6.8
Years of Education Mothers	7.5	7.6	7.9	8.2	8.0	7.6	6.9	6.5
Per Capita Income	883	919	1116	1163	837	896	661	604
Number of Children	2.9	3.1	3.1	3.4	3.8	3.5	4.7	5.2
Sex of Index Child: % Male	47	45	51	42	59	69	62	75
% Mothers Employed	4	5	15	9	8	6	0	0

	Cohort F				Cohort G					
	Experimental		Control		Experimental		Control C		Control N	
	T1	T3	T1	T3	T1	T3	T1	T3	T1	T3
N	50	25	47	30	49	20	30	14	20	10
% Fathers Present	89	92	84	83	84	100	93	93	90	100
% Spanish Only Usage: Mothers	35	35	35	27	41	55	37	50	35	30
Years of Education: Fathers	7.5	7.0	7.1	7.0	8.4	8.0	7.4	7.8	6.9	6.5
Years of Education: Mothers	7.9	7.4	7.9	7.7	7.8	7.3	8.2	7.8	6.5	6.7
Per Capita Income	1093	955	958	957	1207	1271	1449	1292	1139	1413
Number of Children	3.0	3.0	3.1	3.4	3.0	3.0	2.5	3.2	3.3	2.6
Sex of Index Child: % Male	56	48	55	57	56	50	56	57	50	50
% Mothers Employed	15	17	0	0	0	0	0	0	0	0

D control group, demonstrate that the experimental and control groups in Cohort D are not equivalent. The control group tends to have a larger percentage of both fathers and mothers born in the United States and educated here. The fathers are better educated. A larger percentage of both fathers and mothers are bilingual. They tended to learn English from their families more than from peers and school; whereas the experimental group learned English more from school. They have lived in Houston longer, and in the United States longer. Their income is higher, a higher proportion own their homes, and they tend to have more savings accounts and such financial arrangements.

The data based upon the responses of the mothers and fathers to the Comprehensive Family Data Inventory interviews tend to confirm and strengthen the data based upon the responses of the mothers to the Family Survey Form. Together they demonstrate that the experimental and control groups were not equivalent at the beginning. They became even less equivalent over the two year experimental period, the initial nonequivalence being further affected by differential dropout. The control group at Time 3 is obviously a more advantaged group on a number of variables including income, home ownership, and education, than the experimental group. The family is also more experienced in English. With this difference in bilingual ability, they have been more exposed to the mass media than the experimental group. The superiority of the control group on a number of socioeconomic variables should affect the performance of both parents and children on the various comparison measures at the end of the treatment relative to the experimental group.

Cohort E

At the time of enrollment there were no significant differences between the experimental and control groups. At the end of the one year treatment period, the groups of remaining families differed significantly on the number of children in the family. Although total income remained equal for the two groups, the difference in family size resulted in a difference in per capita income in favor of the experimental group. On all other variables the groups remained equivalent.

Cohort F

At Time 1 it was found that the randomization process generated equivalent groups, without bias in either direction.

The question of differential attrition was examined with X^2 and analysis of variance of each item collected on the Comprehensive Family Data Inventory for the family, fathers, and mothers.

An analysis of the characteristics found in the people who were available for testing at Time 3 indicated only a few significant interactions among population dimensions, being part of the experimental or control groups, and staying in the program or dropping.

For the members of the experimental group who were available at Time 3 it was found that mothers tended to be older, and had lived in the United States longer. Fathers came to the United States older, had not lived in Houston as long, and learned to speak English at a later age.

The control group, on the other hand, tended to live in houses rather than apartments, more often had health insurance, and had lived in Houston for a longer period of time. Fathers came to

Houston younger and learned to speak English when they were younger.

It is concluded that these differences had negligible effects on the outcome data.

Cohort G

Examination of a large number of family characteristics and test scores at program entry revealed few group differences. Fathers in the experimental group had lived in Houston longer, had learned English earlier, more of them were registered voters, and more were bilingual. The mothers showed no group differences on the background characteristics. They did, however differ on a few of the Time 1 psychological measures. On HOME Category VI, "Opportunities for variety in daily routine", the No-services control group received higher scores than the other two groups; on the Traditional Families Ideology measure this same group received lower scores (less traditional), and on the Index of Achievement Values the two control groups received scores indicating greater achievement concerns.

It thus appears that the initial randomization for the G cohort was quite successful. There is no substantial evidence that experimental and control groups differed in ways that would have a systematic effect on the outcome evaluation.

Furthermore, examining differences between Drops and Stays for evidence of differential attrition the same result was obtained. There was little evidence of bias resulting from dropping out. For fathers, recent arrivals in Houston tended to stay if they were in the experimental group, but to drop out if they were

controls. This effect was strong enough to reverse the pattern found at initial randomization and for families remaining at Time 3, the controls had actually been Houston residents longer.

Altogether, there is little evidence of biased randomization or differential attrition for the G cohort.

Overall

On the whole, differences between experimental and control groups have balanced out across the various cohorts. Cohort E showed a slight economic advantage for the experimental group, while in Cohort D there were several differences in the opposite direction. No important differences were present for Cohorts F or G.

Types of Evaluation

Although program evaluation is often limited to an assessment of groups at the end of the program, outcome measures taken by themselves offer a narrow view of program effects. We have chosen to broaden the scope of evaluation and attempt to answer these three questions:

1) Was the program delivered one that was in accord with the basic model of parent education?

2) Did the participants like the program? Did their experience seem worthwhile to them?

3) Is there evidence that the program families are different in the hypothesized ways from the control families after program participation?

It may seem unnecessary to ask the first question, but never-

theless one finds over and over that little attention is paid to the quality of the program being investigated. In our view it is basic to try to present a quantitative description of the program's quality. We recognize, however, that this is a much larger chore than it first appears and the product offered may seem only a shadow of the richness of the real thing.

The second question appears rather simplistic, but in the quandary about evalution, a number of methodologists have recently said that our search for elegant solutions has led us to miss some of the elementary issues. We should at least find out if participants in programs feel that they have spent their time in worthwhile ways or that while participating they are also enjoying themselves. Kohlberg and Mayer (1971), for example, have written as follows:

> Whether or not having a good time in preschool predicts adult functioning and adjustment, it is an ethical imperative that school be reasonably pleasant for the child, that it make him not more miserable than he would be out of school. However, this goal should be stripped of its mental health bag of virtues claims. The fact that none of the hundreds of preschool evaluations and researches have asked how many kids spend how much time crying and how many have a good time is something of a wonder. The one thing about preschoolers you can tell pretty well is whether or not they are having a good time. (p. 6)

We will attempt to answer the third question at this time primarily with data obtained at the immediate end of the program. Some data will also be reported for the end of the first year alone. The outcome evaluation must await subsequent follow-up studies.

Selection of Outcome Measures

In selecting outcome measures several issues were considered.

These are described briefly below.

Relevance to Program Goals

For reasons of appropriateness and economy, the measures were closely tied to program goals whenever feasible. The specific goals for which there are measures are marked with an asterisk in chapter III. Of course, the problem of finding or devising reasonable measures of expected program effects required many compromises and the measures selected are not equally valid or reliable.

Family Members

Although optimizing the child's functioning over time is the primary goal of the project, and child measures are clearly required, we have also placed emphasis on measuring mother behavior. In fact, for two reasons the major part of the evaluation during the period of program participation and at its end depends on mother measures. First, there is the problem of obtaining valid measures of functioning for infants and very young children. Until approximately age three, measures of child behaviors and abilities are notoriously unreliable and offer low levels of predictability to later behaviors. Even at age three, the child's psychological functioning is so undifferentiated that it is nonproductive to use a broad battery of tests in hopes of measuring the development of specific abilities (Kohlberg & Mayer, 1971; Shipman, 1973). These limitations of the child strongly suggest using a rather "lean" set of measures early. Our strategy is to do exactly that and to elaborate the battery of child tests in the follow-up period.

The second reason is that since the mother is viewed as the primary participant in the program and major recipient of benefits, changes in her abilities should be measured carefully and comprehensively.

Behavioral and Verbal-Attitudinal Measures

In line with the program's orientation toward experiential, realistic learning situations is the evaluation strategy of measuring actual behavior first and only secondarily measuring attitudes and verbal reports. Both kinds of information are useful and valid, but behavioral measures require fewer inferences or interpretation for understanding. While it would be satisfying for a sense of completeness to have measures of attitude or conceptual changes as well as evidence of behavior change, verbal attitudinal measures may be useful only with a rather highly educated group and as may be seen in Table 4 that is not the case in this evaluation.

Appropriateness of the Measures for the Subjects

In Table 4 we can see that many of the mothers serving as participants in this evaluation were Spanish-only speakers. Virtually all spoke Spanish, but a minority also were fluent in English. This meant that all evaluation procedures had to be translated into Spanish and English and data collectors were necessarily fluent in the two languages. The task of translation of psychological test materials is formidable and even with skilled translators, using modern cross-cultural research techniques, it was not possible to obtain usable translations of some measures. Measures were used with parents and children only when it was

definite that they were linguistically unambiguous.

Relatively little evaluation research has been conducted with Mexican-Americans in the southwest and the research materials available are often based on norms that are not necessarily appropriate for this population. Obviously the task of restandardizing a Stanford-Binet or Bayley test was beyond the scope or resources of this project. We were able, however, to carefully review all test procedures for the possible inclusion of culturally inappropriate items and to make necessary corrections. Fortunately, with very young children this problem is not great; there may be greater difficulties when it is time to work with older children.

General and Specific Measures

In the view of some evaluation methodologists the ideal measures of program effects are those that deal very specifically with the contents and processes of the program. Thus, in behavior modification programs, if the target behavior is reducing the aggressiveness of a four-year-old, then the program's effectiveness is evaluated by noting the frequency of aggressive behaviors before and after program interventions--and one does not wonder about general feelings of hostility, dreams of violence, etc. We have adopted this view in part and have selected a number of measures because of their direct relevance to program inputs. The Concept Familiarity Index is an example of this as it is based on the concept training curriculum used with children in the nursery school. We have, however, also included general measures. For the children, we selected the Stanford-Binet, perhaps the most general of intelligence tests for young children. Our reasoning was that

program effects from so many sources of input over the two year time period would have more than specific effects. They ought to have very broad, general effects on the child's competence and performance and an appropriate measure would be one that would be quite general. In a sense, the general approach is the more conservative; broad changes probably take place more slowly and with more resistance to environmental changes than do specific changes.

Comparability

Th evaluation of programs with as wide a degree of significance as the PCDCs calls for the selection of measures that are meaningful in the larger scientific, educational community. Some, if not all, of the measures should offer the possiblity of comparison with other programmatic efforts. To ignore this issue is to risk reduced interpretability of results from an isolated program. The question is inevitably asked: how does program A do in comparison with programs B, C, and D? In order to provide any meaningful answer, we must have some comparable measures. Bell (1976) has recently argued for the need for greater comparability of research and we are in some accord with his point of view. Our own selection of measures includes some that have been often used, e.g., Bayley, Stanford-Binet, HOME, and others that were developed specifically to meet the unique needs of this project, e.g., Maternal Interaction Structured Situation, Receptive Language Inventory.

While generally concerned with the need for comparability, we also wish to urge caution on anyone making comparisons of projects on the basis of psychological test measures. What is

very clear now is that how the tests are administered or the social context of the testing determines to a large extent what scores will be obtained. The scores of low social class children obtained by Palmer (1970) were comparatively high, but it needs to be recalled that his administration procedure required being certain that the child was comfortable before beginning any testing. Our own experience has been similar. Using a Palmer-like testing procedure our control subjects have obtained scores that have consistently been more than two standard deviations higher than the scores obtained in the same community by another group of researchers using a rapid screening approach to testing (Rieber & Womack, 1968). Comparing test results without carefully comparing the contexts in which the scores were obtained is poor science.

