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ABSTRACT

This report provides a program description and evaluation of the second year of operation of the Cognitively Oriented Urban Prekindergarten, a developmental educational program for low income Black and Puerto Rican families. Aimed at preventing educational regression, the project is primarily designed to form an important link between the Early Learning Program of the Pennsylvania Research in Infant Development and Education Project (PRIDE) and the kindergarten level of the formal school system. Outlined in this report is the general framework of the program, including the participant profile, staffing requirements, program development and implementation model, and the daily instructional program. A description of each content area within the two principal curricula (General and Academic) and a brief discussion of the nature of the children's participation in each area are included. Evaluation of the 1973-74 Prekindergarten program year consisted of a subjective assessment of the strengths and weaknesses of the program as perceived by the participating teachers as well as an objective assessment of program effects of the participating children as measured by standardized tests. The Cognitively Oriented Urban Prekindergarten demonstrate its overall strength and effectiveness by forestalling any intellectual, social and emotional regression of those significant gains attained by the children in two previous years with the PRIDE Project and by continuing the high achievement and motivational levels of the children. (CS)

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THE COGNITIVELY ORIENTED URBAN PREKINDERGARTEN

AN ESEA TITLE III SECOND YEAR REPORT

August, 1974

West Chester Educational Development Center
West Chester State College
West Chester, Pennsylvania 19380

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The success of the Cognitively Oriented Urban Prekindergarten Program is owed in large measure to the progressive orientation of the West Chester Educational Development Center and its director, Dr. Everett A. Landin; the cooperative participation of the Learning Research Center at West Chester State College and the Division of Research at the Pennsylvania Department of Education; and the dedication, hard work and long hours of the two Prekindergarten Program teachers, Miss Shirley Grice and Mrs. Patti Roberts. Special appreciation is expressed to Mrs. Linda McNally, Miss Christine Stetler and to the West Chester State College undergraduates who assisted in the operation of the Prekindergarten. Appreciation is also extended to Mrs. Gerrie Bellam and Mrs. Delphine Reitz for their considerable efforts in the typing and preparation of this work. In addition, the cooperation of the administration of West Chester State College and the Community surrounding it as well as the parents of the participating children played no small role in making possible the accomplishments achieved to date by the program.

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INTRODUCTION

This report represents a description and evaluation of the second year of operation of the Cognitively Oriented Urban Prekindergarten. The work on this program was funded primarily from an ESEA Title III grant to the West Chester Educational Development Center which served as the local sponsoring agency.

The Educational Development Center and West Chester State College have, over the past several years, been involved in a wide variety of developmental educational programs for children of low-income Black and Puerto Rican families aimed at elevating the educational achievement levels of these children to the point at which they are able to compete adequately within the school system. In response to expressed community needs, a considerable preschool effort was undertaken in the Fall of 1969 with the above types of children to attempt to prevent the very kinds of educational problems for which remedial programs had become necessary. This effort has come to be known as the Pennsylvania Research in Infant Development and Education (PRIDE) Project. It was through extensive and long-term contact with community leaders, agencies, and parents via the above project that the specific needs relating to the present program were identified.

The Cognitively Oriented Urban Prekindergarten was designed to form an important link between the Early Learning Program of the PRIDE Project and the kindergarten level of the formal school system. In this regard, the principal and overriding objective of the Prekindergarten Program is to prevent educational regression and to follow through on the Early Learning Program objectives for accelerating the overall

development of the participating children.

The primary source of rationale in the present Cognitively Oriented Urban Prekindergarten is derived from the Pennsylvania Research in Infant Development and Education Project (Dusewicz, 1970, 1972; Dusewicz and Higgins, 1971, 1972), developed jointly by the Bureau of Research of the Pennsylvania Department of Education and West Chester State College. Beginning with children as early as 12 months of age, this program has significantly accelerated their overall educational development.

To date a large number of these children have participated in the PRIDE Project's Early Learning Program, achieving mean gains of 30 IQ points in the first year alone. Successful gains have also been registered in the areas of language and social development as a result of the program. The curriculum utilized for this very effective early learning program provided the main thrust for the construction of an extended curriculum currently incorporated in the Cognitively Oriented Prekindergarten Program.

It was anticipated that the Early Learning Program and the Prekindergarten Program would complement each other in enhancing the intellectual, language and socio-emotional development of participating children and prevent the kind of school failure which stems from achievement deficits that accumulate upon initial school-entrance deficits.

