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ABSTRACT

This report describes and evaluates a bilingual early education intervention program, designed to provide children with successful experiences, using the concept of responsive environment in language development (English and Spanish) and in cognitive and affective development. Instructional, community-parental involvement, staff development, and materials development components of the program are described. The evaluation examined the program's two major components: instructional (language development in English and Spanish, school readiness, and subjective evaluation of the self-concept) and community-parental involvement (information dissemination to community organizations, and home visits providing parents with training in child development and techniques for preschool education in the home). Findings indicated that the students made significant gains in language ability in English and Spanish, general school readiness, developing and maintaining a positive self-image, and developing various dimensions of personality growth. (ED)

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**CLOVIS-PORTALES BILINGUAL EARLY CHILDHOOD PROGRAM: SECOND
YEAR EVALUATION STUDY (1973-74)**

Sponsored by:

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FOREWORD

The following end-of-year evaluation report describes the effect of the Clovis-Portales Bilingual Early Childhood Program during 1973-74 which was its second year of operation. This report is the result of a continuation evaluation study conducted by an independent consultant and service organization with its direction primarily through various faculty members of the College of Education, Texas Tech University. This report was prepared and submitted in accordance with the approved Continuation Evaluation Proposal dated March 15, 1973, and the Educational Evaluation Agreement dated September 7, 1973.

The purpose of the external evaluation function of this program is to establish and maintain a procedure of collecting and providing information for decision-making relative to student and program progress; thus, the evaluation team attempts to serve in a role to assist the program to develop and improve rather than simply to prove.

The evaluation team recognizes and hereby expresses appreciation to the director and faculty/staff of the program for their excellent cooperation during the evaluation process, especially during the periods of testing the young children.

The invaluable assistance of the various professionals and paraprofessionals on the evaluation team is also acknowledged and appreciated.



Billy E. Askins, Ed.D.
Evaluation Coordinator
May, 1974

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ABSTRACT

CLOVIS-PORTALES BILINGUAL EARLY CHILDHOOD PROGRAM:

SECOND-YEAR EVALUATION STUDY

The Clovis-Portales Bilingual Early Childhood Program (BECP), a demonstration model for bilingual early childhood education, is designed to serve 3- and 4-year-old children at Clovis and Portales (approximately 40 children at each site). The goal of this program is to demonstrate that early childhood bilingual education intervention will facilitate the learning of two languages (English and Spanish) simultaneously in a responsive environment designed to enhance the child's cognitive, affective, and psychomotor skills; thereby reducing the debilitation resulting from the interactions between a large number of possible organic and environmental causes. To accomplish this goal, general and specific program objectives were developed. To achieve these objectives, comprehensive components were developed which were: instructional, staff development, materials development; and the community-parental involvement.

This program has a unique advantage and opportunity in that it can be considered as an expansion or satellite of another successful early childhood program which is the Responsive Environment Program for Spanish-American Children (REPSAC). The REPSAC program, located in Clovis, is designed to serve as an early education intervention for 3-, 4-, and 5-year-old "high risk" Spanish-American children. "High risk" children are defined as low birth weight (less than 5 1/2 pounds) and considered disadvantaged (low income of family plus other factors which constitute this condition). The REPSAC program, as well as the BECP, has drawn heavily upon three experimentally developed models in early childhood which were: the New Nursery School, Northern Colorado University; the responsive environment concept of Omar K. Moore; and Project LIFE (Language Instruction to Facilitate Education). In addition, the Piaget-Early Childhood Curriculum (Lavatelli) is used.

Target Group Children

Participants of the program at the two sites were eighty 3- and 4-year-old children, predominantly from Spanish speaking backgrounds. Approximately 10% of the total group was monolingual (English). Participants were selected from among those meeting guideline requirements of language, background, income level of parents, and residence.

Program Activities

The program activities were organized and conducted within the organization of the various program components.

Activities of the instructional component, patterned from the REPSAC program, was generally divided into group activities (story telling, reading, painting, cutting, manipulative toys, playground activities, and the lunch period) and individualized or small group activities (Piaget-Early Childhood Curriculum, Project LIFE, Responsive Typing Booth, Peabody Language Development Kits, and various other materials).

Activities of the staff development component consisted mainly of in-service training, activities which were designed or selected to achieve the objectives of the component. Most of the in-service activities were in conjunction with the REPSAC in-service training activities.

The materials development component was primarily the process of adapting materials for the program which were developed for 3- and 4-year-old children in the REPSAC program.

The community-parental involvement component attempted to demonstrate that proper supervision, guidance and training, parental influences can make a marked difference on the child's performance in school. Also, in an effort for community involvement, various newsletters were sent to various community organizations making them aware of the program and soliciting their assistance in various activities. The function of this component was also patterned from the REPSAC program.

Evaluation Methods

Evaluation was performed on two components: the instructional component and the community-parental involvement component.

The evaluation design for the instructional component was within a framework of a "Pretest - Posttest Design" without a control group. The specific abilities objectively measured and instruments used were: language development in English as measured by the Peabody Picture Vocabulary Test; language development in Spanish as measured by the Peabody Picture Vocabulary Test (Spanish); general school readiness as

measured by the Readiness Test for Disadvantaged Pre-School Children; and personality growth and self-image as measured by the Developmental Profiles.

The evaluation of the community-parental involvement component was in two phases. One phase was to continue with subjective evaluation using site visitation. The second phase involved the collection of quantitative data relating home environment to school achievement.

Findings

1. The students participating in the BECP made significant gains in: language ability in English; language ability in Spanish; general school readiness; developed and maintained a positive self-image; and developed substantially in various dimensions of personality growth.

2. There was very little difference in the overall performance of the students at the two site locations.

3. Comparing development of language patterns between the Spanish-American and the Anglo child, the former is not so remarkable because they often hear both languages; however, for the Anglo child it is, because the classroom is possibly the only place they hear the Spanish language. In many instances, the Anglo children were able to ask unrehearsed questions in Spanish to their Spanish-speaking teacher, and immediately turn and ask the same or similar question to the Anglo teachers. These are the beginnings of a true coordinate bilingual.

4. There were over 1,200 home visits made during the year and data indicated that a significant number of parents participated during the home tutoring sessions. Also, data indicated more parent participation and objective achievement at the Portales site than the Clovis site even though the proportions of home visits completed between the two sites were about the same.

5. As measured by the HELPS instrument, no significant relationships were found between factors in the home environment and children's scores on criterion variables used to measure school achievement.

6. Parents of the students participating in the program maintained a positive attitude toward the program and the various curriculum and co-curriculum activities.

7. The cooperation of the children, their willingness to try various tasks without fear of failure, and their unusually long attention span for children of their ages may be judged as reflections of their happy learning experiences in the program.

8. The faculty reflected a high morale and demonstrated improved skills in working with the children.

Conclusions

1. The instructional component appears to be functioning effectively in achieving the program objectives. Also, this component and the community-parental involvement component appear to have started to operate so as to complement each other.

2. Based upon site visits and numerous types of subjective evaluation, the evaluators are intuitively convinced that the quality of work in the community-parent involvement component is superior and will eventually become an excellent model parent involvement component; however, at the present time, the objective data indicates the effectiveness of this component, as it relates to school achievement, is questionable. Specifically, where the program has attempted to define parent involvement in terms of parent - child training in activities which are related to achievement of school/program objectives, there was found no quantified evidence to suggest that this has been effected. A very strong feature of this component is that it produces many intangible benefits to the program such as promoting parent-community morale and involving the local business and professional community in the school program.

3. The program is in an active and positive process of accomplishing the general, or long range, program objectives.

4. In brief, the Clovis-Portales Bilingual Early Childhood Program functioned as planned for the target group children and parents and in accordance with the approved proposal during the 1973-74 program year.

Recommendations

1. That the Clovis-Portales BECP continue the inter-relationships with the operation of the Responsive Environment Program for Spanish American Children (REPSAC) concerning the operation of the various program components.

2. That objectives of the community-parent involvement component be reviewed and possibly be re-formulated.

3. If the parent involvement element of the community-parental involvement component continues to be defined as home tutoring and parent training, the instructional activities and materials development should be re-formulated into an integrated sequential model which parallels the specific program objectives.

4. That the Clovis-Portales Bilingual Early Childhood Program continue to develop and serve as an early childhood intervention program and as a demonstration and replication model.

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CLOVIS-PORTALES BILINGUAL CHILDHOOD PROGRAM:
SECOND-YEAR EVALUATION STUDY

SECTION I
INTRODUCTION

This report describes a continuation evaluation study of the Clovis-Portales Bilingual Early Childhood Program (BECP) during 1973-74 which was its second year of operation.* This program is designed to provide or serve as a demonstration model for bilingual early childhood education in New Mexico as well as for other southwestern states.

Background and Significance of the Program

The population of Eastern New Mexico has a high percentage of Spanish speaking people, and many of these people have retained the use of the Spanish language to the extent that it is the dominant language of their children when they enter the public schools. This frequently prevents some of the Spanish American children from normal advancement in the formal schooling process, even to the point of often being "mislabeled" and inheriting a stigma which often dooms them to poor education, poverty, and lack of higher educational and vocational training.