The following measures were used with parents and the results are presented in this report (Also see Figure 7).

1. Maternal Interaction Structured Situation (MISS)

   This observational technique was developed specifically for this program, but its form is similar to that used by Hess and Shipman and others and it has a rather good reputation as an evaluation tool. The procedure is carried out at the research center. Mother and child are videotaped in a structured interaction situation. The behavior of mother and child is scaled and analyzed from the videotape recording. Variables include the mother's affect, control, use of praise, and the child's interest and involvement in the situation. Reliability of scaling was determined to be over 80% agreement. See Appendix A for details.

FIGURE 7

RESEARCH INSTRUMENTS USED

Measure	Child Age 1	2	3
A. Family Measures			
Comprehensive Family Data Inventory	x		
Family Survey Form	x		
B. Mother Measures			
Maternal Interaction Structured Situation	x	x	x
Home Observation of the Measurement of the Environment	x	x	x
English Expressive Vocabulary	x	x	x
English Receptive Vocabulary	x	x	x
Spanish Receptive Vocabulary	x	x	x
Traditional Family Ideology	x	x	x
Index of Achievement Values	x	x	x
Child Rearing Beliefs	x	x	x
Psychological Mindedness	x	x	x
Psychological Well-Being	x	x	x
Locus of Control Scale	x	x	x
C. Child Measures			
Bayley Scales of Infant Development	x	x	
Stanford-Binet			x
Concept Familiarity Index			x
Receptive Language Inventory	x	x	x
Medical Examination	x	x	
Perinatal Information	Birth		

2. Home Observation for the Measurement of the Environment

Developed by Caldwell (1970), HOME is used to assess the organized cognitive stimulation available in the home to the young child. It consists of a 45 item checklist divided into six subscales. Data consist of raw scores for each subscale and the total raw score of items present. Reliability for a PCDC sample was determined, with a correlation coefficient of .90. See Appendix B for procedural details.

3. English Expressive Vocabulary

This measure of the mother's expressive vocabulary in English was developed especially for the project.

4. English Receptive Vocabulary

Although the Peabody Picture Vocabulary Test has often been used in evaluation research with children, it has perhaps not been as much used with adults. We use an adaptation of it as a measure of the mother's English vocabulary, not as a measure of intelligence.

5. Spanish Receptive Vocabulary

This is a Spanish version of the Peabody developed specifically for this project as a vocabulary measure only.

Children received the following measures.

1. Bayley Scales of Infant Development

The Bayley Scales are used to assess general development of the child. Present analyses include only the Mental and Psychomotor Development Indices, but the Infant Behavior Record data have been collected, as well as Maternal Be-

havior Ratings, on all subjects. These data remain to be analyzed. Subscale analysis of the Bayley Scales is a possibility, pending the selection of meaningful subscales. Reliability of the Bayley Scales is reported in the published test manual, and is adequate. Although of some value in the assessment of individual children during infancy, the Bayley Scales, along with all other infant psychological tests, are not strong predictors of later development. Thus use of the Bayley Scales as outcome measures for the PCDCs must be done with caution.

2. Stanford-Binet Intelligence Scale

Often used in the evaluation of children in early intervention programs, this test is highly regarded for its ability to predict school achievement. It is a measure of learning aptitude. On the other hand, it is criticized for being too narrow; i.e., though intelligence is multifaceted, the S-B provides only one score.

3. Concept Familiarity Index

This measure was specifically designed to serve as a criterion test of the child's acquisition of the concept training portion of the program. It was used with apparent success in Palmer's (1970) Harlem project.

Participants were administered other tests, interviews, and questionnaires on an exploratory basis. Their usefulness in evaluation is still relatively unknown and they will not receive much attention in this report. Measures used with mothers are

listed first.

1. Traditional Family Ideology

   The TFI (Levinson & Huffman, 1955) is a twelve item attitude scale used to assess the mother's agreement with traditional ideas about home and family. A five-point response scale is used. Responses for each item are weighted and summed to produce a single score for the entire scale.

2. Index of Achievement Values

   The IAV (Strodtbeck, 1958) is a seven item attitude scale used to assess the mother's valuation of independence and achievement. It is scored in a manner similar to the TFI.

3. Child Rearing Beliefs

   This is a new measure, developed specifically for the Houston PCDC research population.

4. Psychological Mindedness

   Adapted from Engel (1971), this measure is used to assess the mother's ability to conceptualize and express her ideas about several aspects of child rearing. Eight problem situations are described to the mother, who is asked to explain the possible causes of the child's behavior and what the parent might do. Her answers are recorded and later scored on three dimensions: (a) Affective Responsiveness--sensitivity to the child's emotional state; (b) Developmental Change--sensitivity to changes due to growth and development of the child; and (c) Behavior Shaping--seeing the parent as an agent of behavior change in the child. Scoring is done by two scorers independently and

then resolved through discussion. Reliability of independent scoring is currently being analyzed.

5. Psychological Well-Being Scale

The PWB, developed by Bradburn (1969), is used to assess the general morale of the mother. It is administered yearly, at the same session in which the child is tested. The PWB consists of twenty-five items, including four general questions, a list of eleven possible worries, and a list of ten specific feeling states. Data consist of responses to individual items and the number of worries expressed.

6. Parent Practices Interview.

This is a new interview about what the parents have actually done with their children in a number of everyday situations. It is based on program related topics

7. Locus of Control Scale

This is an adapted version of a children's locus of control measure developed by Nowicki and Strickland (1973). It is in the pilot-testing phase. No reliability estimates are available.

New measures for children include the following:

1. Receptive Language Inventory

The RLI is used to assess the receptive language performance of the child at age one, two, and three years. This test was developed by the project linguist, Edward Mazeika. Both child performance and parent report data are used, with the score consisting of the number of items passed. Test-retest reli-

ability was determined on a project sample; the correlation coefficient was .92. Inter-rater reliability was determined to be over 95% on a separate project sample. This instrument was devised especially to assess bilingual language development. Although the early results are promising, the test must be regarded as in the early stages of development. It has not yet been adequately standardized.

2. McCarthy Scales of Children's Abilities

This is a new measure of intelligence, placed on the market after a careful standardization period. It is similar to the S-B, but offers measures of a wider range of the child's abilities. Our Spanish translation is new.

CHAPTER VII

PROGRAM EVALUATION

The major emphasis of this chapter is on the outcome data, primarily for mothers and secondarily for the children. It is in these data that we hope to find the strengths and weaknesses of the program described in the preceding chapters. However, before turning to the program results there are two other matters that deserve some attent_on because they are important in their own right and because they help to set the stage for the outcome analyses to follow. These have to do with the program presentation, that is, who participated and how much, and with the families' perception of the program as such.

Program Measures

Enrollment, Drop-out and Stay

The basic information for all four cohorts on the number of families who enrolled in the program, number completing the first year and the number who competed both years appears in Table 5. It may be seen that the program completion rates (including the percent available for Time 3 assessment for controls) varies considerably from one cohort to the next. Completion rates tend to be lower for experimental group families, as might be expect considering that so much more is required of them.

The reasons given for dropping out are highly consistent across cohorts and groups. The first reason, accounting for the large majority of cases, is that the family is moving out of the

TABLE 5

NUMBER OF FAMILIES ENROLLED

WITH STAY AND ATTRITION OVER TWO YEARS

Cohort/Group	Enrolled Time 1	Time 2	Completed Time 3	Percent Complete
D				
Experimental	53	34	20	38
Control	35	30	24	69
E				
Experimental		27	17	63
Control		22	17	77
F				
Experimental	50	34	25	50
Control	47	34	30	64
No-Services Control	29	14	10	34
G				
Experimental	55	34	20	36
Control	33	18	13	39
No-Services Control	22	9	7	32

project area. The second reason for dropping is that the mother has obtained employment and cannot participate. Naturally, this has more effect on program families than those in the control groups. A third set of reasons describe overwhelming personal problems, illness of mother or child, and general family disorganization. Some families, actually not many, drop under these conditions even though offered help by the project's community services division.

Attendance

Attendance records have been kept for nearly all program activities since the beginning of the program. The results are presented in detail in the appendix and will be simply summarized here.

Total attendance rates across all cohorts have been at a very regular 70 to 80 percent. The most detailed data were available for the F and G cohorts. The F program, excluding English language classes, called for a maximum of about 440 hours of participation. The mean hours for 27 mothers was 335 with a range of 221 to 427 hours. The participation rate was 76%. The G cohort program was longer, 490 hours, and the mean for 20 mothers was 357 hours with a range of from 247 to 456 hours.

One aspect of the attendance data deserves special attention. An effort has been made since the earliest days of the project to involve fathers in the program, usually in evening meetings. While planning the program we had been advised that their participation would be vital to the success of the project, but that

we would most likely not be able to persuade them to attend. Our experience in the first years of the program, with cohorts D and E, tended to support that prediction as attendance in evening sessions was uneven and fairly low. However, since the fall of 1974 father participation in these evening sessions has gone up greatly and has regularly involved 75 to 90 percent of the fathers during their second year in the program. The difference seems primarily due to changed staff attitudes toward the importance of father involvement and more effective communication with the mothers of the need for this involvement. Fathers have also taken a more active role in structuring the form of these sessions and in selecting discussion topics.

Program Presentation

Measurement of the quality of programs as complex and extensive as the Houston PCDC is a major undertaking and it is beyond the scope of this report to describe the results at this time. The procedures adopted are described in detail in the Process Measures Guide. A list of the process measures and the categories of use appears in Figure 8.

An analysis of process measure data for cohorts F and later is underway and the results will be published separately. However, it is instructive to examine the utility of one of these measures, both as a monitor of program delivery and in its relationship to outcome data. A careful record was kept of the presentation of the Palmer Concept Curriculum to the two-year-olds in the In-Center classrooms. For each child, classroom teachers recorded presentation of each concept, the child's

Figure 8

PROCESS MEASURES AND THEIR USE

IN THE HOUSTON PARENT-CHILD DEVELOPMENT CENTER

E = Educator, Teacher, or Community Worker

S = Supervisor, F = Family Member, C = Curriculum Element

Program Component	Process Measure	Categories of Use								
		Attendance	Program Delivered	Program Quality	Program Improvement	On-going evaluation of subject	Used by	Used by	Feedback to	Relate to Outcome
In-Home	1. Contact Record	X					E	F	S	X
	2. Lesson Rating Scale				X		E	C	S	
	3. Educator's Report Form			X			E	F	S	X
	4. Educator Performance Scale			X			E,S	E	E	
	5. Maternal Behavior Research Instrument					X	E	F		X
	6. Topic List	X					E	E	S	X
Family Workshop	1. Attendance	X					E	F		X
	2. Design Report			X			E	C	S	
	3. Task Completion Report		X	X			E	C	S	
	4. Topic Count		X	X			E	F	S	X
	5. Individual-in-Group					X	E	F		X
	6. Group Process Questionnaire					X	E	F		X
Language	1. Attendance	X					E	F		X
In-Center	1. Mother Attendance	X					E	F	F,S	X
	2. Mother-Child Separation					X	E	F	E	X
	3. Mother Competence Rating					X	E	F		X

Figure 8 (con't)
PROCESS MEASURES AND THEIR USE
IN THE HOUSTON PARENT-CHILD DEVELOPMENT CENTER
E = Educator, Teacher, or Community Worker
S = Supervisor, F = Family Member, C = Curriculum Element