PROGRAM OPERATION

General Description

During the 1973-74 school year the Cognitively Oriented Urban Prekindergarten was housed in the Learning Research Center on the West Chester State College campus. The program was in operation from September through May and was conducted in two sessions. The population of the morning session of the prekindergarten was derived from the home program component of the PRIDE Project. These children had participated in the home program for two years during which time they had been tutored by undergraduate assistants for a period of 45 minutes twice weekly. Twelve children attended the morning session. The afternoon session of the prekindergarten was composed of those children who had participated in the center component of the PRIDE Project during the preceding two years. These children had attended a half-day session at the Learning Research Center, Monday through Friday. There were eighteen children who participated in the afternoon session of the Prekindergarten. Unlike the previous year, both the morning and afternoon sessions of the prekindergarten used a single classroom facility in the Learning Research Center during the 1973-74 school year. Both sessions operated on a daily schedule, Monday through Friday, for a time period of approximately two and a half hours each day.

Participant Profile

The ages for the thirty children participating in the Prekindergarten program in 1973-74 ranged from 37-51 months. There were seventeen girls and thirteen boys in this year's program. The ratio of girls to boys was coincidentally the same as the ratio of single parent homes to two parent homes. There were seventeen single parent homes and thirteen two parent homes.

The median age for all mothers of participating children was 23.5 years at the time the children were initially enrolled in the PRIDE Program. The average age was 24 years. The age range was from 16 to 42 years for the thirty mothers.

Family size and ordinal position of the Prekindergartner was considered for the participant profile. There were an average of 2.1 siblings in the home at the time of enrollment into the PRIDE program and 2.4 siblings in the home at the beginning of the Prekindergarten year.

The sole income for the majority of the families was from Public Assistance.

Staffing

The program was staffed with a supervising teacher, an associate teacher and several part-time undergraduate student assistants (approximately equivalent to one full-time student aide). Both the supervising teacher and associate teacher held a B.S. degree in elementary education and were working toward a Master's degree in the same field. The student assistants were employed through the work-study program at West Chester State College and were assigned to the prekindergarten. The prekindergarten staff then assigned work hours to the student assistants according to their class schedules. An average of one student was assigned to the prekindergarten for each hour the program was in session. These student assistants were responsible for carrying out certain curriculum activities as well as classroom management activities such as general clean-up. From time to time, volunteer aides participated in the program, helping to carry out various classroom responsibilities such as snack preparation and assisting in art projects.

Program Development and Implementation

Operation of the prekindergarten program involved several teacher responsibilities for program development and implementation. The supervising teacher and associate teacher were responsible for assisting in the revision of the prekindergarten curriculum to accommodate the unique needs of those children attending the program. These teachers worked cooperatively to plan and prepare the daily instructional program and were responsible for implementing the program in the prekindergarten classroom. The prekindergarten teachers were also responsible for observing, assessing and grouping the children homogeneously according to ability and subsequently for revising the daily schedule in order to assure the maximum performance level of each individual child. When planning the daily instructional program, the teachers also supervised and delegated classroom responsibilities to the undergraduate student assistants according to their work schedules and individual teaching abilities.

In addition to these basic classroom responsibilities, there were a number of operational procedures performed by the prekindergarten staff which were necessary to the successful implementation and overall acceptance of the program. At the beginning of the school year, both the supervising teacher and associate teacher visited the homes of those parents and children who would be participating in the prekindergarten that year. The purpose of this visit was to give the teachers an opportunity to introduce themselves and to give the parents a general overview of the program, including information concerning objectives, activities, and content areas that would be included. Parents were invited by the teachers to observe the program at any time and to offer

comments and ask questions.

Another operational procedure involved the relocation of materials and equipment to the present facility in the Learning Research Center. During the first year of operation (1972-73), the two class sessions were conducted in two different locations. The morning session used rented classroom facilities located in one of the neighborhood churches while the afternoon session was held in the Learning Research Center, sharing the room used by the Laboratory School's morning kindergarten children. Thus, it was necessary to plan the physical arrangement of the new facility to service the needs of both sessions of the prekindergarten.

The staff was also involved in locating drivers for transportation of the prekindergarten children. Mapping and practicing pick-up, drop-off routes for the prekindergarten were additional responsibilities involved in program operation.

In addition to working cooperatively in revising the curriculum, the supervising teacher and associate teacher also reviewed and evaluated instructional media appropriate to the prekindergarten curriculum. This included reviewing various commercially available phonics programs at the prekindergarten-kindergarten level for use with the morning session of the program. Such a program was chosen for use and its effectiveness was later compared with the project-developed sight word approach to reading used with the afternoon prekindergarten. Also, the teachers were concerned with ordering additional commercial materials, making arrangements to borrow materials from West Chester State College's library and curriculum laboratory, and supervising the construction of project-made materials to meet the objectives of the program.