Recognizing this language problem, as well as other accompanying educational problems in this area, a cooperative effort was started

*See Bibliography (2, 3) for references concerning evaluation data for the first year of operation.

among the Municipal Schools of Clovis and Portales, New Mexico, and the U. S. Office of Education under Title VII, ESEA Bilingual Education Project. This effort resulted in the planning and implementation of an early educational intervention program commonly referred to as the Clovis-Portales Bilingual Early Childhood Program.*

This program is designed to serve 3-and 4-year-old children who most have suspected educational handicaps. The program is planned to provide two years of specialized early childhood instruction for 3-year-olds initially entering the program and one year of assistance for 4-year-old children initially entering the program.

The State of New Mexico does not provide state supported kindergartens; however, the two cooperating school districts are operating a preschool for 5-year-old children funded from Title I, ESEA. Most of the children completing the BECP will be assigned to the Title I program; therefore, it is possible for many of the children in this program to have two or three years of needed early learning experiences prior to entering the first grade.

A Satellite Program

The Clovis-Portales Bilingual Early Childhood Program has a unique advantage and opportunity in that it can be viewed as an out-growth or as a satellite of an existing most successful early childhood program. This existing program is an early educational intervention program referred to as the Responsive Environment Program for Spanish American

*Program funded by USOE, Title VII, Elementary and Secondary Education Act of 1965, Bilingual Education Project. Grant No. OEG-0-72-5239 (280), Project No. 27-00694-0.

Children (1, 4, 5, 8).* This program is also located in Clovis, New Mexico, and is completing its third year of operation.

The major purpose of REPSAC is to serve as an effective early educational intervention for 3-, 4- and 5-year-old "high risk" Spanish American children. Such children are considered "high risk" as a result of their low birth weight (less than 5 1/2 pounds) and considered disadvantaged (low income of family plus other factors which constitute this condition). With the exception of the criteria used to select students to enter each program, the operation of the two programs is identical. Thus, the REPSAC program provides a base for the organization and operation of the Bilingual Early Childhood Program.

Area Served and Locale of the Program

The area served by this program is the total attendance area served by both of the cooperating school districts. The program operates at two different sites about twenty miles apart. The site location at Clovis is 312 Merriwether Street, and the site location at Portales is 103 Lime Street. The location of each of the two sites is in the section of town where there is a high concentration of the "target group" children.

Target Group Children

The target group children of this program are 3- and 4-year-olds predominantly from families of Spanish speaking background. The program

*Project funded by USOE, Bureau of Education for the Handicapped, Handicapped Children's Early Education Program, Grant No. OEG-0-73-0710, Project No. H001SK.

was designed to enroll approximately 80 children with approximately 40 at each site (Clovis and Portales). The desired and planned cultural mix of the students participating in the program was to have about 55-60 students with Spanish surnames and about 15-20 black and Anglo students.

Criteria for Selection of Students

Interested parents were invited to apply to enroll their 3- and 4-year-old children in the program. Considering interest, age, and the desired mix, the following criteria were applied in selecting the students for participation in the program; 1) Spanish surname children with a limited speaking ability in English; 2) Children from a lower socio-economic level (\$3600 total family income) with Spanish as the dominant language; and 3) Children from any socio-economic level who were interested and whose dominant home language was English.

Number of Students Participating in Program

The program is designed to serve approximately forty 3- and 4-year-old children at each of the two sites.

At the Clovis site, there were 41 children who enrolled at the beginning of the year (17 were 3-year-olds and 24 were 4-year-olds). Of this group, 11 started the program as second year students.

At the Portales site, there were 40 children who enrolled at the beginning of the year (18 were 3-year-olds and 22 were 4-year-olds). Of this group, 11 started the program as second-year students.

Additional information concerning the number of students participating in the pre- and posttesting phase is listed in Section IV.

Organization of the Remainder of the Report

The remainder of this report includes: description of the program; program evaluation; evaluation data on two components--instructional and community-parental involvement; dissemination of information; and conclusions. The appendices include a description of test instruments used and an example of a daily schedule of learning.

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SECTION II

DESCRIPTION OF THE PROGRAM

The Bilingual Early Childhood Program is designed to serve eighty 3- and 4-year-old certain type of children at two locations: one at Clovis and the other at Portales, New Mexico. This program is planned to provide two years of specialized early childhood instruction for the 3-year-olds and one year of specialized assistance for the 4-year-old children initially entering this program. This program is considered as an extension or satellite of the Responsive Environment Program for Spanish American Children (REPSAC) which is an especially designed and extremely successful early childhood educational intervention program for low birth weight children of ages 3, 4, and 5. The remainder of this section of the report describes the program in terms of: program goals and objectives; physical facilities; faculty/staff/ and major components of the program.

Major Goal of the Program

The over-all or major goal of this program is to demonstrate that early childhood bilingual intervention will facilitate the learning of two languages (English and Spanish) simultaneously in a responsive environment designed to enhance the child's cognitive, affective, and psychomotor skills; thereby reducing the debilitation resulting from the interactions between a large number of possible organic and environmental causes.

Program Objectives

To accomplish the major goal, general and specific program objectives were developed. These objectives give direction to the organization and operation of this program.

General Program Objectives

The general program objectives, as stated in the "Application for Continuation of the Bilingual Early Childhood Program" dated March 15, 1973, are as follows:

1. To provide literacy skills in a language other than English through the implementation of a language arts program in the home language of the children.
2. To develop a positive self-concept through use of Spanish and English modes of instruction (incorporating local cultural items as well as general Hispanic or Indian culture).
3. To prevent educational retardation by teaching basic concepts (math, science, social studies, etc.) through the dominant language of the child.
4. Development of a scope and sequence of bilingual instruction from early childhood (from age 3-8) contact through the first two years of elementary school.
5. Development of confidence, abilities, and skills in the second language so that each child performs adequately and comfortably in the second language in verbal and cognitive areas.
6. Development of bilingual-bicultural approaches to teaching and to teaching methods and materials. Enhancement of school staffs to the point of operationality with bilingual-bicultural approaches.
7. Development of a comprehensive or "integrated" approach to early childhood bilingual education incorporating theoretical constructs of Jean Piaget, Maria Montessori, Omar Khayyam Moore, technical innovations, and new curriculum materials. Such an approach must be compatible to both program goals and early childhood educational theory and practices.
8. Development of the logical thinking process.

9. Development of community communications and awareness regarding values and expectations in multi-ethnic communities and societies.
10. Development of comprehensive approach to involve parents in the educational process.

Specific Program Objectives

The specific program objectives, as stated in the 1973-74 continuation proposal, are as follows:

In the affective domain:

1. To maintain or develop in children a favorable self-image.
2. To develop in children a favorable perspective toward their cultural heritage and that of other children and cultures.

In the cognitive domain:

3. To improve the child's sensory and perceptual discrimination.
4. To develop the child's conceptual and problem solving abilities.
5. To develop language ability in both Spanish and English
6. To develop the child's speech by providing viable models.

In the psychomotor domain:

7. To improve locomotor skills of walking, running, hopping, jumping.
8. To improve non-locomotor skills of hitting, throwing, catching, pushing, and pulling.

Physical Facilities

The physical facilities at each of the two sites consist of a renovated former residential dwelling located in the center of the target population. Renovation of each of these houses provided the following

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facilities:

1. One large room or classroom for various types of large group as well as small group activities. Activity in this room can be observed through a one-way mirror.
2. One small room (approximately 7 X 9 ft.) for use as a typing booth and is equipped with a one-way mirror.
3. One small room (approximately 7 X 9 ft.) to house the Project LIFE materials and is equipped with a one-way mirror.
4. An area containing kitchen facilities to store, prepare and serve snacks. This also serves as the area for art activities.
5. Restroom facilities for children and adults.
6. Outside playground area.

Faculty/Staff

The faculty/staff of the program consists of: the director; four teachers; six aides; one home-visitor coordinator; two home-visitors; two part-time secretaries; and two custodians. Also, there is a Professional Advisory Board. The names of these personnel are listed on the cover page of this report. Some duties of these personnel include:

Director

This person is responsible for the administration and coordination of the entire program at the two sites. Specifically, the director is responsible for the overall supervision of the program, supply appropriate materials, making contact with the parents, community and civic organizations; planning and conducting inservice training programs; dissemination of information; scheduling of consultants; and has responsibility for preparation of the required reports.

Teachers

There are four (two at each site) full-time certified bilingual

teachers with a background in early childhood education. One teacher at each site is of Spanish-American descent and the other is Anglo so as to provide authentic language culture models. Each pair of the teachers and the accompanying aides work in a team teaching approach. One half day of instruction is conducted in Spanish and the other half in English.

Aides

There are six full-time (three at each site) bilingual classroom aides. These individuals are required to meet the requirements for classroom aides as established by the New Mexico State Department of Education. The aides perform various duties under the direct supervision of the certified teachers.

Home-Visitor Coordinator and Home Visitors

The home-visitor coordinator is responsible for the over-all home-visiting program which includes the supervision of home-visitors (one at each site). The major responsibility of the home-visitor is to attempt to get the parents involved in the educational process of their children. Parents, especially mothers, are encouraged to adapt the activities they use with one child for use with other children in the family. The home-visitor is required to schedule regular home visits, and most of these visits are coordinated with certain aspects of the classroom instruction. The function of the home-visitor is more fully described in Section V.

Secretaries

There are two part-time secretaries (one at each site). The

major responsibility of these positions is general administrative duties plus occasionally working as classroom aides.

Custodians

There are two full-time (one at each site) custodians who have the responsibility of general custodial duties.

Professional Advisory Board

The purpose of the Advisory Board is to provide the director with guidance and direction of the activities of the program and the development of the various program components. The board consists of individuals who can provide expertise in the fields of special education, early childhood education, educational technology, and the responsive environment concept.