Program Component	Process Measure	Categories of Use								
		Attendance	Program Delivered	Program Quality	Program Improvement	On-going evaluation of subject	Used by	Used by	Feedback to	Relate to Outcome
	4. Child Development Topic Evaluation Form				X		E	C	E	
	5. Child Development Curriculum Audiotape			X			E	F,E	E	
	6. Microteaching Record		X				E	F	E,S	
	7. Mother-child Microteaching			X		X	E	F	F	X
	8. Educator Performance Scale			X			S	E	E	
	9. Clothing Unit Inventory					X	E	F	E	X
	10. Nutrition Inventory					X	E	F	E	X
	11. Evening Attendance	X					E	F	S	X
	12. Child Attendance	X					E	F	S	X
	13. Child-Teacher Interaction Form		X			X	E	F,E	E	X
	14. Concept Activity Participation Form		X				E	F	E	X
	15. Child Concept Record			X		X	E	F	E	X
	16. Child Observation Record		X			X	E	F	E	X

Figure 8 (con't)

PROCESS MEASURES AND THEIR USE

IN THE HOUSTON PARENT-CHILD DEVELOPMENT CENTER

E = Educator, Teacher, or Community Worker

S = Supervisor, F = Family Member, C = Curriculum Element

Program Component	Process Measure	Categories of Use								
		Attendance	Program Delivered	Program Quality	Program Improvement	On-going evaluation of subject	Used by	Used by	Feedback to	Relate to Outcome
Community Services	1. Staff Service Report	X	X				E	F	S	X
	2. Inter-Office Memo			X			E	F	S	
	3. Termination Memo	X					E	F	S, E	X
	4. Referral Sheet		X				E	F	S	
	5. Recruitment Report	X					E	F	S	X
	6. Family Survey Form	X					E	F	S	X
	7. Medical History and Physical Form		X			X	E	F	S, F	X
	8. Medical Information Form		X				E	F	S	X

correct non-verbal responses to the concept (choosing the little toy), and the child's verbalization of the concept label. For cohort G, the correlation between the child's use of concepts in the classroom and performance on the Concept Familiarity Index was .90. This relationship is an explanatory demonstration of the direct link between program delivery and program effectiveness, and shows clearly the value of process measures in the PCDCs.

Participants' Reactions

Response of Parents to the Program

Early education and parent education programs are recognized as optional for members of our society and people may participate or not as they wish. If the programs do not appeal to them in the sense of being worthwhile or at least interesting, they are not required to continue. The program expires through lack of interest.

The attendance data just reviewed offer one measure of interest, although it should be kept in mind that attendance rates are not entirely a function of interest. We have found that most absence is due to forces beyond the control of the participants.

We decided to obtain another measure of interest, this time by asking each mother and father how they regarded the program. The interviewers were trained especially for the task and had no other role in the project. Only one cohort (D) was included in this survey. Others were planned, but funds were not available to hire interviewers.

The results for the mothers who were program participants appear in Table 6. The first item may be the most important one.

TABLE 6

MOTHER'S FEEDBACK INTERVIEW: IN-HOME PROGRAM

(COHORT D: N = 20)

	Mean	SD	Scale Range
Mother would recommend program to friend	2.00	.00	1-2
Child's reaction to teacher vs. others	6.35	1.04	1-9
Mother's attitude toward teacher	4.00	.46	1-5
Adequacy of teacher's explanation of program	2.00	.00	1-2
Mother's awareness of teacher's educational role in relation to herself	1.65	.81	1-4
Value of program to child	2.40	.68	1-3
Value of program to mother	2.20	.52	1-3
Teacher's skill at explaining things to mother	4.10	.31	1-5
Teacher's skill at integrating various concepts for mother	3.80	.52	1-5
Mother's attitude toward PCDC at time of assignment	3.50	.89	1-5
Mother's attitude toward PCDC at first visit	4.00	.46	1-5
Mother's attitude toward PCDC after first few visits	4.05	.61	1-5
Mother's attitude toward PCDC at completion of In-Home program	4.05	.61	1-5
Husband's attitude toward PCDC at time of assignment	3.4	1.21	1-5
Husband's attitude toward PCDC at time completion of In-Home program	3.6	1.23	1-5

Note: Higher scores are more favorable to PCDC project

All of the mothers said they would recommend the program to another mother. As may be seen by scanning the table, all of the other items reflect a favorable view of the program: the mothers liked the teachers, felt the explanation of the program was adequate, felt the program was of value to their child and to themselves, found the teachers skillful, showed positive attitudes toward the program throughout their period of participation, and thought their husbands were favorably inclined toward the program.

The results for the fathers appear in Table 7. Again, they held strongly positive feelings toward the program. This was equally true of control group and experimental group participants. However, it should also be noted that the program fathers were able to cite more positive features of the program, more negative features and could recommend more changes. Clearly, they knew more about the program and could discuss it more appropriately.

Although the results of this survey showed generally favorable attitudes toward the program, it has been the impression of the staff that the program experience that this cohort had was in virtually every way less impressive than that offered subsequent cohorts. The program was just being set up at that time and many elements were quite undeveloped. Evening meetings were poorly attended, staff were under considerable strain to complete curriculum materials, etc. There is little reason to expect a Hawthorne effect for this group. Although survey data are not available, comments by parents to teachers, data collectors and others indicate that recent participants hold highly favorable attitudes toward the program.

TABLE 7

FATHER'S FEEDBACK INTERVIEW AT TIME 3

(COHORT D)

Item	Experimental N=17		Control N=13	
	Mean Score	Mean Number of Responses	Mean Score	Mean Number of Responses
General Feelings toward PCDC	4.59		4.59	
Positive Features of PCDC		2.53		1.92
Negative Features of PCDC		1.00		.00
Recommended changes		1.00		.46

Response of Children to the Program

The answer to the question of how the children like the program is easy: they love it. One two-year old awakened her family at six o'clock each morning with shouts of "bus coming". She was eager to go even though it was not due for two hours. Rejection of the program by the children is nonexistent. Perhaps the key feature for these young children is that they go to an interesting, exciting place with their mother rather than alone and during the morning session are with a small group of other children their age most of the time, with teachers alone part of the time, and with their mothers at other times.

It is known, however, that group participation for preschool children is sometimes a stressful experience and many children spend their time weeping or sulking. Recent evaluation methodologists have suggested that these affective reactions of the child in nursery school should be added to the mass of evaluation data used in assessing the worth of programs. They have argued that child happiness at the time of early education is as important as long-range effects which might accrue from the experience.

We followed up on this suggestion by having a team of observers, undergraduate psychology students, develop a scheme for categorizing and recording affective behavior. At each 10 second interval, observers checked the emotional state of the child as 1) jubilant, 2) happy, 3) neutral, 4) subdued, 5) anxious, 6) angry, or 7) unhappy. As reliability of judgments for the seven categories was unsatisfactory, categories were collapsed to 1) positive, 2) neutral, and 3) negative. Highly reliable judgments were made with these cate-

gories. A total of 48,752 ten-second observations were made on 44 children in cohorts F, G and H. The affective states were found to be distributed as follows:

10.4% Positive

88.3% Neutral

1.3% Negative

As may be seen, happiness outweighted sadness by a heavy margin. Of course, children, like adults, go through their day with expressions that to observers can only be rated as "neutral". Affective expression is less common.

This general level of happiness of the children has also been remarked upon by visitors to the program. They have found the children responsive, happy, busily engaged in activities, and willing to meet strangers without overreacting to them. They behave as though they feel quite at home and are willing to let others share their pleasant experience.

Evaluation Outcome Results for Mothers

The outcome results are presented for each assessment technique separately. It should be kept in mind, however, that there is some overlap of variables measured by the various procedures. For example, the mother's use of restrictive control of her child is measured by the Maternal Interaction Structured Situation and by the HOME Inventory. The findings for each variable will be reviewed in the discussion chapter.

In this section, the results obtained for mothers are pre-

sented first to emphasize that the mothers have been the primary program participants. Child data are presented second.

Maternal Interaction Structured Situation (MISS)

The MISS offers a way of describing in quantitative terms a mother's behavior with her own child. Under the best of circumstances, one would want to know how mothers and fathers interact with their children in their own homes and over long periods of time. Such information would provide the best source of data about program impacts. However, the methodology of observation of parent-child relationships in natural settings is much too undeveloped and expensive to offer evaluation aid at this time. In our evaluation procedures we have substituted a structured situation for the natural one and have gained measurement reliability in the process.

The fact that the MISS does offer behavioral as opposed to attitudinal evidence and that it is directly linked to program elements makes it an especially important procedure for Houston PCDC. Furthermore, the results have consistently shown program vs. control group effects. The results are described below separately for each of the four cohorts. The procedures and detailed tables of results are described in the appendix.

E Cohort. The Miss analysis for this cohort was done by coding each mother-child interaction unit, (e.g., mother: "Try this," child: "OK.") for control and affect. The occurrences of the codes were obtained for the various kinds of control and affect as both frequencies and percentages. Then codes were recalculated according to an especially prepared formula and t-tests

were run for the experimental Ss at Time 2 and Time 3 and for the experimentals versus controls at Time 3. No control Ss were observed at Time 2. Interaction measures were found indicating the experimental Ss used more autonomy granting at Time 3 than at Time 2, and that experimentals were more autonomy granting and affectionate than controls. These differences were significant at the .05 level. These positive results led to an elaboration of procedures and scoring, and a less ambiguous data collection design, including all groups at all time points.

D Cohort. A different system for quantifying the mother-child interaction observations was used for the D, F and G cohorts. Observers rated behaviors on 14 scales at one minute intervals. The procedure and list of scales are shown in Figure 9.

Data were available for experimental and control groups at Times 2 and 3. The most important results to emerge from the analysis of variance are to be found in the group by time interactions. The Free Play situation was most productive; program mothers were more affectionate ($p = .035$), used praise more often ($p = .077$), and more often reasoned with their child ($p = .079$). This pattern meets stated goals for program mothers.

There were also a few main effects for group differences, but their significance is not clear. Since they favored the program group, and since they showed higher scores for the program group at both Time 2 and Time 3, the differences may have resulted from the first program year experience.

There were a large number of highly significant differences over time. They reflect the mothers' changing relationship

FIGURE 9

MISS

PROCEDURES FOR RATING VIDEOTAPES

The rater views tape for one minute period at which point video-recorder is stopped. He then proceeds to rate the interaction for all scales across the coding sheet, designating task and segment in the appropriate columns and entering each rating in the column for that particular scale. If necessary the segment is viewed again before completing ratings. The rater proceeds through all segments of each task in this manner.

The first seven scales are used for evaluation purposes:

1. Rating Scale for Mother's Affectionateness
2. Rating Scale for Mother's Use of Praise
3. Rating Scale for Mother's Use of Criticism
4. Rating Scale for Mother's Control of Child Behavior
5. Rating Scale for Mother's Use of Reasoning with Child
6. Rating Scale for Mother's Encouragement of Child's Verbalization
7. Rating Scale for Child's Verbal Communication

The next seven scales are used to describe aspects of the interaction which provide a context for interpretation of scales 1 through 7:

8. Rating Scale for Mother's Interest in the Situation
9. Rating Scale for Child's Interest in the Situation
10. Rating Scale for Mother-Child Interaction
11. Rating Scale for Child's Enjoyment of the Situation - Typical
12. Rating Scale for Child's Enjoyment of the Situation - Low Point
13. Rating Scale for Child's Enjoyment of the Situation - High Point
14. Rating Scale for Child's Engagement in Activity

to their growing children. Apparently, the Shape Sorter task was more likely to effect these changes than the other tasks.

F Cohort. The rating technique used for the D Cohort was also used with F participants. However, the tasks differed somewhat, as described in the appendix.

The results for the F Cohort are summarized in Table 8. The group by time interactions are most relevant to the question of whether the program had any impact on the mothers. Significant differences favoring the program mothers appeared on several scales: they were more affectionate (Free Play, $p = .007$), used less criticism (Book, $p = .016$; Free Play, $p = .010$), and were more verbally encouraging (Book, $p = .010$; Free Play, $p = .041$).