Daily Instructional Program

The Cognitively Oriented Urban Prekindergarten was designed to form an important link between the Early Learning Program of the PRIDE Project and the kindergarten level of the formal school system. Thus one of the major objectives of the Prekindergarten was to resist educational regression of those gains exhibited by the children after the completion of two years in the Early Learning Program. At the same time, the Prekindergarten was designed to extend those gains previously attained by the children. In this regard, the other principal objective for the participating children was the successful demonstration of a final level of development at or above the normal level for children of the same age. Attainment of these objectives would enable the children to compete more effectively with children from more advantaged homes in the public school system. This educational development was fostered within the framework of the daily instructional program.

The emotional climate of the classroom environment was much the same as that established during the 1972-73 school year. A feeling of mutual trust and respect was created among teachers, children and parents. The children were encouraged to develop their individual abilities and interests to the fullest and to cooperate with one another in carrying out classroom responsibilities.

In the Cognitively Oriented Urban Prekindergarten, the children participated in activities designed to meet learning objectives in the areas of intellectual development, language development, social development, reading achievement and mathematics achievement. The program activities were divided into two complementary sections: the general curriculum (daily activities, perceptual development, conceptual-language development, art education and physical education) and the academic curriculum (reading, mathematics,

science, social studies and health & safety). The daily activities schedule incorporated portions of both curricula on a regular basis. Some of the program activities incorporated into the 1973-74 curriculum were carried over from the previous year, others were revised or added to meet the needs and levels of development of the prekindergarten children. These program activities were performed individually as well as in large and small group situations. In this way, the activities served to develop both the children's personal self-concepts as well as their social skills and relationships.

The following list of activities will serve as description of the daily activities schedule for both sessions of the Prekindergarten program, and they are presented here in the sequence in which they normally occurred:

1. Hanging Up Outdoor Clothing

   The children were responsible for hanging up their outdoor clothing as they entered the room each day. They were provided with individual hangers with their names printed on them. This activity helped reinforce the children's identification of their printed names. It also aided the children in developing social responsibility skills.

2. Free Play

   Following the task of hanging up their outdoor clothing, the children then participated in a free play situation. Various materials and activities were displayed about the room to which the children could direct themselves. The materials and activities were carefully structured by the teachers to meet the needs of the children and to reinforce the instructional objectives of both the general and academic curricula. Materials

used at this time included puzzles, sorting boxes, lottos, dolls, cars and trucks, play kitchen, sand and water table and art materials.

3. Clean Up

The children were signaled by the teachers to clean up the classroom after free play. They were responsible for placing all materials used during free play back in their proper locations in the room. The children worked together until the task was completed.

4. Music Time

This portion of the 1973-74 daily activities schedule differed from the previous year's schedule in that this year music time was set apart and received greater emphasis. Although musical activities were incorporated into other portions of the instructional program, music time provided the teachers with an opportunity to present specific concepts and activities in this area. Activities included singing, playing musical instruments, quiet listening, rhythmic movement and dancing. Music time also served to bring the children together at the beginning of the day and to introduce them to the activities of the day.

5. Busy Bees

This activity involved assigning various classroom tasks to the children on a weekly rotation basis. At the beginning of the week, certain children were assigned "busy bee" duties such as setting the table for breakfast and snack, and feeding the fish. These children were responsible for performing their assigned tasks for a week. The next week different children were

as "busy bee" helpers. The children took pride in carrying out their individual responsibilities.

6. Breakfast and Snack

Only those children in the morning session of the Prekindergarten were given breakfast, although the children in both sessions received snack. Breakfast and snack times provided opportunities for the children to converse casually with one another. At the same time, the children experienced new foods and the teachers introduced concepts such as classification of foods as fruits or vegetables when appropriate. The children were responsible for clearing their dishes from the table after they finished eating.

7. Library Time

As the children finished eating, they went to the library corner and selected a book. They looked at the pictures independently or asked a teacher or aide to read the story to them. The children explored novel concepts and obtained new information through books. This portion of the day aided the children in developing listening skills and story comprehension skills.

8. Small Group Sessions and Major Academic Areas

Three small group sessions were conducted at this time: one for reading instruction, another for mathematics instruction and the third for instruction in the areas of perceptual and conceptual-language development. The children were grouped homogeneously according to ability for small group instruction, although the groupings were flexible based on the children's interests and levels of development. The three groups of

children rotated simultaneously to the various activities until all three groups participated in each of the three small group sessions.

During the 1972-73 school year, small group activities were conducted after the large group activities. This was revised for the 1973-74 schedule because the teachers observed that the children performed more effectively in the important small group sessions when they were conducted earlier in the day.