Components of the Program

The previously stated goals and the objectives give direction to the organization and administration of various elements of the program commonly referred to as program components which are: instructional; community and parent involvement; staff development; and materials development.

Instructional Component

Most of the time and effort of the program is focused on this component because this is where the teaching-learning activities occur; however, this component does not operate exclusively of the other components. The instructional objectives of this component are developed and behaviorally stated from the specific program objectives.

Organization. Each site has an enrollment of approximately 40 students, and the students are divided into two groups of 20 each. One

group attends the morning session from 8:30 a.m. until noon, and the other group attends the afternoon session from noon until 3:15 p.m. The parents or guardians of the students are responsible for transporting the child to/from the site.

All of the children are provided the noon meal which is a hot lunch transported in a mobile server from a public school cafeteria. This meal is planned as a learning activity as the morning group is served prior to leaving school, and the afternoon group is served immediately upon arrival for the afternoon session.

A part of each daily session is devoted to structured or directed learning activities and the remainder of the time is devoted to free choice activities. Concepts presented during the structured learning periods are planned to be reinforced during free choice and play activities. The structured learning activities can be generally classified into group activities and individualized or small group activities. Both types of activities are planned and conducted using the "concept of responsive environment" as patterned from the REPSAC project (1, 4, 5, 8).

Concept of Responsive Environment. The concept of responsive environment was initially developed by Omar K. Moore as a result of numerous studies of early learning in pre-nursery, nursery, kindergarten, and first grades, where children are in the process of acquiring complex skills (10, p. 184). The responsive environment concept can be generally described as a learning setting or environment which facilitates the learning of complex symbolic skills (10, p. 184). Such an environment is partly a mechanical system; in part it is a social system; and in part it is a cultural system (10, p. 218), and all parts work

interrelatedly.

The initial concept of responsive environment was later modified or adapted so as to be used in an early childhood bilingual setting. This was accomplished by the New Nursery School in Greeley, Colorado(10). This approach, as developed by the New Nursery School, is the one commonly used in this program in selecting and conducting the various types of group or individualized learning activities.

Group Activities. The group activities are planned and conducted using the responsive environment concept in a bilingual (Spanish and English) setting. Approximately half of the daily activities are conducted in Spanish and the other half in English. When one language is used, the other is employed for reinforcement purposes and to maintain motivation for students of limited bilingual ability. This approach is used in the group activities such as: story-telling; reading; painting; cutting; working in the block area; manipulative toys, playground activities; snacks; and the lunch period activities.

Individualized or Small Group Activities. These activities are also planned and conducted using the responsive environment concept when appropriate. The individualized or small group activities are conducted primarily using the following curriculum materials; Piaget-Early Childhood Curriculum Materials; Project LIFE (Language Improvement to Facilitate Education); Responsive Environment Typing Booth; the Peabody Language Kits; and other materials. A brief description of these materials is presented in the following paragraphs.

The Piaget-Early Childhood Curriculum materials were developed

by Professor Celia Lavatelli and consist of a Piaget designed curriculum drawing upon 22 sets of materials with more than 100 activities in the following areas: classification; number; measurement; space and seriation. The materials stress the use of the child's language and thought process; therefore, expansion of language and concepts are based on child-initiated talk and activities. These materials are used by all children approximately twice a week.

Project LIFE (Language Improvement to Facilitate Education) materials were developed by the National Education Association, the U. S. Office of Education, and the General Electric Company. These materials, consisting of over 300 filmstrips, are designed to provide a programmed language system to teach handicapped as well as non-handicapped children. The instructional concept employed by these materials is a systematic approach to assist the child to acquire a functional language system. This is accomplished primarily by the child interacting with specifically designed programmed instructional materials using the machine, the Student Response Program Master. The programmed materials, used in conjunction with the machine, deal with the areas of perception-cognition, thinking skills, and basic vocabulary and language skills. The programs in each area are carefully sequenced so that the child can make satisfactory progress through the various sub-systems in each area, working in an independent manner but in close conjunction with the teacher or aide and other curriculum materials. The children identified, or needing these materials, use them about three times per week.

The "Responsive Environment Typing Booth" or learning booth,

was developed by Dr. Omar K. Moore in Hampton, Connecticut and was later tested in the New Nursery School in Greeley, Colorado. The purpose of this typing booth is to develop problem solving ability and language skills. The booth is used in accordance with the equipment, methods, and materials as developed by the Far West Laboratory for Educational Research and Development. The booth is manned by a teaching aide and equipped with a Smith-Corona 250 Electric Typewriter--large print with a colored keyboard. Activities on the typewriter can be classified into four phases: 1) free exploration; 2) search and match; 3) discrimination, and 4) words and stories. Each student is given an opportunity to use the typing booth for about ten minutes each instructional day.

The Peabody Language Development Kit (PLDK) is published by the American Guidance Service, Incorporated, and Level #P is used in this program. This material is designed for children whose mental age is in the range 3 to 5 years. Level #P is designed to be effective with kindergarten children who come from economically disadvantaged areas of urban and rural communities. This level of the Kit is designed primarily to stimulate the receptive, associative, and expressive components of oral language development. The Kit stresses an overall oral language development program, rather than specific training in selected psycholinguistic processes. Level #P of the PLDK is contained in two metal carrying cases which include such materials as the: Teachers Manual (contains 180 "Daily Lessons" which are flexible and can be adapted to local needs); manipulative materials; stimulus cards; visual closure templates; story posters; music cards; sound recordings; and puppets. Each student is given an opportunity to work with the Peabody Language Development Kits

approximately 20-30 minutes each day.

Some other instructional materials used include: Captioned Films; Light table; Autosort Language Arts Program (ALAP); Sadler Social Science Series - "Who Am I?"; and various types of playground equipment.

Typical Schedule of Learning Activities. To illustrate how these various activities and materials are used, a "Typical Schedule of Learning Activities" is listed as Appendix A.

Community-Parental Involvement Component

The program includes the development of a comprehensive community and parent involvement component. In an effort for community involvement, various newsletters were sent to various community organizations making them aware of the program and soliciting their assistance in various activities. Effort, through the work of the home-visitors, was made by the program to assist parents with understanding and practice of underlying principles of child care. One of the responsibilities of the home visitor is to demonstrate that given proper supervision, guidance and training, parental influences can make a marked difference on the child's performance in school.

The major objective of this component is extension, that is, the inclusion and involvement of parents, the home, and community environments in the education of the child. Some ancillary objectives are as follows: 1) To motivate parents' interest in the preschool education of their children; 2) To provide extension training for parents in child development and in techniques of preschool education which may be applied to the home; 3) To facilitate an enrichment of the home environment through

home tutoring of children in school related activities and providing parents with information and linkage to available community services (i.e., welfare, counseling, medical care, babysitting, night school, etc.); and 4) To provide for parent participation in school activities.

Staff Development Component

This component consists mainly of in-service training functions for the staff. The in-service training focused on the objectives of this component as established by the director. The major objectives are: 1) To assist the staff develop their general knowledge of the difficulties encountered in early childhood education in the areas of language, bilingualism, and child growth and development; 2) To assist the staff to recognize various problems which are unnatural in young children so as to make the necessary referral for assistance; and 3) To assist the staff to become efficient in the use of the various instructional materials as used in the instructional component. Most of the in-service training activities were conducted in conjunction with the in-service activities of the REPSAC program.

Materials Development Component

This component is mainly the process of adapting the materials for this program which were developed in the REPSAC program for 3- and 4-year-old children. Most of these materials are based upon the research of Jean Piaget as reflected in the Early Childhood Curriculum authored by Celi Lavatelli and by use of various curriculum materials using the responsive environment concept.

SECTION III
PROGRAM EVALUATION

Purpose of the Evaluation Function

The evaluation function is another element of this program. The primary purpose of the evaluation function is to establish and maintain a procedure of collecting and providing information for decision-making relative to student and program process. The evaluation function plays a major part in the accountability aspects of the program. The evaluation function is recognized to be a way to improve rather than simply to prove.

The External Evaluator

The external evaluation function was conducted by Adobe Educational Services, Lubbock, Texas. This is an independent consultant and service organization with its direction primarily through various faculty members of the College of Education, Texas Tech University. Names of the evaluation team members are listed on the cover page of this report.

A detailed description of the evaluation function including the evaluation design is described in the approved "Evaluation Proposal" dated March 15, 1973. A summary of the approved evaluation design is described in the following paragraphs.

The evaluation design is divided into areas by program components. The evaluation of some components must be governed by strict research design while it is more appropriate to evaluate other components by description or explanatory means.

The evaluation function for this program year was conducted by:

1. Providing a variety of professional personnel appropriate to the evaluation function which includes: evaluation coordinator; research specialist; bilingual testing personnel; consultants; and secretarial assistance.
2. Developing and following the evaluation design for components selected to be evaluated this year which were the instructional and community-parental involvement components.
3. Analyzing collected data and subject data, when appropriate, to statistical treatment.
4. Providing the director with baseline data obtained from the pre-testing procedures which was used in program planning and operation.
5. Preparing various reports which included the Preliminary Report and this End-of-Year Evaluation Report.

The evaluation design of the two components evaluated this year is described in the following paragraphs.

Evaluation Design of the Instructional Component

The basis for the evaluation design for the instructional component was the specific program objectives as previously stated. The evaluation design for this component was within a framework of a quasi-experimental design commonly referred to as a "Time Design" or "Pretest-Posttest Design Only" (7). This design involves a single experimental group without a control group. The experimental group was measured on the dependent variable (pre-test), and then the group was given the experimental treatment (structured and unstructured activities in the instructional component). Following this treatment, the group was measured again on the same variable (posttest). Comparison, using statistical procedures, was made concerning the difference between the means of the two measurements.