Only two group differences appeared and these were mere trends. The program mothers were more affectionate and less critical at both time periods. Perhaps, again, these may be effects of the first year program. Lacking Time 1 data, however, we cannot be sure.

As with the D Cohort, there were a number of time effects: clearly, mothers behave differently with older than with younger children, particularly at the two to three year time when change is so rapid.

This analysis included an examination of possible sex differences. There were no main effects for sex. The only interaction was on child verbalization: program boys and control girls were more verbal.

G Cohort. More tasks were used in assessing this cohort than for cohorts D and F. As may be seen in Table 9, a large

TABLE 8

MOTHER-CHILD INTERACTION RATINGS
SIGNIFICANT GROUP X TIME INTERACTIONS
(F COHORT: EXPERIMENTAL, CONTROL)

	Task	
Scale	Book	Free Play
Affection		**
Praise		
Criticism	*	**
Control		
Reasoning		
Encourage Verbalization	**	*
Child's Verbalization		+

Note

\+ $p < .10$
* $p < .05$
** $p < .01$

TABLE 9

MOTHER-CHILD INTERACTION RATINGS

SIGNIFICANT GROUP X TIME INTERACTIONS

(G COHORT: EXPERIMENTAL, SERVICES CONTROL, NO SERVICES CONTROL)

	Task				
Scale	Book	Design	Sorting	Play Village	Free Play
Affection					+
Praise	+	+		*	*
Criticism			-+		-*
Control			+		*
Reasoning		-+			+
Encourage Verbalization	**	**	**	**	**
Child's Verbalization	*	*	*	**	**

Note: + $p < .10$
* $p < .05$
** $p < .01$
\- Opposite Predicted Direction

number of significant or near significant group by time interactions were found and nearly all of them were as predicted.

Program mothers were more affectionate (Free Play, $p = .089$), used more praise (Book, $p = .052$, Design, $p = .054$, Play Village, $p = .026$, Free Play, $p = .012$), used less restrictive control (Sorting, $p = .095$, Free Play, $p = .047$), were more encouraging of child verbalization (Book, $p < .001$, Design, $p = .002$, Sorting, $p = .002$, Play Village, $p = .007$, Free Play, $p = .003$) and their children in return were more verbal (Book, $p = .021$, Design, $p = .019$, Sorting, $p = .017$, Play Village, $p = .010$, Free Play, $p = .002$).

It was only on the use of criticism with the child that they were not sharply distinct from the control groups. On the Sorting task, the experimentals and no-services controls showed slight increases and the services control group showed a decline ($p = .095$). On the Free Play task, experimentals remained the same, the no services controls went up and the services controls again declined ($p = .032$).

The results for the use of reasoning were mixed. On the Design task the no services controls showed the greatest increase ($p = .075$) while on Free Play, the experimentals had the highest gains ($p = .075$).

The only negative results obtained on the mother-child interaction task occurred on the two scales that have least importance in this assessment. What is remarkable about these two variables is that mothers in all groups and at both assessment times rarely use any criticism or any reasoning. The means are essentially

1.00. In this they are in contrast to the other scales which show greater variability within the groups and across time.

There were again a large number of differences across time on all of the tasks. They were much like those obtained for the previous cohorts.

There were few group differences and they did not describe a clear pattern. If there is a trend, it is that the services control group appeared to have the favored position at Time 2.

Overall. Taking these four cohorts together, the most consistent findings to emerge are that the program mothers become warmer or more affectionate, they are more encouraging of child verbalization, and their children are more verbally responsive. This outcome was intended as a major program goal. Study after study has shown that competent children have warm, loving parents. Perhaps this is because children with such parents feel comfortable with themselves and emotionally close to their parents. They tend to want to be like their parents (Hetherington and Frankie, 1967) and to take on parental values and expectations (Hoffman, 1970).

The program mothers also used more praise. Praise used appropriately has been shown to enhance problem-solving and learning skills of children while criticism typically has the opposite effect.

The program mothers' greater encouragement of child verbalization is extremely important. When communication is facilitated between parent and child, the parent can serve as a more effective resource for the child. Furthermore, conceptualization is promoted when the child can draw on the parent's advanced conceptual abilities.

Coding and rating mother-child interaction tend to yield rather static pictures of the interaction. What we see in looking at the videotapes of the mother-child interactions is that mothers who are warm, praising, noncritical, nonrestrictive, and verbally encouraging also appear to be more sensitively responsive to their child. One has the impression of the mother being able to "tune in" to the child's behavior and meet him where he is, helping without intruding, supporting without pushing, and above all, encouraging the child's interest in learning and doing for the satisfaction it gives him.

There is one other point to be made before going on to the other results. As may be seen in Tables 8 and 9 and in the narrative above, there appears to be an increase in the number of significant group by time interactions obtained for successive cohorts. This suggests that the program has had a stronger influence on the mothers in the more recent cohorts.

HOME Inventory

The measure called HOME, an acronym for Home Observation for Measurement of the Environment, is used to assess the home as a learning environment. Interviewers check 45 items having to do with the mother and observations of the home itself. The items are divided into six categories and also summed to yield a total score. Highly reliable observations are obtained. The procedure is suitable for families with children from birth to three, but children at different ages tend to draw different scores (Johnson, Kahn, Hines, Leler & Torres, 1976).

In evaluating the Houston PCDC, HOME was used with cohorts D

at Times 2 and 3, E at Time 3 only, and cohorts F and G at Times 1, 2, and 3. A new manual was issued after F Time 1 data were collected, and later scores tended to be a few points higher. Control and experimental families were affected equally by this change.

Our first use of HOME, with Cohort E, showed significant differences between experimentals and controls on two subcategories: "maternal involvement with the child" and "provision of appropriate play materials". These results were for the post test only as no pretests were done.

HOME results were available for two time points for the D cohort. There were no significant group by time interactions and the only subcategory showing a significant difference was "avoidance of restriction and punishment". This was unexpected as it favored the control group.

Results for all three time periods were available for the F cohort. The means and standard deviations for experimental and control Ss are shown in Table 10.

Group by time analyses of variance for the total score and each subcategory failed to show significant differences. However, as may be seen in Table 10, there were significant group differences at Time 3 for "Organization of physical and temporal environment" ($F = 5.86$ $p < .05$), "Provision of appropriate play materials" ($F = 7.84$, $p < .01$), and for the total scores at Time 2 ($F = 5.79$, $p < .05$) and Time 3 ($F = 8.82$, $p < .01$).

The results for the G cohort appear in Table 11. Although data are available for three time points the G cohort results are

TABLE 10

HOME INVENTORY RESULTS FOR MOTHERS

AT THREE DATA POINTS FOR TIME 3 SUBJECTS ONLY

(COHORT F)

N = 20 EXPERIMENTAL, 26 CONTROL

	Time 1 12 Months		Time 2 24 Months		Time 3 36 Months	
Categories Groups	Mean	SD	Mean	SD	Mean	SD
Category 1						
Experimental	7.8	(1.7)	10.0	(1.0)	9.6	(1.1)
Control	7.3	(2.1)	9.7	(1.4)	9.3	(1.6)
Category 2						
Experimental	6.0	(1.1)	6.2	(1.3)	6.5	(1.2)
Control	5.8	(1.0)	5.9	(1.0)	6.0	(1.2)
Category 3						
Experimental	4.6	(1.1)	5.5	(0.8)	5.2	(0.6)*
Control	4.1	(1.1)	5.3	(0.8)	4.7	(0.8)
Category 4						
Experimental	4.4	(2.5)	7.2	(1.7)	7.6	(1.4)**
Control	4.2	(2.1)	6.2	(1.8)	6.2	(1.8)
Category 5						
Experimental	2.8	(1.7)	4.8	(1.1)	3.6	(1.7)
Control	2.2	(1.3)	4.2	(1.4)	3.2	(1.7)
Category 6						
Experimental	2.8	(1.2)	3.6	(1.2)	4.0	(1.2)
Control	2.3	(0.8)	2.6	(1.5)	3.2	(1.6)
Total Score						
Experimental	28.4	(4.9)	37.2	(4.0)	36.4	(3.7)**
Control	26.1	(4.9)	34.0	(4.9)	32.5	(4.9)

* $p < .05$, ** $p < .01$

Categories:

1. Emotional and Verbal Responsivity of Mother
2. Avoidance of Restriction and Punishment
3. Organization of Environment
4. Provision of Appropriate Play Materials
5. Maternal Involvement with the Child
6. Opportunities for Variety in Daily Routine

TABLE 11
HOME INVENTORY RESULTS FOR MOTHERS
AT TWO DATA POINTS
(COHORT G)
N = 16 EXPERIMENTAL, 14 CONTROL, 8 NO-SERVICES CONTROL

Categories/Groups	Time 1 12 Months Mean	SD	TIME 3 36 Months Mean	SD	Group X Time Significance Levels
Category 1					
Experimental	9.1	(1.8)	10.3	(1.1)	
C-Control	9.8	(1.0)	9.4	(1.8)	
N-Control	9.9	(0.8)	8.0	(3.0)	.008
Category 2					
Experimental	6.1	(0.8)	6.1	(2.5)	
C-Control	6.4	(0.9)	4.1	(2.5)	
N-Control	6.1	(0.6)	6.5	(1.8)	.017
Category 3					
Experimental	4.8	(1.4)	5.1	(1.0)	
C-Control	5.2	(1.3)	5.3	(0.6)	
N-Control	5.1	(0.8)	4.8	(1.7)	.489
Category 4					
Experimental	5.4	(1.5)	8.1	(1.0)	
C-Control	6.0	(2.0)	6.4	(2.3)	
N-Control	5.1	(1.5)	6.5	(1.7)	.006
Category 5					
Experimental	4.1	(1.6)	3.6	(1.8)	
C-Control	3.9	(1.7)	4.4	(1.7)	
N-Control	4.1	(1.0)	3.4	(1.6)	.259
Category 6					
Experimental	3.1	(0.9)	3.9	(0.9)	
C-Control	2.9	(0.9)	3.1	(1.4)	
N-Control	2.6	(0.7)	3.5	(0.9)	.318
Total					
Experimental	32.5	(5.1)	37.1	(5.1)	
C-Control	34.1	(4.8)	32.6	(7.0)	
N-Control	33.0	(3.4)	31.6	(8.4)	.022

Categories:
1. Emotional and Verbal Responsivity of Mother
2. Avoidance of Restriction and Punishment
3. Organization of Environment
4. Provision of Appropriate Play Materials
5. Maternal Involvement with the Child
6. Opportunities for Variety in Daily Routine

reported for two points only. Results for all three times appear in the appendix and are essentially the same as for the times shown here. We chose to compare groups at program beginning and end only, when the children involved were one and three years of age, because an analysis of the HOME data (Johnson, et al., 1976) indicated that the measure has lower predictability at 24 months than at the other two ages. Other psychometric problems also appeared for that age.

The results in Table 11 show strong group by time interactions for Category 1, "Emotional and verbal responsivity of the mother", Category 2, "Avoidance of restriction and punishment", Category 4, "Provision of appropriate play materials" and for the Total score.

It should be noted that on the Total score, quite likely the best single measure of the quality of the home as a learning environment, the experimental group showed a gain of 4.6 points while the two control groups actually lost points over time.

Verbal-Attitudinal Measures

Various kinds of interviews or questionnaires have been used to measure the attitudes, knowledge or beliefs of the mother about child rearing and the family. These have included the Traditional Family Ideology, Index of Achievement Values, Locus of Control, Psychological Mindedness, Child Rearing Beliefs and Psychological Well-Being. Data for most of these have been obtained at more than one time point for experimentals and controls.

As measures of program effectiveness these verbal measures have been consistently unenlightening. Some significant group differences in the right direction have been found, but our im-

pression is that the patterns are largely chance.