9. Calendar and Weather Activities

These daily activities were performed in a large group situation. Each day the children identified the month, the day's date and the day of the week. The children took turns placing the date card in its correct place on the calendar. They also made daily observations of weather conditions and took turns placing the arrow attached to the weather chart on the picture representing the observed weather condition.

10. Physical Education Activities

Following the completion of the daily calendar and weather activities the children participated in physical education activities. These activities were designed to promote the development of muscular strength and dexterity. Activities included walking, running, skipping, jumping and hopping. Hand-eye coordination skills were also developed in activities such as target throw and ring toss games. By fostering the development of these various physical coordination skills, the program enabled the children to interact more actively in physical play activities.

11. Minor Academic Subject Areas

After the physical education activities were completed, the children sat at the tables for snack time which was described previously. As the children finished eating, they gathered on the circle in the center of the room. Large group instruction in one of the three minor academic subject areas was conducted at this time. The three subject areas included science, social studies, and health and safety. Science instruction involved the manipulation of real objects and subsequent development of abstract concepts and relationships. In the area of social studies, the children were introduced to the various roles of their family members and members of their community. They were encouraged to identify the importance of their roles with respect to their families and community. A major portion of the health and safety curriculum was devoted to the development of positive self-concept and personal grooming responsibility on the part of the children. All three areas of instruction applied the philosophy that children learn by doing.

12. Enrichment and Reinforcement Activities

This portion of the daily activities schedule was designed to give the children an opportunity to unwind at the end of a busy day. At the same time, many of the activities were presented to reinforce the learning that took place throughout the day. Enrichment activities included various aesthetic experiences such as arts and crafts and creative dance. Activities designed to reinforce ideas introduced throughout the day included viewing movies, taking walking tours, and listening to stories. These

activities served as an appropriate means to end a busy day in the Prekindergarten.

First and Second Year Comparison

In comparing the operations of the Cognitively Oriented Urban Prekindergarten there were distinct differences between the first and second year of the program.

The enrollment of the Prekindergarten in 1972-73 was thirty-five children compared to an enrollment in 1973-74 of thirty children. The children participating in the 1973-74 program were on an average six months younger than the children of the previous year. Class size and age of the children had a considerable influence on the classroom physical plan and on the difficulty of the activities found in the curricula.

The Prekindergarten operated out of two locations in 1972-73. The morning session of the program was housed in rented facilities in a local neighborhood church while the afternoon session met in the kindergarten room of the Learning Research Center at West Chester State College. Operating out of two locations necessitated that materials and equipment be transported from one facility to the other, and that teaching aids be packed, unpacked and packed again in the course of a day. Time spent on these matters took valuable time away from what was needed for teacher preparation. This often meant that the children did not get the full benefit from the materials or the teacher. The program for this past year operated from one location - a room in the Learning Research Center. Operating from one room allowed the children and the teachers to utilize the material and equipment to its fullest advantage. Posters and bulletin boards could remain up for the duration of the learning experience. Not having to pack and transport materials gave the teachers more time for the

preparation of the day's activities. Being in one location was easier for parents, children and teachers.

Because of the six months' difference in the ages of both groups of the Prekindergarten, the curricula had to be revised somewhat. Reading readiness experiences had to be provided for the children of the 1973-74 program. Revision in the areas of reading, math, social studies, science, and health and safety were necessary so that the children would experience cognitive success in these areas. Such revision also served to facilitate instruction and separate out content material that would be relevant to subject areas. The curriculum of 1972-73 did not have specified areas for teaching perceptual development and conceptual-language development. The addition of these two as separate areas was included in the general curriculum for 1973-74. In teaching reading for the 1972-73 school year, children in both sessions of the Prekindergarten received the same instruction. The project-made curriculum for the sight-word approach to reading was used. The past year's reading program was altered in that the children of the morning session were instructed with a commercial phonics program. The children were taught with the Lippincott Beginning to Read, Write and Listen Program. The children in the afternoon session continued to receive instruction with the project's whole word approach. The phonics program was introduced as another means to evaluate the effectiveness of the whole-word method. Curriculum revision also took into consideration the continuous evaluation of the curriculum that was undertaken during the previous year.

Students from the work-study program of West Chester State College were the source of the majority of the work assistance for both years of operation. In the 1972-73 year the program also received assistance from students who were working to meet class requirements. Mothers enrolled in the 4-C

(Community Co-ordinated Child Care, Manpower Training Project) also worked with the program in order to fulfill requirements of the 4-C program. The participation of the mothers and students was essential to individualization of the program. Extraneous conditions (economic status, enlarged families, loss of funding) reduced the number of students and mothers assisting with the program for the 1973-74 school year.