Number of Students

The single experimental group at the beginning of the school year consisted of eighty-one 3- and 4-year-old children (41 at the Clovis site and 40 at the Portales site).

At the Clovis site, 41 children were pre-tested (17 3-year-olds; 24 4-year-olds; and 14 of these children started the program as second-year students). There were 38 students posttested and a total of 32 students who were available for both the pre- and posttest phase.

At the Portales site, 40 students were pre-tested (18 3-year-olds; 22 4-year-olds; and 11 students started the program as second-year students). There were 35 students posttested and a total of 28 students who were available for both the pre- and posttest phase.

Specific Abilities Measured and Tests Used

Based upon the specific program objectives, various abilities or areas were selected to be objectively measured. These were: language ability in English as measured by the Peabody Picture Vocabulary Test (PPVT); language ability in Spanish as measured by the Peabody Picture Vocabulary Test (Spanish version); general school readiness as measured by the Walker Readiness Test for Disadvantaged Preschool Children; and emotional development (affective domain) as measured by the Developmental Profiles (Bessell and Palomares).

A brief non-technical description of each of these tests is listed in Appendix B.

Procedure/Time-Schedule for Collecting Data

In accordance with the evaluation design, pre-tests were given

August 24-27, 1973, and posttesting was May 7-10, 1974. The "Pretest-Posttest Design" did not apply to the Developmental Profiles. This scale was subjectively completed three times during the year (November, February, and May) by each of the two classroom teachers.

Statistical Treatment of Data

A mean score was computed for each test (posttest score minus pretest score) for the 3-year-old group and the 4-year-old group. (This does not apply to the Developmental Profiles.) Also, comparative data is reported concerning the second-year students. The t-test was used to test for significance of difference between the mean gain scores. As concerns the Developmental Profiles, the mean was computed from each marking period and was "plotted" on a scale to determine direction and rate of change.

Reporting of Baseline Data

Pertinent collected test data were made available to the project director which was used as baseline data or data for diagnostic purposes. Such input was made after the pretesting by the evaluation coordinator on a specially designed form (see Appendix C). Also, a seminar was conducted to interpret the test scores.

Evaluation Design of the Community- Parental Involvement Component

During this academic year, evaluation of this component was conducted in two phases. One phase was to continue with quarterly site visits so as to conduct observation with respect to the stated objectives of this component. Collection of such data involved site interviews

and participant observation with: the project director; the home visitation coordinator and her staff; project teaching staff; parents of some of the children; and some community representatives at large who have had contact with or directly participated in the project. Analysis of data from this level is subjective but should provide a directional overview of reaction to the project.

The second phase of evaluation involved the collection of quantitative data relating home environment to school success. Quantitative data measuring parent involvement was obtained through the administration of the Henderson Environmental Learning Process Scale (HELPS). This bilingual instrument has been developed to measure the extent to which characteristics are present in the home environment which are related to intellectual development and scholastic success in young children (see Appendix B).

Data collection from HELPS involved training the home visitors to administer the instrument. Training of the home visitors was completed during January, 1974. Data collection was completed in March, 1974. Results describing the presence or absence of a supportive home environment in relation to intellectual development and school success are described in Section V.

Evaluation of this component was conducted on a consultancy basis by Dr. Leo Juarez.

SECTION IV

EVALUATION DATA OF THE INSTRUCTIONAL COMPONENT

Summary of Evaluation Design

The basis for the evaluation design for the instructional component was the specific program objectives (See Section II). From these objectives, specific abilities or areas were identified to be objectively measured. The specific abilities measured and test instruments (See Appendix B for a description of instruments) used were as follows:

<u>Abilities</u>	<u>Test</u>
Language Development - English	<u>Peabody Picture Vocabulary</u> (Eng.)
Language Development - Spanish	<u>Peabody Picture Vocabulary</u> (Span.)
School Readiness	<u>Walker Readiness</u>
Personal Development	<u>Developmental Profiles</u>

The evaluation design was within a framework of a quasi-experimental design commonly referred to as a "Time Design" or "Pretest-Posttest Design Only" (7). This design involves a single experimental group (the students) without a control group. The experimental group was measured on the dependent variable (pretest) at the beginning of the school year, and then the group was given the experimental treatment (the curricular activities of this component as described in Section II). At the end of the school year, the children were measured again on the same variable (posttest). Comparison, using statistical procedures, was made concerning the difference between the means of the two measurements.

Form A of the PPVT (English) and Walker Test was used as the

pre-test, and Form B of both tests was used as the posttest. Form B of the PPVT (Spanish) was used as both the pre- and posttest. The Developmental Profiles were completed for each student by both the Spanish and English teacher three times during the year.

A mean score was computed for each test (mean posttest score minus mean pretest score) for the 3- and 4-year-old groups (this does not apply to the Developmental Profiles). The t-test was used to test for significance of difference between the mean gain scores. As concerns the Developmental Profiles, the mean was computed from the teacher ratings for each marking period and was "plotted" on a scale to determine direction and rate of change.

Number of Students Tested

Clovis Site

Forty-one of the students were pretested (100%). Thirty-two students were available in the program to serve in the pre- and post-testing (78%). Thirty-eight of the forty students enrolled at the end of the year were posttested (95%). The pre- and posttest raw scores with percentile scores were posted to the form "Individual Student Test Data" (See Appendix C).

Portales Site

Forty of the 41 students were pretested (98%). Thirty students were available in the program to serve in both the pre and posttesting (75%). Thirty-five of the 36 students enrolled in the program at the end of the year were posttested (97%). The pre- and posttest raw scores with percentile scores were posted to the form "Individual Student Test

Data" (See Appendix C).

Findings

The analysis of data for the instructional component of the Bilingual Early Childhood Program (BECP) is presented in terms of overall performance; performance by site; performance by year in program; and performance by age. In addition, graphs are provided depicting the personality development of subjects participating in the program.

Overall Performance

Table I presents the data relating to the overall performance of students on the three measures used in the evaluation. It can be noted from the table that subjects participating in the program made significant gains in language ability in English, language ability in Spanish, and school readiness. Also, the evaluators took special note and interest of the large mean gain score from the PPVT (Eng.) which is most unusual.

TABLE I
PRE AND POSTTEST PERFORMANCE OF ALL SUBJECTS PARTICIPATING IN BECP

TEST	N	MEANS	MEAN GAIN	s	t	p
Peabody (English)	62	Pre Post	24.82 66.35	41.53	10.23 21.47	7.12 .001
Peabody (Spanish)	62	Pre Post	7.94 23.00	15.06	7.35 9.40	3.87 .001
Walker	62	Pre Post	15.05 35.74	18.69	7.87 7.20	6.31 .001

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It should be noted that the difference in the size of the final (posttested) group in Table 1, from the total enrolled in the program, is due to the number of drops and adds that occurred during the year. The final analysis was conducted on those subjects that remained in the program throughout the year.

Site Performance

Since the program was conducted at two sites, data are presented in terms of subject performance in each location. Tables 2 and 3 present these data.

TABLE 2
PRE- AND POSTTEST PERFORMANCE OF CLOVIS BECP SUBJECTS

TEST	N	MEANS	MEAN GAIN	s	t	p	
Peabody (English)	32	Pre	24.45	43.52	11.27	7.77	.001
		Post	67.97		20.47		
Peabody (Spanish)	32	Pre	7.00	9.81	7.53	3.32	.001
		Post	16.81		9.20		
Walker	32	Pre	18.61	18.65	7.87	7.01	.001
		Post	37.26		7.20		

00038

TABLE 3
PRE AND POSTTEST PERFORMANCE OF PORTALES BECP SUBJECTS

TEST	N	MEANS	MEAN GAIN	s	t	p	
Peabody (English)	30	Pre	25.18	39.55	10.16	7.31	.001
		Post	64.73		6.49		
Peabody (Spanish)	30	Pre	8.87	20.31	8.43	4.33	.001
		Post	29.18		6.33		
Walker	30	Pre	11.49	22.72	11.83	5.43	.001
		Post	34.21		9.14		

Age and Performance

Tables 4 and 5 present performance data by age at each site. Contrary to previous evaluations, the younger children made higher gains in some areas than the older children. At the Clovis site, for example, the younger children made higher gains on all three measures.

TABLE 4
AGE AND TEST PERFORMANCE - CLOVIS SITE

TEST	AGE	MEAN GAIN
Peabody (English)	3 (N = 14)	49.00
	4 (N = 18)	36.18
Peabody (Spanish)	3 (N = 14)	10.54
	4 (N = 18)	9.00
Walker	3 (N = 14)	20.46
	4 (N = 18)	17.31

TABLE 5
AGE AND TEST PERFORMANCE - PORTALES SITE

TEST	AGE	MEAN GAIN
Peabody (English)	3 (N = 13)	44.16
	4 (N = 17)	33.27
Peabody (Spanish)	3 (N = 13)	18.81
	4 (N = 17)	23.16
Walker	3 (N = 13)	19.76
	4 (N = 17)	23.14

Year in Program and Performance

Tables 6 and 7 present performance data by year in program at each site. It can be noted from these tables that first year students made higher gains than second year students. At the Clovis site, for example, the first year students made higher gains on all three measures.