The results for the G cohort on the Locus of Control Scale may serve as an example of this problem. This especially prepared measure was available at three time points for the G cohort. As low scores indicate an internal locus of control, that is, a tendency to view one's life experiences as determined by one's own actions, we had predicted a decline in scores for the program mothers. The expected decline did occur, but the services control group showed a similar pattern. In contrast, the no-services controls tended to increase slightly. Combining the two control groups and comparing them with the experimentals we found no group by time interaction. The overall result is that on the Locus of Control Scale, as on the other verbal-attitudinal measures, there are no reliable group differences.

We have found that some of the measures are strongly influenced by response sets, as though the subjects were unfamiliar with the procedure, but willing to comply with the general request for response.

The results with these measures stands in sharp contrast to the behavior measures. Our experience with verbal-attitudinal measures is not unique. To mention one study among many, Lambie, Bond and Weikart (1974) had much the same results: positive findings for behavior methods and no differences on a measure of "maternal expectation".

We believe that it may be best to discard the verbal-attitudinal measures for outcome evaluation, at least until the problems with their use are better understood. This does not represent a denial

of the importance of parents' ideas, feelings, and beliefs, but rather the difficulty of obtaining valid measures of these variables.

Mother English Language Competence

All of the mothers in the project (cohort F) are fluent in Spanish, but they differ greatly in English language skills. To increase these skills, program mothers were invited to participate in English language classes. The effectiveness of these classes was evaluated with two English vocabulary tests which were administered at Time 2 and Time 3. Technical problems prevented administration at Time 1.

The first step was to separate mothers according to their competence in English. They were divided into high or low categories using the following information sources:

Mother's preferred language

Mother's place of birth

Father's preferred language

Father's place of birth

Language used for mother interview

Language used for child testing

This division yielded 11 high and 14 low English for the program mothers and 16 high and 14 low for the controls.

Within the program low English competence group, 6 mothers participated regularly in the English language classes and 5 participated infrequently or dropped out of classes. There were 14 control mothers with low English competence.

The results for the categories of low English competence

mothers appear in Figure 10. The results shown are change scores. It may be seen that mothers who participated in English classes showed greater positive change in both the receptive vocabulary and expressive vocabulary than those mothers who did not participate in the classes. As the numbers were small no statistical test was used.

The differences favoring the language class mothers were consistent, but not very large. The small scale of the differences may actually be due to limitations of the measuring instruments which sample vocabulary, but not other aspects of language. The staff impressions of change suggest greater functional language gains for those in the classes. Considering the limited view of language change the measures provide, the differences obtained are even more impressive.

Child Outcome Result

The child results reported here were obtained through the use of a few tests selected on the basis of their appropriateness to the task and the fact that each rests on rather substantial research foundations. They do, however, offer a limited view of child development, one that is strong on intellectual and language functioning, but lacking in the socio-emotional aspects.

Bayley Scales of Infant Development

The Bayley Scales were administered at ages 12 and 24 months to children in Cohorts D, F, and G. Effects of the first program year (In Home) may well be reflected in the data from the Bayley Mental Development Index (MDI). Positive results consistent across cohorts were found on the MDI, as shown in Table 12. For purposes

Figure 10

CHANGE IN MOTHER LANGUAGE SCORES AS A FUNCTION OF ENGLISH LANGUAGE CLASSES TIME 2 TO TIME 3 (F COHORT)

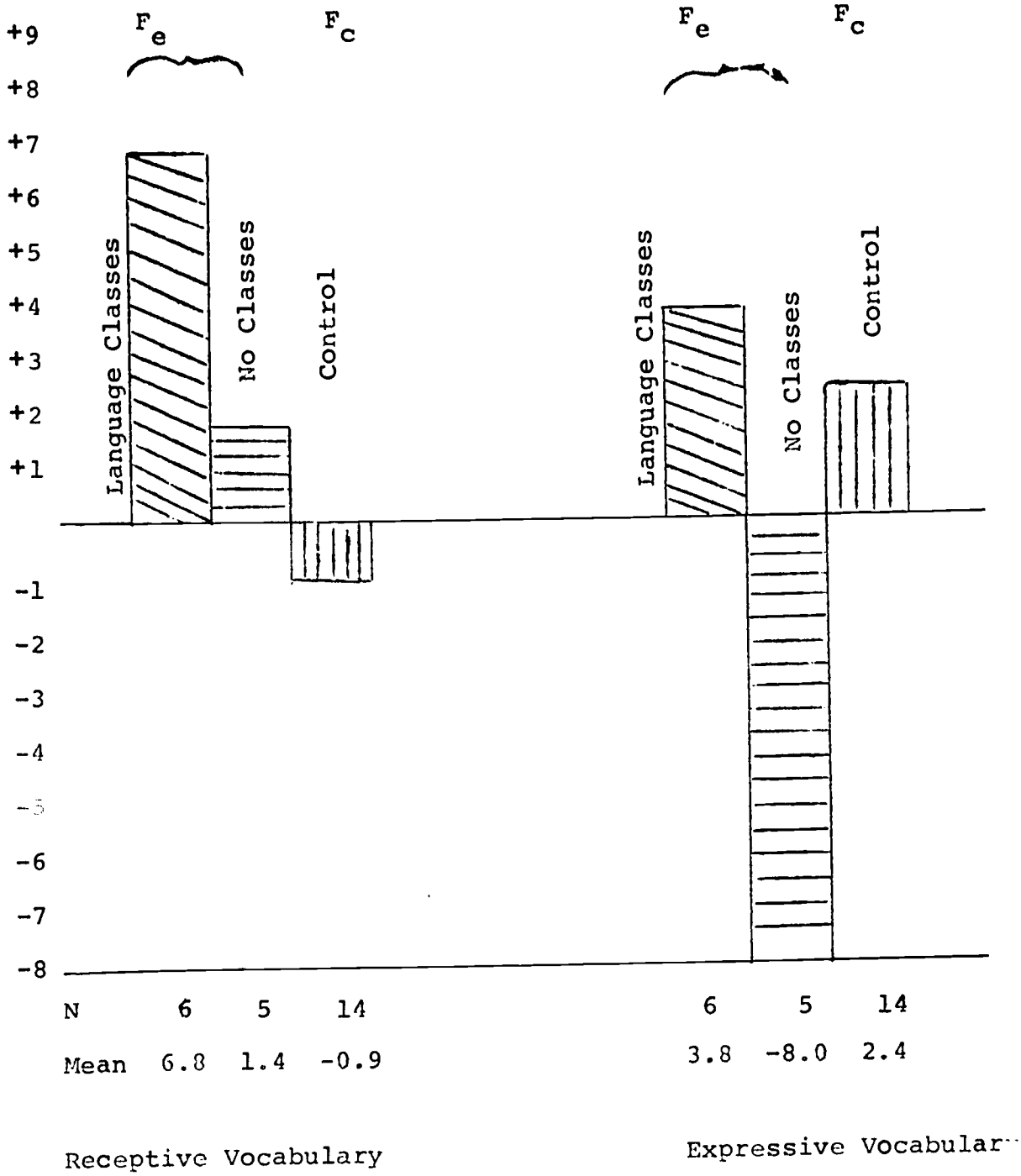


TABLE 12

BAYLEY MENTAL DEVELOPMENT INDEX SCORES
(COHORTS D, F, AND G)

Cohort	Experimental			Control						Difference	
				Services			No Services				
	N	Mean	SD	N	Mean	SD	N	Mean	SD	E-C	E-N
Cohort D											
12 Mos.	32	85.8		28	89.6					-3.8	
24 Mos.	32	95.7		28	88.6					+7.0	
d		+9.9			-1.0						
Cohort F											
12 Mos.	32	98.2		30	97.6		12	97.2		+0.6	+1.0
24 Mos.	32	100.6		30	88.6		12	88.5		+11.7	+12.1
d		+2.4			-8.7			-8.7			
Cohort G											
12 Mos.	31	103.2		19	105.5		9	103.3		-2.3	-0.1
24 Mos.	31	98.7		19	93.0		9	86.3		+5.7	+12.4
d		-4.5			-12.5			-17.0			
COMBINED											
12 Mos.	97	96.0	(16.2)	80	98.0	(16.8)	21	99.8	(9.7)	-2.0	-3.8
24 Mos.	97	97.3	(11.6)	80	91.0	(11.8)	21	87.6	(10.7)	+6.3	+9.7
d		+1.3			-7.0			-12.2			

of analysis, data for all cohorts were combined. Analysis of variance showed a highly significant group by time interaction ($p < .001$). Scores for the experimental group stayed near the national average, while declines of seven and twelve points occurred for the two control groups.

If these data do indeed represent program impact, the effect is clearly through the mother, since the child is not directly the focus of first year program activities. Because of the discontinuities in intellectual functions across the years of early childhood, and the low predictive validity of infant tests, the meaning of these data requires cautious interpretation. But the presence of the strong positive effect is at the very least encouraging.

Stanford-Binet

The Stanford-Binet results for three-year-old children in each of the cohorts are shown in Table 13. The results reported are based on the 1960 S-B norms because these have been most commonly used by nearly all investigators up to the present time. Actually, however, the 1972 norms are more appropriate. The results presented may easily be converted to the new norms by subtracting 10 points. This adjustment places the S-B scores in line with such other major tests as the Wechsler Preschool and Primary Scales of Intelligence and the McCarthy Scales.

It may be seen in Table 13 that for each cohort, with one exception, the experimental children have attained higher scores than control children. Combining all experimental children and comparing them with all control children yields an experimental

TABLE 13

STANFORD-BINET RESULTS FOR CHILDREN

AT END OF PROGRAM (Time 3)

(COHORTS D, E, F, and G)

Cohort	Experimental	Control	
		Services	No-Services
D			
N	20	24	
Mean	99.2	96.3	
SD	11.4	15.3	
E			
N	16	16	
Mean	97.9	88.2	
SD	6.4	8.2	
F			
N	24	30	7
Mean	107.7	104.0	105.7
SD	11.8	12.4	12.1
G			
N	19	13	7
Mean	109.2	109.6	91.3
SD	12.8	13.5	7.8
Cohorts Combined			
N	79	97	
Mean	104.0	99.5	
SD	14.0	13.6	

mean of 104.0 and a control mean of 99.5; the F of 4.82 is significant at the .05 level.

The greatest cohort difference was obtained for the E cohort, but after that, when control groups are combined, the group differences rank from D, lowest, to G, highest.

The program children in cohorts F and G attained scores in the average to high average range, as might be expected from participation in a quality preschool program. What is remarkable is that the control children also achieved rather high scores.

Concept Familiarity Index (CFI)

The CFI results for three-year-old children in each cohort are shown in Table 14. The results varied considerably from year to year. For cohort E, the experimental group showed a strong advantage over the controls. For cohorts D and F, there were minimal, nonsignificant differences in favor of the experimental groups. For cohort G, strong positive results were present, significantly in favor of the experimental group.

The CFI is related very closely to program content for the children and mothers. Thus it may be an important index of very specific program impact, and reflect changes in program delivery from year to year. The data mentioned above in regard to process measures tend to confirm this possibility.

As with the Stanford-Binet, it should be noted that all children in cohort G do well on this measure, but the experimentals do extremely well.