Curriculum Areas

The curriculum for the Cognitively Oriented Urban Prekindergarten has two principal areas of concern: The General Curriculum and the Academic Curriculum. The subject areas of the two principal parts of the curriculum could be implemented as separate units. The integration of the two contributes to the complete development of the children for meeting the goals and expectations of the prekindergarten program.

In the General Curriculum the content areas of perceptual development, conceptual-language development, general daily activities, art, music, and physical education files are developed and described according to objectives and directions for implementation. The Academic Curriculum covers the content areas of reading, math, science, social studies, and health & safety. Also included are objectives and directions for implementation. Following is a description of each content area within the two principal curricula and a brief discussion of the nature of the children's participation in each area.

General Curriculum

The areas of concern found in the general curriculum of the prekindergarten curricula are perceptual development, conceptual-language development, art activities file, physical activities file, music file, and general daily activities. These areas of the general curriculum are as important as the

subj[redacted] found in the academic curriculum. Mastery of the skills specified in each area provided the foundation that the children needed for furthering cognitive, affective, physical growth. The areas of the general curriculum are described below with content expectations.

Perceptual Development: Perceptual development skills are important in that the skills presented here provided the basis of learning for the children. The areas of sensory perception and discrimination, sensory integration, and hand-eye coordination were worked on with the children. By the end of the school year the children were able to successfully categorize their perceptions of physical similarities and differences. Sensory integration activities, for example, may have involved combining the senses of taste and smell. The children perceiving some brown substance in a container to be peanut butter verified the perception by smelling and tasting the substance. The children were able to take the isolated visual perception, and integrating the olfactory and gustatory perceptions, make a correct classification. Hand-eye coordination was presented through various activities that allowed the children to practice and develop this skill at their own pace. Materials were readily available so that the children could cut paper, string beads, color, sew and draw at their leisure.

Conceptual-Language Development: The children also learned how to communicate their perceptions. Although conceptual-language development was also handled in the subject areas of the academic curriculum, this program was developed as a guide for teaching specific conceptual-language skills. The activities of the conceptual-language program provided the children with

experiences in learning concepts and learning how to express these concepts verbally. General vocabulary and the expressing of ideas was taught by teacher modeling, elaboration on verbalizations initiated by the child, through books, songs, games, and formal teacher direction. Names of concepts relating to size, color, shape, and relationships were also presented in the above manner. For example, a child's verbalization of "See the cat" elaborated on by the teacher became, "Yes, I see the big, furry, white cat. What sound does the cat make?" Exposure and reinforcement were the foundations for the children's learning. Conceptual-language development was also enhanced through the teaching of relationships such as: classification, association, same and different, opposites, sequencing of events, ordering of objects, and spatial arrangements. The children were able to arrange similar items together and classify them (e.g. "They are all boats"). Given a needle and thread, the children made the association, "They are what you sew with." If the children were given items varying in size and/or color, they were able to state the similarities and differences found in the table (e.g. "They are all baseball bats but are different color (size)." The activities also provided for practice in mastering these skills in relation to the maturity of language the children used.

Activities Files: The art, music and physical activities files found in the general curriculum were developed as a complementary program to the total prekindergarten program. Each of the activities found in the files have specified purposes for teaching skills not found in the other areas of the curriculum.

Art: Besides giving the children an opportunity to express themselves and be creative through various art media, engaging in art activities helped the children to strengthen fine and gross muscle control. The act of

painting, coloring, drawing, cutting, tearing and molding in and of themselves were satisfying to the children.

Music: The activities in the music file were used as teaching aids. They provided another way of introducing, teaching and reinforcing concepts to be learned. The children enjoyed the rhythmic activities and the rhythm instruments. Here again the process was of more importance than the quality of the children's participation. By expressing themselves through the music and the related activities, the children were able to discover different ways in which they could combine learning and creative expression.

Physical Activities: Children who have developed more control over their body movements participate in play with other children more freely than those children who are less developed in this area. Inadequacies in muscular control and coordination can hinder social, emotional and cognitive growth. Participating in the activities in the physical education file enabled the children to better develop muscular strengths and dexterity.

General Daily Activities: The general daily activities became a fundamental part of the children's daily life at school. This section of the curriculum covered daily calendar readings and weather interpretations, free play, breakfast and snack time, and library time. Also included in this section of the curriculum were the responsibility areas of cleaning up the classroom and the hanging up of outdoor clothing. More information on the daily activities is contained in the previous section of this report covering the "Daily Instructional Program."

Academic Curriculum

The Academic Curriculum was of major importance to the Prekindergarten Program. This curriculum included the areas of reading, math, science, social studies, and health & safety.