TABLE 6
YEAR IN PROGRAM AND TEST PERFORMANCE - CLOVIS SITE

TEST	AGE	MEAN GAIN
Peabody (English)	1 (N = 21)	45.90
	2 (N = 11)	36.00
Peabody (Spanish)	1 (N = 21)	10.62
	2 (N = 11)	9.73
Walker	1 (N = 21)	23.16
	2 (N = 11)	14.00

TABLE 7
YEAR IN PROGRAM AND TEST PERFORMANCE - PORTALES SITE

TEST	YP	MEAN GAIN
Peabody (English)	1 (N = 23)	45.12
	2 (N = 7)	36.31
Peabody (Spanish)	1 (N = 23)	17.73
	2 (N = 7)	22.31
Walker	1 (N = 23)	17.00
	2 (N = 7)	24.46

Self-Image and Personality Growth

A subjective evaluation concerning self-image and personality growth was made on each subject participating in the program. Rating scales (Developmental Profiles) describing six affective areas were prepared three times during the year. There is no objective scale of accomplishment or standard in terms of age-achievement scores, but the profiles can provide a source of insight and understanding of emotional development of the children.

Figure 1 on page 31 depicts summary data relative to the assessment of self-image and various dimensions of personality growth of all of the children participating in the program.

Summary of Evaluation Data

A summary of the data obtained from the evaluation of the instructional component is as follows:

1. Subjects participating in the program made significant

gains in language ability in English.

2. Subjects participating in the program made significant gains in language ability in Spanish.

3. Subjects participating in the program made significant gains in school readiness.

4. There were no appreciable differences in performance, with the exception of performance in Spanish at the Portales site, when data were analyzed by site.

5. As a rule, the younger subjects made higher gains on the three measures than older subjects.

6. As a rule, first year subjects made higher gains on the three measures than second year subjects.

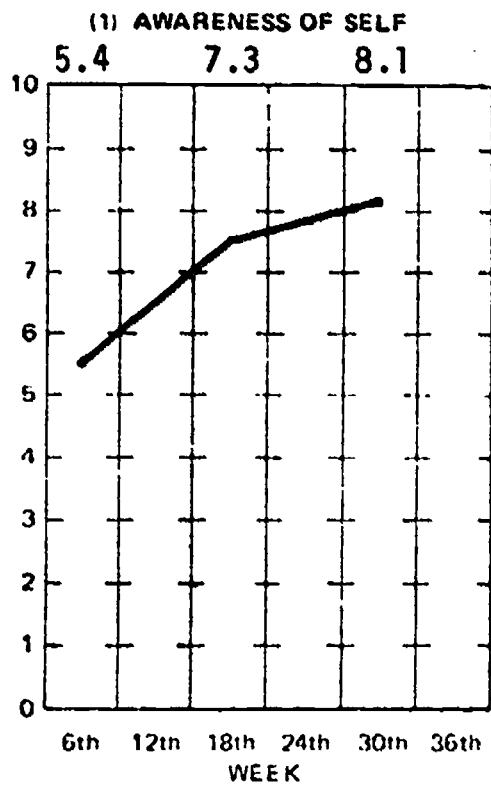
7. Subjects participating in the program development maintained a positive self-image and developed substantially in various dimensions of personality growth.

FIGURE 1

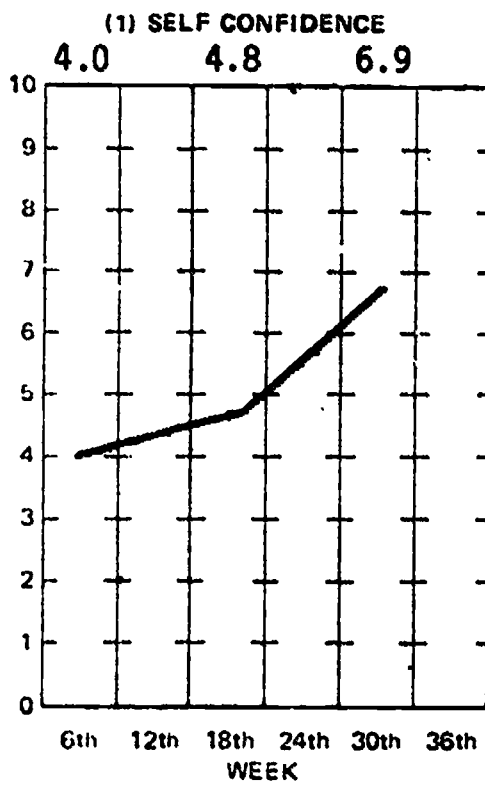
GRAPHIC SUMMARY OF PERSONAL DEVELOPMENT OF BECP STUDENTS

Developmental Profile

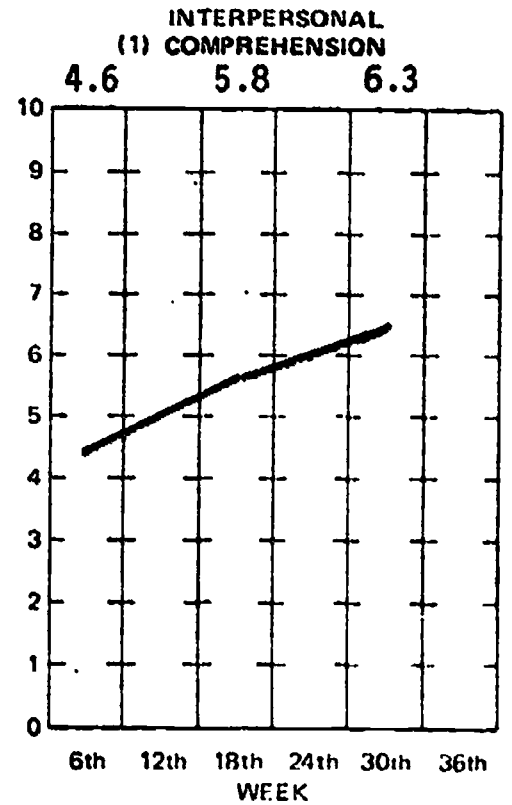
AWARENESS



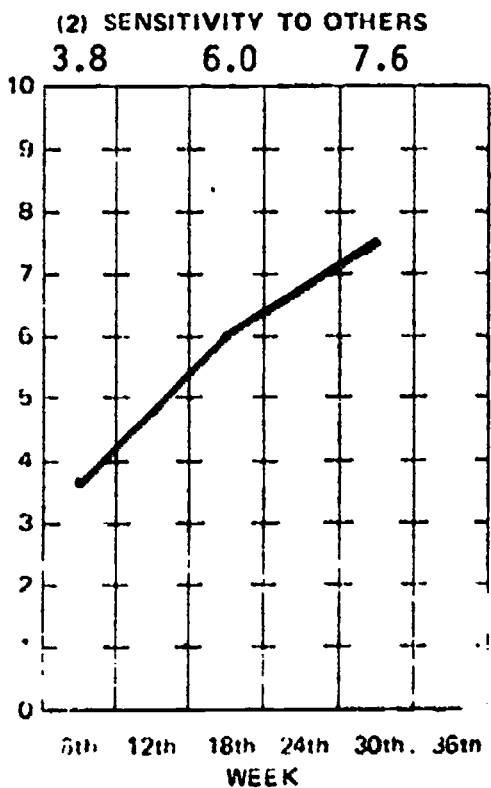
MASTERY



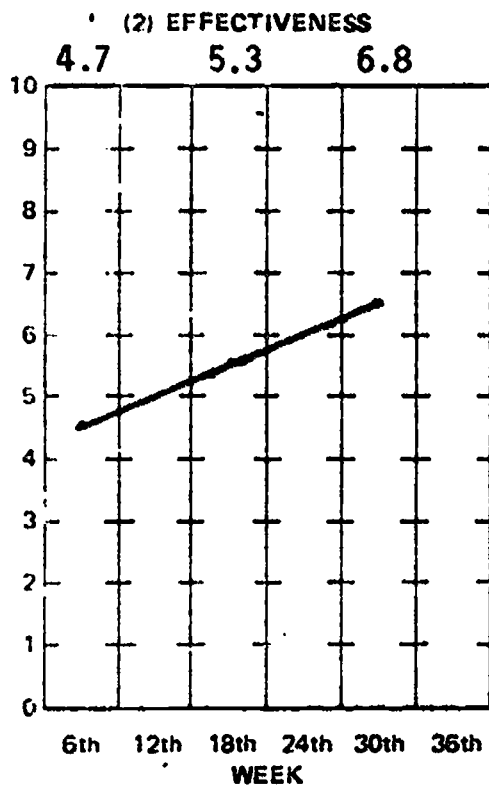
SOCIAL INTERACTION



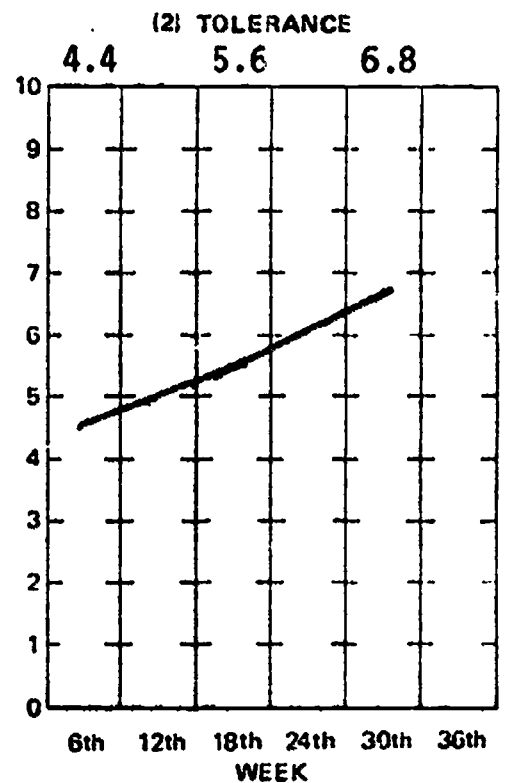
AWARENESS



MASTERY



SOCIAL INTERACTION



00043

SECTION V
EVALUATION DATA OF THE COMMUNITY - PARENTAL
INVOLVEMENT COMPONENT

Information reported in this section was drawn from data obtained through interview and observation of project staff, from a content analysis of program needs, and from analysis of data obtained through the administration of the Henderson Environmental Learning Process Scale (HELPS).