TABLE 14

CONCEPT FAMILIARITY INDEX RESULTS FOR
COHORTS D, E, F AND G
(AGE 36 MONTHS)

Cohort	Experimental			Control: Services			Control: No Services			Difference		F
	N	Mean	SD	N	Mean	SD	N	Mean	SD	E-C	E-N	
Cohort E												
% Correct	15	64.1	9.8	13	52.0	15.4				12.1		5.81*
Cohort D												
Form	16	3.2	1.1	15	2.5	1.0				0.7		4.20*
Concepts	16	28.9	7.7	15	28.1	7.6				0.8		0.09
Total	16	32.1	8.4	15	30.5	7.5				1.6		0.30
Cohort F												
Form	24	2.4	1.1	29	2.2	1.2	5	2.0	1.0	0.2	0.4	NS
Concepts	24	30.7	5.8	29	30.7	5.7	5	28.8	10.4	0.0	1.9	NS
Total	24	33.1	5.1	29	33.0	6.2	5	30.8	11.2	0.1	2.3	NS
Cohort G												
Form	18	3.2	1.2	12	2.2	1.5	7	2.0	1.9	1.0	1.2	2.25
Concepts	18	36.2	4.0	12	34.1	4.6	7	30.3	7.1	2.1	5.9	3.95*
Total	18	39.4	4.0	12	36.2	5.2	7	32.3	8.8	3.2	7.1	4.40*

* $p < .05$

CHAPTER VIII

DISCUSSION AND CONCLUSIONS

The parent education model has been described, its implementation has been discussed, and results of a program evaluation have been presented. It is time now to look closely at the program to judge its success. In doing this we find that there are two major questions to be considered: 1) Have the evaluation results demonstrated that program goals were achieved? 2) Were the evaluation procedures sensitive and appropriate enough to realistically assess program effects? These two questions will be considered in this section.

Goal Attainment

In developing program contents and methods a number of goals were set, most of which were based on research on parent-child relations and on the experience of others with early education programs. We had hoped at one time to be able to find or devise evaluation procedures which would permit the assessment of each of the goals. That evaluation strategy has proven impractical largely because the necessary evaluation techniques are not available and the development of all the new techniques that we would need has been beyond the resources of the project. Nevertheless, a large number of program goals have been evaluated and as may be seen in Figure 11, goals have to a very large extent been achieved.

The evaluation strategy placed more attention on program effects on mothers than on the children. Many of the child goals were not evaluated at this time as they required assessment of

FIGURE 11

GOAL ATTAINMENT

GOAL	MEASURE	COHORT D	E	F	G
MOTHERS					
Affective Relationships					
1. Has warm affective relationships with the child.	MISS-1	+	+	+	+
	HOME-I	o	+	o	+
2. Uses positive reinforcement of the child's behavior, including praise.	MISS-2	+		o	+
	MISS-3	o		+	o
Control Technique					
1. Uses control which recognizes autonomy-striving of child	MISS-4	o	+	o	+
2. Grants freedom and responsibility keyed to the child's developmental level.	HOME-II	-	o	o	+
Language Interactions					
1. Verbal interaction emphasized.	MISS-6	o		+	+
2. Gives child reasons and explanations for instructions, commands and discipline.	MISS-5	+		o	o
Provides Intellectual Stimulation					
1. Provide [illegible]ging, interesting toys and other play situations	HOME-IV	o	+	+	+
2. Provides books and other written materials.	HOME-IV	o	+	+	+
3. Provides world expanding opportunities.	HOME-III	o	o	+	o
	HOME-VI				
4. Provides intellectual responsiveness	HOME-I	o	+	o	+
5. Views the home as a learning setting.	HOME Total	o	o	+	+

Figure 11 (con't)

GOAL ATTAINMENT

GOAL	MEASURE	D	E	F	G	Combined
CHILDREN						
Cognitive	Bayley MDI	+		+	+	+
	Stanford-Binet	o	+	o	o	+
	Concept Familiarity Index	o	+	+	+	
Linguistic	MISS-7	o		+	+	

Note:

+ significant group differences obtained supporting program goals

o no significant differences found

- significant differences found contrary to program goals

school related behaviors or because valid instruments were not available.

What emerges in Figure 11 is a very strong pattern of program effects on the mothers. Their functioning in many goal-related areas is substantially different from that of the control mothers. It is apparent that there are program effects on what they actually do with their children and that the breadth of these differences is such that we would expect them to have long-lasting and pervasive positive influences on their children.

Child Test Trends Over Time

One of the expected findings of research on intellectual development of young children of low income families is that they will show a decline in mental test scores over time while middle-income children remain at a constant level. Typically, studies have found no differences between these groups for one-year-olds, but sizable differences at age three or four (Golden, Birns, Bridger & Moss, 1971). These results have been interpreted as showing the effects of environmental deprivation on child intellectual development. If the environment is encouraging, rewarding, rich with verbal interaction and responsive to the child's developing curiosity, as is presumed to be the case in the middle- or upper-income home, then the child's intellect is expected to thrive. Given the presence of these environmental conditions, irregardless of family income, we would expect the child to do well.

We can examine the child test results from our program evaluation for evidence of the "decline hypothesis". The control

children have all lived in relatively low-income homes and would be expected to show declining test scores over the two year period studied. The experimental children, on the other hand, have participated in a stimulating program and, more importantly, have been reared by parents who have also participated in the program. The scores of these children should not show the same decline.

Figure 12 offers a comparison of the groups on mental tests over time. For this comparison the control groups and all cohorts have been combined. The Stanford-Binet IQs shown were obtained using the 1972 norms in order to make them appropriately comparable with the Bayley scores. It is clear from this figure that the control children did show a decline, especially between ages one and two. The program children, on the other hand, have achieved scores that are a few points higher (statistically significantly so) and appear to show much less of a decline effect. Their scores are essentially in the average range and their longitudinal pattern is nearly level.

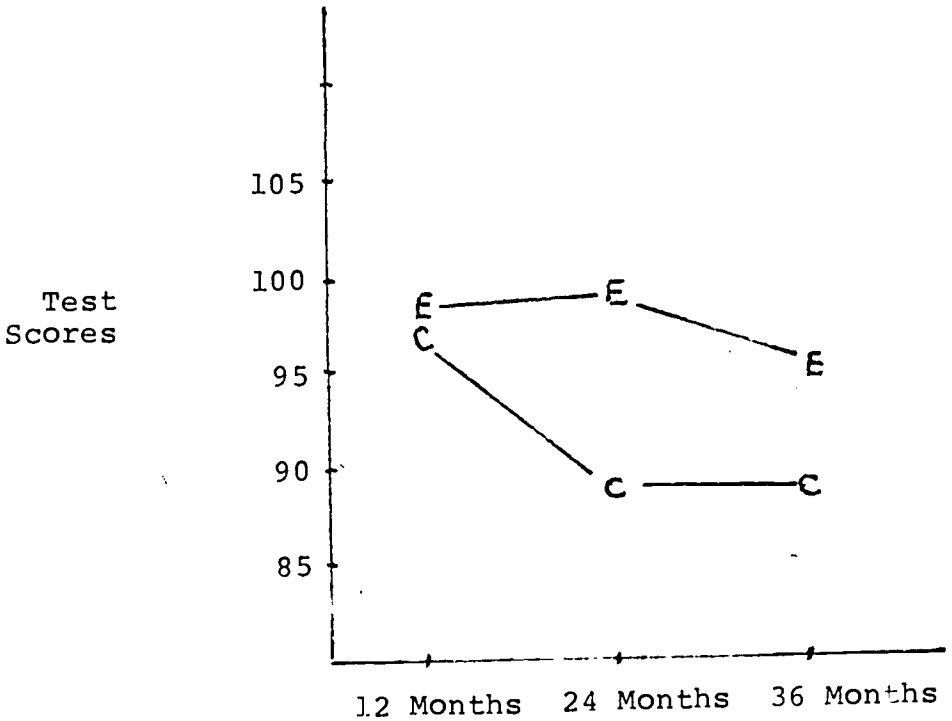
Cohort Trends

One of the most striking features of the results that were reported is that more recent cohorts show greater differences between control and experimental groups than earlier cohorts. This appears to be true for nearly all of the research measures. This trend is shown for several of the measures, HOME, CFI, and Stanford-Binet, in Figure 13. For this display, control groups have been combined for the F and G cohorts and only Time 3 results are shown. The figure shows that for each of these measures the G experimentals

Figure 12

CHILD TEST RESULTS FROM

ONE TO THREE YEARS OF AGE



E = Experimentals

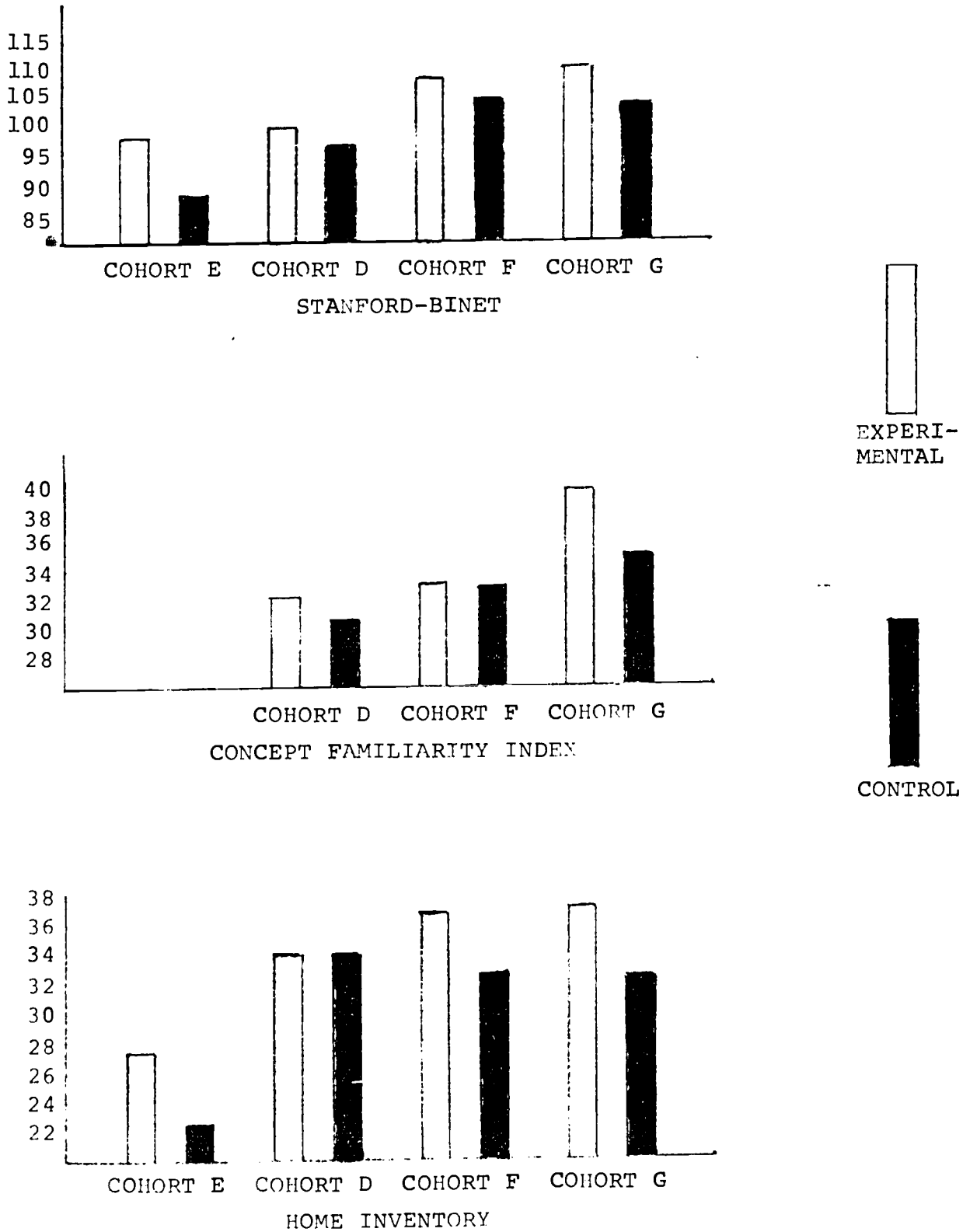
C = Controls

Note._ Test Scores at each age:
12 Months - Bayley Mental Developmental Index;
24 Months - Bayley Mental Developmental Index;
36 Months - Stanford-Binet IQ, using 1972 norms.