Social Studies: The activities of the social studies curriculum for the Cognitively Oriented Urban Prekindergarten provided opportunities for the children to build concepts about their community, nation, and the world in which they live. First they were introduced to the environment of their community, to the people of the community, the roles of those people, and in particular the role of the children and how their roles and the roles of others are interdependent.

The social studies curriculum for the Prekindergarten is a program of structured units conducted in small group sessions with the children. Units of the curriculum include: Community Helpers; Children of Other Lands; different environments; urban and rural; transportation; and family living.

From the unit in family living the children learned to identify individuals in a family and the role of each member. Through various unit activities they associated the responsibilities of each family member and the possible consequences of a breakdown in responsibilities and roles. Role playing allowed the children to see the similarities and differences among families and the life of other families whether they were across the street, or in another state or a distant continent. The children studied life in rural communities as well as urban communities. Through audio-visual software, realia and resource people the children saw and participated in the role of the policeman, mailman, fireman, garbage man, doctor, etc., thereby increasing their awareness of individuals who serve important functions in the communities, whether rural or urban.

Various modes of transportation and their importance to modern life were also studied. When the limitations of one vehicle of transportation prevented travel to a designated location, the children were able to solve the problem by naming an alternative vehicle (e.g. driving a car to an

airport and taking a plane to a point that is unattainable by car alone).

Health and Safety: Understanding one's relationship to others and to one's environment is dependent upon understanding one's self. The focus of the health and safety curriculum was on the child and his responsibility in defining, recognizing and practicing certain tasks that are needed for emotional, physical and personal development. The activities in this curriculum include: personal care and grooming; home, school, and playground safety; positive self-concept development; and growth and development of the body.

The children learned the importance of maintaining a healthy environment for growth. They learned the reasons and techniques of washing themselves, brushing their teeth, combing and brushing their hair, selecting proper clothing for indoors and outdoors. They also learned how to put on and fasten clothing and how to care for one's self at the bathroom.

Physical growth and health were also emphasized to the children. They listened to their hearts with a stethoscope and were able to distinguish the sound of a resting heart and the sound of the heart after vigorous exercise. The children were able to see their physical growth take place by measurement and to recognize that growth of the physical body is always taking place.

Safety within the home, school and playground were also units of the health and safety curriculum. Since first hand experience makes a deeper impression than vicarious experience, often that which was taught in the classroom became a real experience for the children. Stressing that running sometimes precipitates falling and possibly hurting oneself if never believed until it happens. Feeling the warmth from heat producing

items such as an iron, range, or radiator duct is a certain way of teaching caution. Teaching rules was not enough. The children had to see the cause-effect and operation of the rule to learn now to understand and respect the ramification of the rule.

A positive self-concept is a hinge upon which the door to learning and development can open or close. Unit activities on the self-concept allowed the children to express and explore their feelings and the relationships they had with peers, siblings and adults. Love and understanding of the children's needs were displayed by the teachers and, in this regard, the teachers tried to meet the needs of each individual child.

Science: The activities found in the science curriculum for the Pre-kindergarten allowed the children to explore and discover, through manipulation of various phenomena, answers to their inquiries about the world in which they live. The science curriculum covered areas in both the physical and natural sciences. Skills that were developed in the curriculum were: making observations and identifying and qualifying specific phenomena; developing the ability to make generalizations and then applying those generalizations to other situations. Sample units of activities found in the science curriculum were: magnets and magnetism; the phenomenon of floating and sinking (weights); study of the four seasons and the changes in the physical environment; the study of plant and animal life; and the three states of matter.

By manipulating objects made from various materials including iron and steel, the children were able to classify the objects according to their magnetic attraction. Dropping objects into a container of water determined whether or not that object would float or sink. Taking this activity one step further and weighing the object also gave the children

the experience of determining weight and the general relationship of an object's weight to its floating or sinking properties. Planting seeds and incubating chick eggs gave the children the experience of watching the beginning of life and the process of growth. The children were able to see the necessity of water, sun (and heat), soil, food and care for developing and perpetuating life. Through observation and discussion, the children learned about the four seasons and were conscious about daily changes that occurred in the outdoor physical environment. Being aware of the phenomena of nature and the effect that the seasons have on the way one works, plays, dresses, and feels was an important unit in the science curriculum. Collecting water in a container, freezing the water, boiling water and then watching condensation occur was one way of helping the children to understand the three states of matter.

The units of the science curriculum were created so that the children could develop skills for observing, manipulating, and generalizing and through this process, at the same time, answer their own questions as to the "why" and "how" of things.

Math: The math curriculum developed for the Cognitively Oriented Prekindergarten involves highly structured units on: rote counting; set recognition; numeral recognition; qualitative and quantitative analysis; recognition of math symbols; and performing arithmetic operation.