Objectives

The 1973-74 year may be regarded as the first year of operation for this component in the sense that activities of this year were under the direct supervision of a certified professional for the first time. The Home-Visitor Coordinator happened to assume responsibility for an on-going program with a minimum of orientation. Consequently, program objectives and directions were interpreted according to her immediate perceptions of the program needs. These objectives may be outlined as follows:

1. Orientation concerning the role and responsibilities of the Home-Visitor, especially in the purpose, construction, and use of educational materials provided for home visitation.
2. Outreach tutoring of children in the home, focusing upon the development of skills and attitudes related to achievement in the school program.
3. Outreach parent involvement, principally through encouraging participation in weekly 1/2 hour home tutoring sessions for children, through the training of parents in the construction and use of educational materials, through the loan of educational toys, and through parent attendance and participation in school activities.

4. Materials development, involving the construction of educational toys out of local materials such as medicine containers, clothespins, hangers, etc.
5. Community involvement, through advertising the program in the local community, through the solicitation of materials for use in the program from community members, businessmen, and other professionals, through the active involvement of the community in needs assessment surveys and parent training demonstrations.
6. Program dissemination, through regional demonstrations of program activities and materials, through program site visits and lectures.

Evaluation Procedures

Quantitative evaluation of the community-parental involvement component is restricted to objectives 2 and 3, parent training and home tutoring. Such evaluation is provided through a content analysis of the individual reports filed by home-visitors after each visit. Categories for analysis were determined by adjusting the general objectives stated for home visitation to comments which emerged from the home visitor reports.

Parent involvement is directed principally toward the home tutoring of children in school related activities and toward parent training to supplement school instruction. General objectives of the school program are to develop childrens' cognitive and psychomotor skills and to develop attitudes considered appropriate for school and general social adjustment. The limited nature of home visitation record-keeping permits only the following broad categories of content analysis: 1) Parent Participation, whether parents are mentioned as participating or not participating in the home tutoring session; 2) Objective Achievement; whether the objectives of the lesson plan for the tutoring session are mentioned as

achieved or not achieved; 3) Visit Completion; whether the home visits attempted on a weekly basis were completed or cancelled. Results of the content analysis of home visitation report sheets are summarized in the following paragraphs.

In addition to the above, the Henderson Environmental Learning Process Scale (HELPS) was administered to parents and guardians of children in the program. This scale is designed to measure the presence of factors in the home environment positively related to intellectual growth and school achievement (See Appendix B). Factors measured include the following. 1) Extended Interests and Community Involvement: this refers to parents' interests and opportunities to pursue activities related to events and information outside the home environment and, also, to opportunities for the child to share in this interest. 2) Valuing Language and School Related Behavior: this refers to parent activities in the home that show the extent to which parents value language and school related behavior and the extent to which parents communicate those values to their children. 3) Intellectual Guidance: this refers to direct attempts on the part of parents to teach intellectual skills to their children. 4) Providing a supportive environment for school learning: this refers to parents' attempts to prepare children to perform effectively in school in terms of behaviors which do not directly duplicate those of the teacher. 5) Attention: this refers to the variety of behaviors mothers engage in which contribute to the development of children's learning, motivation, and skills. Results of data collection and analysis are reported in the following paragraphs and tables.

Results: Data Analysis of Home Visitation Protocols

Content analysis of home visitation report sheets yielded various types of information as presented in the following tables.

TABLE 8

CONTENT ANALYSIS OF HOME VISITATION PROTOCOLS, CLOVIS SITE

Parent Partici- pation	No Parent Partici- pation	Objectives Achieved	Objectives Not Achieved	Home Visits Completed	Home Visits Cancelled
386	211	123	474	597	224
64.66	35.34	20.60%	79.40%	72.72%	27.28%
$x^2=8.503$		$x^2=34.581$		$x^2=20.65$	
p .01		p .001		p .001	

TABLE 9

CONTENT ANALYSIS OF HOME VISITATION PROTOCOLS, PORTALES SITE

Parent Partici- pation	No Parent Partici- pation	Objectives Achieved	Objectives Not Achieved	Home Visits Completed	Home Visits Cancelled
586	104	299	391	690	237
84.93	15.07	43.33%	56.67%	74.43%	25.57%
$x^2=48.807$		$x^2=1.788$		$x^2=23.894$	
p .001		p .20		p .001	

00047

TABLE 10
 CONTENT ANALYSIS OF HOME VISITATION PROTOCOLS,
 CLOVIS AND PORTALES SITES

Parent Partici- pation	No Parent Partici- pation	Objectives Achieved	Objectives Not Achieved	Home Visits Completed	Home Visits Cancelled
972	315	422	865	1287	461
75.52%	24.48%	32.79%	67.21%	73.63%	26.37%
$\chi^2=26.07$		$\chi^2=11.858$		$\chi^2=22.339$	
p .001		p .001		p .001	

Discussion of Content Analysis Results

Chi Square was used to determine whether a significant difference exists between the proportions of category responses coded from the home visitation protocols. Data from Table 10 suggest that parents participate in a significant number of instances during home tutoring sessions. Over 75% of the protocols coded indicate that parents of the Clovis and Portales sites are involved in some fashion with their children during these sessions. However, in a significant number of instances, lesson plan objectives for the home visits are mentioned as not achieved (Table 10, 67.21%). Home-visitors are able to complete a significant number of home visitations. Over 73% of the visits coded were reported as completed.

Data from Tables 8 and 9 suggest that significantly larger proportions of parent participation and objective achievement are present in the Portales site home visitation component than are present in the Clovis site. This is true even though the proportion of home visits completed between the two sites is essentially the same. From this data,

one might hypothesize that children in the Portales site home visitation component would record substantially greater achievement in the school program than children in the Clovis site component. Determining the validity of this hypothesis, however, is beyond the scope of evaluation for this component. Table II illustrates the discussion presented above.

TABLE II
COMPARISON OF PARENT PARTICIPATION AND OBJECTIVE ACHIEVEMENT RATIOS
IN THE CLOVIS AND PORTALES SITES
HOME VISITATION PROTOCOLS

	Parent Partici- pation	No Parent Partici- pation	Total	Objective Achieve- ment	No Objective Achieve- ment	Total
Clovis	336	211	597	123	474	597
Portales	586	104	690	299	391	690
	<u>972</u>	<u>315</u>	<u>1287</u>	<u>422</u>	<u>865</u>	<u>1287</u>
	$x^2=70.1$ p .001			$x^2=74.0$ p .001		

Results: Data Analysis of HELPS Scores

Data gathered from the administration of the HELPS was analyzed in several ways. At the Clovis site, ten households were provided with special parent training sessions in addition to those provided to children in the home on a 1/2 hour weekly basis. The additional sessions were conducted by the home-visitor coordinator in an attempt to sample family interest in such sessions, to improve parent/school morale, and to improve the potential of the home to facilitate children's achievement in school.

Student's t was computed to determine if any significant difference

would be found between the HELPS scores of those families in the Clovis site who received special training and those families who received no such training. No significant difference was found between the mean scores of the two groups ($t = 0.08939$, $df = 26$). This finding is supported by results from the computation of within group t scores on the criterion variables used to measure school achievement. No significant difference was found between the means of these two subgroups when mean scores were compared for the Peabody (Spanish Version), the Peabody (English Version), and the Walker Test of School Readiness (respectively, $t = .02$, $.03$, and $.024$, $df = 17$, 20 , and 20). For the Clovis site, within group analysis of pilot parent training sessions, as these affected both the home environment and school achievement, revealed no significant differences between the experimental parent training group and the parent group which received no special training.

In addition to the analysis above, Pearson r was computed to determine if any significant relationships exist between the home environment as measured by the HELPS and school achievement. School achievement is measured according to the criterion variables mentioned above. Table 12 summarizes the results of this analysis.

TABLE 12
COMPARISON OF PARENTS' HELPS SCORES
WITH CRITERION VARIABLES MEASURING SCHOOL ACHIEVEMENT

Criterion Variable	Clovis Site r	Portales Site r
Peabody (Spanish)	.04	.09
Peabody (English)	.21	.23
Walker	.14	.16

No significant relationships were found between factors in the home environment measured by the HELPS and children's scores on criterion variables used to measure school achievement.

Conclusions: Quantitative Analysis

Quantitative analysis of the data presented thus far provides little evidence of a positive relationship between home visitation and school achievement. Parent involvement, defined in terms of program emphasis upon home tutoring of children and special parent training, shows no significant relationship to children's school achievement as measured by the following criterion variables: HELPS, Peabody (Spanish Version), Peabody (English Version), and Walker Test of School Readiness.