FIGURE 13

COHORT TRENDS ON THE STANFORD-BINET,

CONCEPT FAMILIARITY INDEX, AND HOME INVENTORY



and controls tend to be farther apart than are the comparison groups for D and F.

The MISS results are too complex to be included in Figure 13, but by referring back to Tables 8 and 9 it may be seen that there were more significant differences for the G cohort than for the F cohort and that there were only two significant differences for the D cohort. Thus, the pattern is the same as for the measures reviewed above.

These findings may have important implications for the development of parent education programs. Certainly, if our experience is at all representative, programs that have been terminated after obtaining negative or weak results on the basis of early program completers may have failed to receive a fair hearing. It seems only reasonable to us that program development is a difficult and time-consuming process and that if care is taken the program should improve with time.

Work Remaining

Although this has been titled "Final Report" that label is something of a misnomer. There remains a good deal of work to be done at virtually every level of the project.

At the program implementation level there is the on-going task of creating and maintaining a quality program. The data on cohort differences suggest that program effects become stronger as the program is improved.

One of the largest and most important tasks remaining is to analyze and report on the process measures collected to monitor

the quality of the program. An evaluation system was developed and data have accumulated, but they have not yet been examined as we have turned our attention to the outcome evaluation. This seems to be the usual story in program development and it is unfortunate that process measurement has not received the attention it deserves.

This report did not deal fully with all of the data that were gathered for outcome evaluation purposes. Language data for both mothers and children are reported mimimally or not at all because of many technical problems with the testing methodology. The data collected may be valid, but scoring procedures, etc., need to be improved.

Another major task ahead is to continue the follow-up of families that have continued the program. This has begun, but data were not reported and will not be until sample sizes are large enough to provide a basis for children in the results.

Replication

The evaluation results appear to indicate strongly that the program has effectively met its goals. Of course, the results are for the short-term; long range effectiveness will not be assessed until substantial numbers of the children attend school. In customary practice, based on the evidence now available, the next step would be to recommend the program to policy makers for wider dessemination. We believe, however, that to take such a step at this time would be premature. It has been demonstrated that the model can be implemented and that the results are good. We have not demonstrated that a replication of the program is possible or that the results of a replicated program would be comparably good. The important next step is to replicate the program, preferably several times with some-

what different populations, and evaluate the results. It is also essential that the evaluation of this series of replications be conducted by an impartial group of evaluation experts.

If the assessment of the replications shows that they, too, have effectively met program goals, then the model would be ready for wide adoption.

Conclusions

The Houston Parent-Child Development Center has achieved the following:

1. Conceptualized a model of parent education solidly grounded in both theory and practice.
2. Created a match between educational practices and cultural characteristics.
3. Operated and documented in detail an educational program based on the model.
4. Demonstrated, with rigorous research design and objective behavioral data, the capacity of the program to affect positively child-rearing skills and the development of children.

These major goals were not achieved to perfection, nor were they unaccompanied by false starts, ambiguous data, and disappointing failures. But as the product of a first-stage program development project, these accomplishments offer clear evidence for the viability of quality parent education.

The robustness of these results remains to be demonstrated in the replication of the PCDC in new communities. The clarity of the model, the cultural generality, the program operation, and the positive effects need to be tested thoroughly. Only in such continued research can the ultimate worth of the Parent-Child Developmen

Centers be established.

REFERENCES

Auerbach, A.L. Parents learn through group discussion: Principles and practices of parent group education. New York: Wiley, 1968.

Baumrind, D. Child care practices anteceding three patterns of preschool behavior. Genetic Psychology Monographs, 1967, 75, 43-88.

Bayley, N., and Schaefer, E.S. Correlation of maternal and child behavior with the development of mental abilities: Data from the Berkeley Growth Study. Monographs of the Society for Research in Child Development, 1964, 29, (Serial No. 6).

Bee, H.L., Van Egeren, L.F., Streissguth, A.P., Nyman, B.A., and Leckie, M.S. Social class differences in maternal teaching strategies and speech patterns. Developmental Psychology, 1969, 1, 726-734.

Bell, R.Q. A re-interpretation of the direction of effects in studies of socialization. Psychological Review, 1968, 75, 81-95.

Bell, R.Q., and Hertz, T.W. Toward more comparability and generalizability of developmental research. Child Development, 1976, 47, 6-13.

Blanchard, R.W., and Biller, H.B. Father availability and academic performance among third-grade boys. Developmental Psychology, 1971, 4, 301-305.

Blank, M., and Solomon, F. A tutorial language program to develop abstract thinking in socially disadvantaged preschool children. Child Development, 1968, 39, 378-389.

Bloom, B. Stability and Change in Human Characteristics. New York: 1964.

Bradburn, N.M. The structure of psychological well-being. Chicago: Aldine, 1969.

Brim, O.G. Education for child rearing. New York: Free Press, 1959.

Bronfenbrenner, U. A Report on Longitudinal Evaluations of Preschool Programs. Vol. II, Is Early Intervention Effective? U. S. Dept. of HEW Publication No. (OHD) 74-25, 1974.

Bronson, W. C. Mother-toddler interaction: A perspective on studying the development of competence. Merrill-Palmer Quarterly, 1974, 20, 275-302.

Brophy, J. E. Mothers as teachers of their own preschool children: The influence of socio-economic status and task structure on teaching specificity. Child Development, 1970, 41, 79-94.

Brown, R. Development of the first language in the human species. American Psychologist, 1973, 28, 97-106.

Bruner, J. S. The relevance of education. New York: Norton, 1971.

Caldwell, B. Home inventory for infants. Little Rock: Center for Early Development and Education, University of Arkansas, 1970.

Carew, J. V., Chan, I., and Halfar, C. Observed intellectual competence and tested intelligence: Their roots in the young child's transactions with his environment. Paper presented at the meeting of the Eastern Psychological Association, New York, 1975.

Carter, T. P. Mexican-Americans in school: A history of educational neglect. Princeton: College Entrance Examination Board, 1970.

Cicerelli, V. G. Prediction of disadvantaged children's language and achievement scores from parental characteristics. Unpublished mimeo.

Clapp, W. F. Competence and dependence in children: Parental treatment of four-year-old girls. Unpublished paper, University of Nevada, 1968.

Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A.M., Weinfeld, F. D., and York, R. L. Equality of educational

opportunity. Washington, D. C.: Office of Education, U. S. Department of HEW, 1966.

Cosca, C. E. and Jackson, G. B., Teachers and students. Report V: Mexican-American education study. Differences in teacher interaction with Mexican-American and Anglo students. U. S. Commission on Civil Rights. U. S. Government Printing Office, 1973.

Deschner, J. The influence of mother-child interactions on early manifestations of competence. Doctoral dissertation, University of Houston, Department of Psychology, 1972.

Deutsch, C. P. Social class and child development. B. M. Caldwell and H. N. Ricciuti (Eds.) Review of child development research. Vol. III, Chicago: University of Chicago Press.

Engel, M., and Wieder, S. Psychological mindedness of mothers of 14-month-old boys. Paper presented at the 1971 meeting of the Society for Research in Child Development, Minneapolis, Minnesota, 1971.

Erikson, E. H. Childhood and society. 2nd ed. New York: W. W. Norton, 1963.

Feschbach, N. D. Cross-cultural studies of teaching styles in four-year-olds and their mothers. In A. D. Pick (Ed.), Minnesota symposia on child development. Minneapolis: university of Minnesota Press, 1973.

Fowler, W. A. A developmental learning approach to infant care in a group setting. Paper presented at the Merrill-Palmer Conference on Research and Training of Infant Development. Detroit, Michigan, February 11-13, 1971.

Golden, M., Birns, B., Bridger, W., and Moss, A. Social-class

Differentiation in cognitive development among black preschool children. Child Development, 1971, 42, 37-45.

Gordon, I.J. Stimulation via parent education. Children, 1969, 16 (2), 57-59.

Gordon, I.J. Early child stimulation through parent educators. A progress report to the Children's Bureau, U.S. Department of HEW, Gainesville, Florida, 1968.

Gordon, I.J., and Guinagh, B.J. A home learning center approach to early stimulation, (Final Report to NIMH). Institute for Development of Human Resources, Gainesville, Florida, 1974.

Henderson, R.W. Environmental predictors of academic performance of disadvantaged Mexican-American children. Journal of Consulting and Clinical Psychology, 1972, 38(2), 297.

Hereford, C.F. Changing parental attitudes through group discussion. Austin: University of Texas Press, 1963.

Herzog, E., and Sudia, C.E. Children in fatherless families. In Caldwell, B.M. and Ricciuti, H.N. (Eds.) Review of child research. Vol. III. Chicago: University of Chicago Press, 1973.

Hess, R.D. Social class and ethnic influences upon socialization. In P.H. Musson (Ed.), Carmichael's manual of child psychology, Vol. II. New York: John Wiley, 1970, 457-557.

Hess, R.D. Parental behaviors and children's school achievement. Implications for Head Start. In E.M. Grotberg (Ed.), Critical issues in research related to disadvantaged children. Princeton, New Jersey: Educational Testing Services, 1969.

Hess, R.D., and Shipman, V. Early experience and the socialization of cognitive modes in children. Child Development, 1965, 36, 869-886.

Hetherington, E. M., and Frankie, G. Effects of parental dominance, warmth, and conflict on imitation in children. Journal of Personality and Social Psychology, 1967, 6 (2), 119-125.

Hodges, W. L. The implications of design and model selection for the evaluation of programs for the disadvantaged child. Merrill-Palmer Quarterly, 1973, 19, 275-288.

Hoffman, M. L. Conscience, personality, and socialization techniques. Human Development, 1970, 13 (2), 90-126.

Hollingshead, A. Elmtown's youth and Elmtown revisited. New York: Wiley, 1975.

Hutton, J. B. Relationships between preschool screening test data and first grade academic performance for Head Start children. Doctoral dissertation, University of Houston, Department of Psychology, 1969.

Jencks, C., Smith, M., Aclund, H., Bane, M. J., Cohen, D., Gintis, H., Heyns, B., and Michelson, S. Inequality: A reassessment of families and schooling in america. New York: Harper and Row, 1972.

Johnson, C. A. Nursing and Mexican-American folk medicine. Nursing Forum, 1964, 3, 100-112.

Kagan, S. Mother directed achievement and children's interpersonal conflict resolution in urban America and rural Mexico. Paper presented to APA Convention, Honululu, Hawaii, 1972.

Kagan, S., and Madsen, M. C. Cooperation and competition of Mexican, Mexican-American and Anglo-American children of two ages under four instructional sets. Developmental Psychology, 1971, 5, 32-3

Karnes, M. B., Teska, J. A., Hodgins, A. S., and Badger, E. D. Educational intervention at home by mothers of disadvantaged infants. Child Development, 1970, 41, 925-935.

Kohlberg, L., and Mayer, R. S. Preschool research and preschool educational objectives: A critique and proposal. In Proceedings of the conference on psychology and the process of schooling in the next decade: Alternative conceptions. Washington, D. C.: U. S. Office of Education, 1971.

Lambie, D. Z., Bond, J. P., and Weikart, D. P. Home teaching with mothers and infants. Ypsilanti, Michigan: High/Scope Foundation, 1974.

Leler, H.O. Mother-child interaction and language performance in young disadvantaged Negro children. Dissertation Abstract International, 1971, 31 (8), 4971-B.

Levenstein, P. Cognitive growth in preschoolers through verbal interaction with mothers. American Journal of Orthopsychiatry, 1970, 40, 426-432.