The children were introduced to the math concepts in small group instructional activity sessions. Individual attention was given to those children who needed it for mastery of specific objectives associated with

any particular concept. The subject of math was taught every day and specific extending activities were developed for reinforcement of the math concepts learned.

Through manipulation of sets of objects and numerals the children learned how to identify sets and how to assign numerals that appropriately represented the quantitative contents of those sets. Through relative quantitative comparisons of different sets, they were able to specify whether a set was more than, less than, or the same as another set.

Those children performing the operations of addition and subtraction learned to do so through the paradigm that was used to teach the sets. That is, the previous known set and one more created the new quantity. The reverse of this paradigm illustrated the operation of subtraction.

Each lesson in a math unit specified a criterion to be used in evaluating mastery of the concept. The children were not to go on to a new concept until they had met the designated criterion. The children were confronted daily with quantitative and qualitative measures, numerals, numbers, and sets of items. The overall objective was to help the children to understand the basic mathematical concepts which surround them in their everyday encounters.

Reading: Unlike the previous year of operation, the Cognitively Oriented Urban Prekindergarten employed two different curriculum approaches to beginning reading for the 1973-74 school year. The children participating in the morning session of the Prekindergarten used a commercially available phonics approach. Those children enrolled in the afternoon session of the program used the whole-word approach to beginning reading developed by the PRIDE Project. (During the 1972-73 school year,

the Project-developed whole-word reading approach was used by the children in both the morning and afternoon sessions.) The effectiveness of both reading programs was compared at the completion of the 1973-74 school year.

Prior to using the phonics program, the participating children in the morning session of the Prekindergarten were introduced to the reading readiness activities within the whole-word reading curriculum developed by the PRIDE Project. Because these children had not participated in a formal reading readiness program during their two years in the home phase of the PRIDE Project, they required more readiness instruction than those children in the afternoon session who had undergone readiness training as participants in the center phase of the PRIDE Project. The readiness activities developed such pre-reading skills as manual dexterity, directionality, eye-hand coordination, visual discrimination of gross and fine similarities and differences, auditory perception and discrimination and sequencing. Slide presentations were frequently set up in the Total Environment Room to reinforce the children's development of these pre-reading skills. Because the children began instruction in the reading curriculum at different levels of development, individual instruction in addition to small group instruction enabled the children to progress through the reading program at their own rates of speed. As the children progressed through the reading readiness activities, they were grouped homogeneously according to ability into three groups for the start of formal instruction in the Lippincott program. These groupings remained flexible throughout the school year responding to the children's changing needs and levels of development. The major portion of the formal reading instruction using this program was conducted during the small group session within the daily activities schedule.

The commercially available phonics program embodied a multi-sensory approach to beginning reading of visual, kinesthetic and auditory activities. It served as a comprehensive reading-language arts program by correlating the skill areas of reading, handwriting, auditory and oral language. The format consisted of twenty-four individual letterbooks each representing one letter of the alphabet and a single corresponding sound. (The letter Q was taught with K, and X was taught with Y.) Each child received his own set of letterbooks. The children were systematically introduced to the name, shape and sound of individual letters. Extensive supplementary worksheets and activities provided reinforcement of the learning of individual letters. Reading readiness activities were frequently presented in the letterbooks.

The children in the morning session worked enthusiastically in their letterbooks. They especially enjoyed the literary selections in each letterbook, and subsequently their story comprehension skills greatly improved by answering questions concerning these selections. The various art activities suggested throughout the program aided the children in developing their small muscle control. Several children were able to write the letters they had learned by the end of the school year. Although the children did not have sufficient time to complete the number of letterbooks required before combining the letters to form words, the children were able to build an understanding of letters as written symbols for spoken sounds. This understanding paved the way for future achievement in the area of reading.

The Project-developed reading curriculum was designed for use beginning with those children in the center phase of the Early Learning Program of the PRIDE Project. The curriculum was also designed to be

continued in the Prekindergarten Program. Many of the children participating in the afternoon session of the program had completed the reading readiness portion of the curriculum while enrolled in the Early Learning Program. Therefore, only a brief readiness review was necessary for many of the children before beginning the formal step sequence work of the whole-word approach to reading.

There were three major instructional sections for the implementation of the whole-word reading curriculum in the afternoon session of the Prekindergarten. These sections included reading readiness (previously described for the morning session), individualized reading work, and extending activities.