Discussion, Recommendation and Subjective Analysis of the Operation of the Component at the Two Sites

Adequate attention to record keeping and role strain from over-extension of component responsibilities are substantial problem areas. This evaluator is intuitively convinced that the quality of work in this component is superior, and, that program potential will eventually merit its dissemination as a model outreach parent involvement component. While the data presently does not support this intuition, it should be noted that such data should be collected longitudinally. It was mentioned in the introduction to this section that this year is in many ways a beginning of component operation. In such an atmosphere, attention to record keeping is not always a major priority. More important is the securing of daily program operation. Orientation of staff, the development of home visitation materials, community needs assessments, daily program

coordination, program expansion and dissemination are extensive responsibilities for a nascent program and staff to fulfill. This evaluator's impressions are that such responsibilities have been well accomplished where community program advertisement, the securing of donation of materials, and the donation of services from the community are concerned.

However, the ultimate test of a parent involvement component is in the impact such a program has upon children's school achievement. Program development to accomplish and evaluate the extent of such achievement requires a clearly articulated and time-phased developmental program or component model. Such a model should include the developmental objectives to be reached by the children at year's end. It should also include the stages or plateaus children must reach on the way to goal accomplishment, and the activities (with specified relationships) which must be performed as evidenced of either plateau or ultimate goal accomplishment. Faculty should have a clear understanding of the relationship of each activity to program plateaus and goals, and, of the position of the child in relation to those activities and stages. Records should be organized by program and by child (preferably in alphabetical order for easy access) of the stages of activity and accomplishment that each child has met.

Present record keeping and materials development in the community and parental involvement component does not meet such criteria. Record-keeping forms are general and unspecific in nature and filed in a fashion which makes access to data on a child's progress extremely difficult. Materials and activities developed within the program, while of high individual quality, do not appear to be integrated to a time phased

developmental model. Program dissemination and materials development without adequate consideration of an integrated model with clear sequencing presents children with a diet of program activities reminiscent of a behavioral buffet rather than of a well planned and integrated meal.

Implementation of these recommendations will require a temporary redirection of responsibilities for this component as well as a possible reorganization of activities, communication and planning with the school component. Priorities will have to be placed upon the allocation of time for planning with total staff or at a minimum load--staff participation. Such planning should emphasize a reorganization of curriculum to meet a time phased developmental model; the restructuring of materials development activities to fit the developmental phases established in the model; staff orientation to the model and its component phases, materials, and instructional methods; and finally, a commitment of time and effort to record-keeping which will facilitate quantitative evaluation which focuses upon the relationship between parent involvement and school achievement.

This evaluator is favorably impressed with the potential of the community-parental involvement component and with the capacity and dedication of staff to meet such program goals.

SECTION VI

DISSEMINATION OF INFORMATION

Information concerning the program was disseminated by such means as:

1. Periodic progress reports were made to the administration, school board, local area news media including Cannon Air Force Base, the State Department of Education, and the U. S. Office of Education.

2. Site visitations by interested individuals and groups, both from in and out-of-state. The out-of-state visitors were from: The Education Service Center-Region XV, San Angelo, Texas; some faculty of the College of Education, Texas Tech University, Lubbock, Texas; and representatives from the Headstart Program of the Public Schools of Del Rio, Texas.

3. Radio and television interviews with staff, administration, and parents.

4. Discussion of program activities at various service meetings.

5. The program used the services of student teachers in early childhood education from Eastern New Mexico University and student aides from Clovis and Portales High School.

6. A videotape program has been made to explain the program as well as for the use of in-service training. Also, this program (BECF) will be part of a special television program "Innovative Early Childhood Programs" to be produced by the educational channel of Texas Tech University, Lubbock, Texas, which is scheduled for production in June, 1974.

7. Copies of the end-of-year evaluation reports for this program have been disseminated throughout the State of New Mexico and Texas. The evaluation report for 1972-73 was accepted into and is presently available from Educational Resources Information Center (ERIC). Also, this report is abstracted in Research In Education (2). This final report (1973-74) will be submitted to ERIC for dissemination.

8. Publication of articles in various professional journals and presentation of papers at various state and national professional organizations (3, 5, 9). Copies of the paper presented at the annual meeting of the American Educational Research Association at Chicago on April 19, 1974 (3) have been requested by various universities, public schools, and educational and research labs throughout the nation.

SECTION VII
SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The major purpose of the Clovis-Portales Bilingual Early Childhood Program is to provide bilingual specialized instruction to certain 3- and 4-year-old children in an effort to help them become better prepared to enter the first grade. This program is located at two sites, one at Clovis and the other at Portales. Children leaving this program, and who are eligible, will enter a Title I preschool program. The organization and curriculum of this program is patterned from the Responsive Environment Program for Spanish American Children (REPSAC).

The goals and objectives of the program give direction to the organization and administration of various elements of the program referred to as program components which are: instructional; community-parental involvement; staff development; and materials development. Specific objectives exist for each component, and the operation of each component fully support the others.

For school year 1973-74, the evaluation design of the program focused on two components: instructional and the community-parental components.

The evaluation design for the instructional component was within a framework of a "Pretest - Posttest Design" without a control group.

The specific abilities objectively measured were: language development in English as measured by the Peabody Picture Vocabulary Test (English version); language development in Spanish as measured by the Peabody Picture Vocabulary Test (Spanish version); general school readiness as measured by the Readiness Test for Disadvantaged Pre-School Children; and personality growth as measured by the Developmental Profiles. The pretesting was completed during the first two weeks of the school year, and the posttesting was completed during the last three weeks of the school year.

The evaluation design of the community - parental involvement component consisted of two phases. One phase was to continue with quarterly site visits (subjective) so as to conduct observation with respect to the objectives of the component. The second phase involved the collection of quantitative data relating home environment to school achievement by using the HELPS instrument.

Findings

The major findings resulting from this evaluation study were:

1. The students participating in the Clovis-Portales Bilingual Early Childhood Program (BECP) made significant gains in: language ability in English; language ability in Spanish; general school readiness; developed and maintained a positive self-image; and developed substantially in various dimensions of personality growth.

2. There was very little difference in the overall performance of the students at the two site locations.

3. Comparing development of language patterns between the Spanish-American and the Anglo child, the former is not so remarkable because they often hear both languages; however, for the Anglo child it is, because the classroom is possibly the only place they hear the Spanish language. In many instances, the Anglo children were able to ask unrehearsed questions in Spanish to their Spanish-speaking teacher, and immediately turn and ask the same or similar question to the Anglo teachers. These are the beginnings of a true coordinate bilingual.

4. There were over 1,200 home visits made during the year and data indicated that a significant number of parents participated during the home tutoring sessions. Also, data indicated more parent participation and objective achievement at the Portales site than the Clovis site even though the proportions of home visits completed between the two sites was about the same.

5. As measured by the HELPS instrument, no significant relationships were found between factors in the home environment and children's scores on criterion variables used to measure school achievement.

6. Parents of the students participating in the program maintained a positive attitude toward the program and the various curriculum and co-curriculum activities.

7. The cooperation of the children, their willingness to try various tasks without fear of failure, and their unusually long attention span for children of their ages may be judged as reflections of their happy learning experiences in the program.

8. The faculty reflected a high morale and demonstrated improved skills in working with the children.

Conclusions

The major conclusions based upon the findings of this study were:

1. The instructional component appears to be functioning effectively in achieving the program objectives. Also, this component and the community - parental involvement component appear to have started to operate so as to complement each other.

2. Based upon site visits and numerous types of subjective evaluation, the evaluators are intuitively convinced that the quality of work in the community - parent involvement component is superior and will eventually become an excellent model parent involvement component; however, at the present time, the objective data indicates that the effectiveness of this component, as it relates to school achievement, is questionable. Specifically, where the program has attempted to define parent involvement in terms of parent - child training in activities which are related to achievement of school/program objectives, there was found no quantified evidence to suggest that this

has been effected. It is also quite evident that the function of this component produces many intangible benefits to the program such as promoting parent-community morale and involving the local business and professional community in the school program.

3. The program is in an active and positive process of accomplishing the general, or long range, program objectives.

4. In brief, the Clovis-Portales Bilingual Early Childhood Program functioned as planned for the target group children and parents and in accordance with the approved proposal during the 1973-74 program year.

Recommendations

1. That the Clovis-Portales BECP continue the inter-relations with the operation of the Responsive Environment Program for Spanish-American Children (REPSAC) concerning the operation of the various program components.

2. That the objectives of the community-parental involvement component be reviewed and possibly re-formulated.

3. If the parent involvement element of the community-parental involvement component continues to be defined as a home tutoring and parent training, the instructional activities and materials development should be re-formulated into an integrated sequential model which parallels the specific program objectives.

4. That the Clovis-Portales BECP continue to develop and serve as a demonstration and replication model and as an early childhood intervention program.