Levenstein, P., Copeman, A., and Roth, H. From laboratory to real world: Service delivery of mother-child home program. American Journal of Orthopsychiatry, 1973, 43, 72-78.

Levenstein, P., and Sunley, R. Stimulation of verbal interaction between disadvantaged mothers and children. American Journal of Orthopsychiatry, 1968, 38, 116-121.

Levinson, D. J., and Huffman, P. E. Traditional family ideology and its relation to personality. Journal of Personality, 1955, 23, 251-273.

Madden, ., Levenstein, P., and Levenstein, S. Longitudinal IQ outcomes of the mother-child home program, 1967-1973. Verbal Interaction Project (Unpublishd report), 1974.

Mayeske, G.W., Okada, T., Cohen, W.M., Beaton, A., Jr., and Wisler, C.E. A study of the achievement of our nation's students. Washington, D.C.: U.S. G.P.O., 1973.

Moore, T. Language and intelligence: A longitudinal study of the first eight years. Part II, Environmental correlates of mental growth. Human Development, 1968, 11, 1-24.

Moss, H.A. Sex, age and state as determinants of mother-infant interaction. Merrill-Palmer Quarterly, 1967, 13, 19-36.

Mosteller, F., and Moynihan, D.P. On equality of educational opportunity. New York: Vintage Books, 1972.

Nowicki, S., and Strickland, B.R. A locus of control scale for children. Journal of Consulting and Clinical Psychology, 1973, 40, 148-154.

Padilla, A.M., and Ruiz, R.A. Latino mental health: A review of the literature. Rockville, Maryland: National Institute of Mental Health, 1973.

Palmer, F.H. Socio-economic status and intellective performance among Negro preschool boys. Developmental Psychology, 1970 3, 1-9.

Palmer, F.H. Learning at two. Children, 1969, 16, 55-57.

Pasamanick, B., and Knobloch, H. Retrospective studies of the epidemiology of reproductive casuality: Old and new. Merrill-Palmer Quarterly, 1966, 12, 7-26.

Radin, N. Father-child interaction and intellectual functioning of four-year-old boys. Developmental Psychology, 1972, 6, 353-361.

Radin, N. Maternal warmth, achievement motivation, and cognitive functioning in lower-class preschool children. Child Development, 1971, 42, 1560-1565.

Ramirez, M., III, and Castaneda, A. Cultural democracy, bicultural development and education. New York: Academic Press, 1974.

Ramirez, M., and Price-Williams, D.R. Cognitive styles of children of three ethnic groups in the United States. Journal of Cross-Cultural Psychology, 1974, 5, 212-219.

Rieber, M., and Womack, M. The intelligence of preschool children as related to ethnic and demographic variables. Exceptional Children, 1968, 34(8), 609-614.

Rohwer, W.D., Jr., Ammon, P.R., and Cramer, P. Understanding intellectual development. Hinsdale, Illinois: Dryden Press, 1974.

Ryan, T.J. Poverty and early education in Canada. In B.Z. Friedlander, G.M. Sterritt, and G.E. Kirk (eds.), Exceptional Infant. New York: Brunner/Mazel, Inc., 1975.

Sameroff, A.J. Early influences on development: Fact or fancy? Merrill-Palmer Quarterly, 1975, 21, 267-294.

Sameroff, A.J., and Chandler, M.J. Reproductive risk and the continuum of caretaking casualty. In F.D. Horowitz, M.Hetherington, S.Scarr-Salapatek, and G.Siegel (eds.), Review of child development research, Vol.4. Chicago: University of Chicago, 1975, pp.187-244.

Santrock, J.W. Relation of type and onset of father absence to cognitive development. Child Development, 1972, 43, 455-469.

Schaefer, E.S. Parents as educators: Evidence from cross-sectional, longitudinal and interventic research. Young Children, 1972, 27, 227-239.

Schaefer, E. A home tutoring program Children, 1969, 16(2), 59-61.

Schaefer, E.S., and Aaronson, N. Infant education research project: Implementation and implications of a home tutoring program. In R.K. Parker (ed.), The Preschool in Action. Boston: Allyn and Bacon, 1972.

Schoggen, M., and Schoggen, P. Environmental forces in the home lives of three-year-old children in three population subgroups. Nashville: DARCEE papers and reports, 5, No.2, 1971.

Shipman, V.C. Disadvantaged children and their first school experience: Interim report. Princeton, New Jersey: Educational Testing Service, 1973.

Skinner, B.F. The technology of teaching. New York: Appleton-Century-Crofts, 1968.

Sontag, L.W., Baker, C.T., and Nelson, V.L. Mental growth and personality development: A longitudinal study. Monographs of the Society for Research in Child Development, 1958, No.2 (Serial No.8).

Stayton, D.J., Hogan, R.T., and Ainsworth, M.D.S. Infant obedience and maternal behavior: The orgins of socialization reconsidered. Child Development, 1971, 42, 1057-1069.

Steward, M., and Steward, D. The observation of Anglo-, Mexican- and Chinese-American mothers teaching their young sons. Child Development, 1973, 44, 329-337.

Strodtbeck, F.L. Family interaction, value, and achievement. In McClelland, D.C., Baldwin, A.L., Bronfenbrenner, U., and Strodtbeck, F.L. (Eds.), Talent and society. New York: D.Van Nostrand and Co., 1958.

Templin, M.C. Certain language skills in children. Minneapolis: University of Minnesota Press, 1957.

Urdaneta, M.L. Fertility and the "pill" in a Texas Barrio. Unpublished paper.

Vernon, P.E. Intelligence and cultural environment. London: Methuen and Co. Ltd, 1969.

Weikart, D.P. A comparative study of three preschool curricula.

Paper presented at the Society for Research in Chile Development meeting, Santa Monica, California, 1967.

Weikart, D.P., and Lambie, D.Z. Ypsilanti-Carnegie infant education project progress report. Department of Research and Development. Ypsilanti Public Schools, Ypsilanti, Michigan, 1969.

Wiegerink, R., and Weikart, D.P. Measurement of mother teaching styles. Proceedings, 75th Annual Convention, APA, 1967, 333-334.

Yarrow, L.J., Klein, R.P., Lomonaco, M.D., and Morgan, G.A. Cognitive and motivational development in early childhood. In B.Z. Friedlander, G.M. Sterritt, and G.E. Kirk (Eds.), Exceptional Infant. New York: Brunner/Mazel, Inc., 1975.

PROGRAM STAFF

Rebecca Peña Hines	Director
Marcia Torres	Associate Director
Juanita Allen	Assistant to Director
Berta Victoria	Child Development Educator
Velma Garza	Home Management Educator
Oscar Munoz	Father's Supervisor
Frances Cerrillo	Sr. Community Worker
Irma Salas	Jr. Community Worker
Dolores Torres	LVN Nurse
Selma Salazar	Parent Educator Aide
Mary Pilar Montova	Parent Educator Aide
Alberta Villagomez	In Home Educator
Gloria Palacios	In Home Educator
Maria Blanco	In Home Educator
Maria Garcia	In Home Educator
Rebecca Salazar	In Home Educator
Gloria Norton	Language Teacher
Magdalena Herrera	Nursery Teacher
Ramona Trevino	Teacher Aide
Mary Lou Rodrigez	Teacher Aide
Judy Navarro	Teacher Aide
Esperanza Gil	Teacher Aide
Cris Cavazos	Secretary
Minnie Moreno	Cook
Onesimo Romero	Maintenance Assistant
Shella Barksdale	Student Assistant
Barbara Minor	Student Assistant

DATA STAFF

Dale L. Johnson	Principal Investigator
Alfred J. Kahn	Data Coordinator
Cynthia Fernandez	Data Collector
Delia Reyna	Data Collector
Maria Elena Windhaus	Data Collector
Maria Simpson	Data Collector
Norma Barrera	Videotape Coder
Marie Valverde	Videotape Coder
Martha Costello	Transportation Aide
Lew Herring	Data Aide
Rosa Davila	Research Assistant

FORMER STAFF MEMBERS
(Including Students & Faculty)

Mary Acosta
Abelino Aguirre
Connie Ansell
Kenneth Appel
Alma Araiza
Bonnie Atkinson
Victor Azios
William Barfield
Yolanda Barrera
Carol Barrios
Johnnie Lou Barton
Patricia Bastidas
James Baxter
Billie Bisett
Jacqueline Boone
Martha Blake
Rose Bostick
Larry J. Brandt
Nancy Brindock
Lydia Brock
O. P. Brown
Mabel Caleb
Kathy Carter
Helene Cavior
Pedro Choca
Carolyn Clement
Charles Cohen
Mary Collins
Andrea Cordes
Alvaro Corredor
Cynthia Cruz
Linda Damon
Bill Danton
Bettye Deanovich
Regina De Latte
Betty Dembroski
Jeanne Deschner
Paul Dokecki
Glen Duval
Jeanne Dyer
Anna Eakin
Delma Flores
José Luis Flotte
Martha Frede
Eliana Freire
Catherine Garcia
Margarita Garcia
Martin Garcia
Susan Garcia
Linda Garrity
Oralia Garza
David Garza

Dolores Garza
Janie Gonzales
Julia Gonzales
Lucy Gonzales
Humberto Gonzales
Josue Gonzales
Lillian Gonzales
Lily Gonzales
Gerald Gratch
Bruce Graunke
Phil Groeschell
Abel Guevara
Joni Guerrero
Esperanza Gutierrez
Christopher Harris
Sheila Hartung
Mary Ellen Hayden
Maria Henderson
Gloria Hernandez
Judith Hudson
Elisa Huerta
Aminta Jalifi
Heidi Johnson
Mae Johnson
Melanie Johnson
Diana Jung
Maria Kinra

Linda Kirby
Barbara Knapp
Audrey Laymance
Norman Lawson
Enriqueta Lazo
Dale Leiter
Anson Levine
Blanca Lopez
Christie Lopez
Eloisa Lopez
Helga Lopez
John Lubach
Richard Lucas
Sewart Lumpkin
Douglass Mahy
Mary Martinez
Alfredo Mathieu
Jeanne Mayo
Dora Mayorga
Edward Mazeika
Muriel Meicler
Lou Ann Mock
Felipe Molina
Francisco Montes
Gabriel Montoya
Alice Moore
Mary Moreno

Karl Mortel

Norma Muñoz

Margaret Muñoz

Sally Musachia

Marsha Northrup

Judith Norton

Martha Nugent

Dolores Ontiveros

Pablo Pablant

Viera Pablant

Anne Pace

Majorie Pace

Eugenia Packard

Frank Paredes

Norma Parche

Diana Parrish

Kathleen Quinlan

Sharon O Quinn

Gilberto Rico

Elvia Rios

Laurel G. Rios

Lily Rivos

Charles Rogers

Josephine Rogers

Frances Rodriguez

Leonora Rodriguez

Jose Romero

Dolores Rosales

Margot Rosales

Barbara Roquemore

Richard Rozelle

Diana Saal

Manuel Saavedra

Rebecca Salazar

Lorena Saenz

Elisa Salinas

Mary Alice Salinas

Rafi Saqr

Thomas Sanchez

Patricia Sanchez

Margaret Sebern

Francine Severson

Harriett Sherrard

Joyce Ann Simpson

Ann Guzman Smith

Virginia Sturrock

Rodolfo Subrieta

Dan Thompson

Laura Turley

Frank Turner

Jimmy Turner

Mark Valverde

Antonio Vargas

Ronald Unruh

Evangeline Vigil

Evangeline Villarreal

John P. Vincent

Louis Wall

Harry Watson

Oralia Weaver

Elizabeth Webb

Sandra Weibel

Thomas Whitefield

Mary Willenberg

Yolanda Wintell

Jerry Wilson

Barbarette Winfield

Dorthy Wong

Teresa Yeasley

Irma Zaragosa

Patton Fite