BIBLIOGRAPHY

1. Ainsworth, Len, and Alford, Gay. "Responsive Environment Program for Spanish American Children: Evaluation Report, 1971-72." Evaluation report (1st year) prepared for USOE (BEH) and municipal schools of Clovis, New Mexico. Also, abstracted in Research in Education (February, 1973), and the complete report is available from ERIC (ED 068 219).
2. Askins, Billy E., et al. "Evaluation of Effects of the Clovis-Portales Bilingual Early Childhood Program: Final Report, 1972-73." Evaluation report (1st year) prepared for USOE (ESEA, Title VII) and the municipal schools of Clovis, New Mexico. Also, abstracted in Research in Education (January, 1974), and the complete report is available from ERIC (ED 081 475).
3. Askins, Billy E.; Cornett, Joe D.; and Alford, Gay. "An Evaluation Study of the Effect of the Clovis-Portales Bilingual Early Childhood Program During 1972-73." Paper presented at the annual meeting of the American Educational Research Association, Chicago, Illinois, April 19, 1974.
4. Askins, Billy E., et al. "Evaluation of the Effect of An Early Education Program for High Risk Spanish American Children, Final Report, 1972-73." Evaluation report (2nd year) prepared for USOE (BEH) and municipal schools of Clovis, New Mexico. Also, abstracted in Research in Education (April, 1974), and the complete report is available from ERIC (ED 085 122).
5. Askins, Billy E.; Ainsworth, Len; and Alford, Gay. "The Effectiveness of the Responsive Environment Program for Spanish American Children of the School Age--A Demonstration Project." Paper presented at the annual meeting of the Texas Association for Supervision and Curriculum Development, McAllen, Texas, October 29, 1973. Also, this paper was published in Education-New Mexico, 4 (Winter-Spring, 1974): 22-30.
6. Beller, E. Juno. "Research on Organized Programs of Early Education." Second Handbook of Research on Teaching. Edited by Robert M. W. Travers. Chicago: Rand McNally & Company, 1973.
7. Campbell, Donald D., and Stanley, Julian C. Experimental and Quasi-Experimental Design for Research on Teaching. Chicago: Rand McNally & Company, 1963.
8. Cornett, Joe D.; Ainsworth, Len; and Askins, Billy E. "Effect of an Intervention Program on 'High Risk' Spanish American Children," Journal of Educational Research, 67 (April, 1974): 342-343.
9. Medley, Gene W., and Askins, Billy E. "Investigating the Relationship Between Birth Weight and School Readiness of Preschool Mexican American Children." Texas Tech Journal of Educational Research, (1974), in press.

10. McAfee, Oralie; Nimnicht, Glenn; and Meier, John. New Nursery School. New York: General Learning Press, 1969.
11. Moore, Omar Khayyam. "Autotelic Responsive Environments for Learning." The Revolution in the Schools. Edited by Ronald Gross and Judith Murphy. New York: Harcourt, Brace and World, Inc., 1964.
12. U. S. Commission on Civil Rights. Toward Quality Education For Mexican Americans, Report VI: Mexican American Study. Washington, D. C.: U. S. Commission on Civil Rights, February, 1974.
13. U. S. Office of Education. Programs Under Bilingual Education Act. (Title VII, ESEA) OMB-51-R0838; OE4491-6. Washington, D. C.: Government Printing Office, 1971.

APPENDIX A

TYPICAL SCHEDULE OF LEARNING ACTIVITIES

Group Activities

Language Development (Approximately 15 min.)

English: "Children, Children, look in the mirror. Tell me, tell me who you see." Use hand mirror in front of each child and have children name the child using first and last name.

"Put your finger on your nose." A song to stress body parts. Tell the story of the "Lonesome Hand" to also stress body parts.

Spanish: Talk about body parts, counting and colors.

Free Choice Activities

Art: Play dough and cookie cutters. Talk about the shapes formed by the cookie cutters. Good activity for small muscle development.

Center table: Flannel board faces with flannel features. Have hand mirror close by for children to see the arrangement of their own features as they put the features on the flannel board. Have children name each part as they put it on the head.

Light table: Trace and name triangle, circle, square and rectangle.

Block area: Blocks out with farm animals.

Language Master: Use cards for identifying body parts.

Small table: Colored beads for stringing, patterning and color scattered at many activities.

Center table: Lego

Book area: Records and stories. Use "The Gingerbread Boy," "The Ugly Duckling," "The Happy Man and His Dump Truck."

Individual Language Activities

(One child with one teacher or aide)

Piaget Early Childhood Curriculum (Approximately 10 min. with each child or small group of children. Present lesson in Spanish or English).

Lesson: Conservation of Liquid Quantity.

Materials: Funnels, 2 oz., 4 oz., 8 oz., containers

Instruction: Set up an area where children can pour water from one container to another.

Have child estimate how many times he would have to fill a 2 oz. container to fill a 4 oz. container, an 8 oz. container. Then have the child perform the activity to see for himself.

Vocabulary: Funnel, cylinder; also words to describe dimensions of containers i.e., tall, short, skinny, fat, wide, narrow, taller than, shorter than, etc.

Project LIFE

Responsive Environment Typing Booth

Second Group Activity (Approximately 10 min.)

English: "Clap your hands in time to the music" (Autoharp accompaniment) Numerous verses such as "Stomp your feet." "Pat your head." "Swing your arms." "Jump up and down."

"My Hands Upon My Head I Place."

Count the children in the group. Boys in group stand, count boys. Girls in group stand, count girls. Teachers in group stand, count teachers.

"Blanca Vasquez, you may walk outside. Steve Baca, you may walk outside." Sing the children's names as they go outside for a play period.

Spanish: "Venga A Ver Mi Rancho," "Mi Papayo" Rhythm band with puppets.

Outside Activities

Swings

Monkey Bars

Sand Pile

Water Play

Water play (set up 3 stations near the fence). Put out syringes, basters, cans, funnels, eye droppers. Have children squirt the water through the fence. (Aide, keep this under close supervision. Only one child at each station.)

Put board between the two sets of steps. Have children jump on the board as you hold his hands and count the number of jumps. Count in English in the morning group. Count in Spanish in the afternoon group.

Snacks

Use the blender to make eggnog. "What shape is the egg?" Expect the older children to use the word oval. Ask the younger child if the egg is an oval or a square. Then expect the child to say oval. Let the children crack the eggs, add the milk and push the button to turn on the blender.

Cut toast into big triangle or little triangle. Ask children, "Would you like a big triangle or a little triangle of toast?"

APPENDIX B

DESCRIPTION OF TESTS

A brief non-technical description of each of the test instruments being used during 1973-74 is listed in the following paragraphs. Personnel interested in more detail concerning the tests are invited to consult technical data provided by the publishers of the tests or refer to the Mental Measurements Yearbook, Buros, editor.

Language Ability (English and Spanish)

Peabody Picture Vocabulary Test-English/Spanish (Dunn)

This test is designed to provide an estimate of a subject's "verbal intelligence" through measuring his hearing vocabulary. The test also has wide utility as a clinical tool. Besides being effective with average subjects, it has special value with certain other groups. Since subjects are not required to read and the responses can be non-oral, the test is especially fair to non-readers and remedial reading cases. With the drawings free of fine detail and figure-ground problems, the test is apparently appropriate for at least some perceptually impaired persons. According to the Test Manual, the scale is appropriate for subjects between 2 1/2 - 18 years who are able to hear words, see the drawings, and have the facility to indicate "yes" and "no" in a manner which communicates.

This test has had extensive use in the Southwest in recent years in both English and Spanish. There is no standard version for the Spanish test, but the one used has been used widely. The test consists of sets of four line drawings to a plate and a vocabulary list. The subject points to the appropriate picture upon the examiner's pronunciation of the name or action word.

School Readiness

Readiness Test for Disadvantaged Preschool Children (Walker)

This test was adapted from the final report of a project conducted by Dr. Wanda Walker, Northwest Missouri State College, and supported by the Office of Education. The test consists of multiple-choice items based on the pictures and symbols which do not require reading ability and are designed to test a child's: listening ability; visual acuity; and his recognition of similarities, difference, numerical analogies, and missing parts.

Self Concept and Emotional Development

Development Profiles (Bessell and Palomares)

This is a subjective evaluation of children's behavior under a variety of circumstances. These rating scales are prepared periodically jointly by two teachers. The teachers make ratings on a printed form according to six affective areas: awareness of self; self-confidence; interpersonal comprehension; sensitivity to others; effectiveness; and tolerance. Because of the inherently subjective nature of these profiles, there is not objective scale of accomplishment or standard in terms of age-achievement scores. The profiles can provide a source of insight and understanding of emotional development.

Parental Involvement

Henderson Environmental Learning Process Scale (HELPS)

This scale is designed to measure characteristics of the home environment which are related to the intellectual and scholastic performance of young children. It contains items designed to elicit quantifiable information on the aspiration level of the home, the range of environmental stimulation available to the child, the parental guidance or direct teaching providing in the family, the range of adult models available for emulation by the child, and the nature of reinforcement practices used in the family to influence the child's behavior.

ADOBE EDUCATIONAL SERVICES
BILINGUAL EARLY CHILDHOOD PROGRAM

Clovis - Portales

Individual Student Test Data for 1973-74

Name _____ DOB _____ BW _____ Year In Prog. _____
(Last, First, Middle) (Yr.-Mo.-Day) (lbs-ozs) (1-2-3)

I. LANGUAGE ABILITY

Peabody Picture Vocabulary Test (Dunn) - English

	Eval. Date	Chron. Age	Raw Score	Percentile	Remarks
Posttest					
Pretest					
	Gain			X	

Peabody Picture Vocabulary Test (Dunn) - Spanish

	Eval. Date	Chron. Age	Raw Score	Percentile	Remarks
Posttest					
Pretest					
	Gain			X	

II. GENERAL SCHOOL READINESS

Readiness Test For Disadvantaged Preschool Children (Walker)

	Eval. Date	Chron. Age	Similarities (25)	Differences (15)	No. Analogies (5)	Missing Parts (5)	Total Raw Sc.	Perc. Rank	Remarks
Posttest									
Pretest									
	Gain							X	