As the children demonstrated successful completion of the reading readiness activities, they were then ready to begin the individualized reading work. The individualized reading work served as a framework within which the children were introduced to each new word on the reading list. Review and reinforcement of reading words also took place within this framework. A structured step sequence was used for the presentation of the individualized reading work. This step sequence was revised for the 1973-74 school year in order to better meet the needs of the Prekindergarten children. The format of the revised step sequence for use at the prekindergarten level consisted of six steps which comprised the basic whole-word introduction to each reading word, a review step used as an aid in reinforcing the identification of those previously learned words, and a step sequence of six additional steps used with those children experiencing difficulty in completing the regular step sequence.

The individualized reading work was conducted in a separate room in the Learning Research Center during the free play period. The step sequence for the individualized reading work consisted of first presenting the child with

a pictorial representation for the particular reading word. The child was given the meaning of the word along with an illustration. The word was also given meaning by using it conversationally, bringing in the child's past experience with the word. After the child had a clear understanding of the meaning of the word he was then presented with the written symbol for the word using the whole-word approach. The child was asked to first trace the printed word. Subsequent steps required the child to discriminate the reading word from one or two nonsense words. The review step consisted of placing five previously learned words on the table in front of the child. The child was then handed five pictures and asked to place the pictures on top of their corresponding words. If the child was able to successfully complete this step, he was ready to begin the next reading word. Those children having difficulty completing the regular step sequence were first presented with the additional activities. The additional steps were designed to aid the child in making gross discriminations among words before attempting to make the finer discriminations embodied in the regular step sequence.

The extending activities section of Project-developed reading curriculum was designed to reinforce the children's visual recognition and understanding of the reading words introduced during the individualized reading work. The extending activities consisted of two major types: general and specific activities conducted during the small group session of the daily activities schedule; and Total Enrivonment Room (TER) activities conducted during the free-play period of each day. Those general and specific activities conducted during the small group session consisted of word books, flannel board activities, lotto games, worksheets, word puzzles, story games and action games. These activities were directed toward reinforcing the learning of a specific word as well as reinforcing the learning of several

words at one time. TER slide activities were conducted during free play with groups of approximately three children each. These groups were usually comprised of children at about the same level in reading ability, although occasionally the children were at different levels of development and this situation encouraged the children to help one another.

By the end of the school year, many of the children participating in the afternoon session of the Prekindergarten demonstrated successful recognition and understanding of a number of reading words. They were also learning to combine the words to form sentences. Program-made reading books designed to present the words in sentence form were enthusiastically read by many of the children.

EVALUATION

Evaluation of the 1973-74 Prekindergarten program year consisted of a subjective assessment of the strengths and weaknesses of the program as perceived by the participating teachers as well as an objective assessment of program effects on the participating children as measured by standardized tests.

Program Strengths

Experience derived from the previous year of operation was an apparent strength of the Cognitively Oriented Prekindergarten Program in the 1973-74 school year. Subsequent revision of both the academic and general curricula based on teacher observations of the 1972-73 program operation enabled the program to better meet the needs and levels of development of the participating children. The daily activities schedule was revised in order to present the important small group activities earlier in the session. This revision was made to insure a maximum performance level on the part of the children. The general curriculum was more clearly defined to include the areas of perceptual and conceptual-language development, physical education and art education and daily activities. Both the reading and mathematics programs within the academic curriculum were also revised. In particular, the individualized step sequence used to introduce new reading words was revised to better acclimate the program to the needs of the Prekindergarten children who had previously spent two years in the Early Learning Program of the PRIDE Project. Based on teacher observations of the 1972-73 operation of the reading program that those children experiencing difficulty with the individualized step sequence required additional aid, a preliminary step sequence to the regular individualized reading work was

designed for use with these children. In effect, thr reading curriculum was revised in such a way that children with no prior experience in the area of reading could successfully meet the objectives set forth by the program. The mathematics curriculum was similarly revised to provide a successful starting point in the math instruction for children at different levels of performance in math skills. Another important feature of the math curriculum was that it did not demand a great deal of verbal fluency on the part of the children. In addition, the mathematics activities were sequentially presented to follow and support the children's cognitive development. Prior experience with the Prekindergarten Program on the part of the two participating teachers also proved to be an important strength of the 1973-74 operation of the Prekindergarten. The supervising teacher taught in the same capacity during the 1972-73 school year. The experience and expertise she brought to this year's Prekindergarten proved invaluable in meeting the needs of the children and carrying out the operational procedures of the program. The associate teacher had worked with the PRIDE Project as an undergraduate student assistant for three years prior to receiving her degree and subsequently assuming her present position. During her last semester as a student assistant, the associate teacher was frequently assigned to the Prekindergarten and therefore was familiar with the instructional philosophy and procedures of the program. The cooperative efforts of these two teachers contributed in no small measure to the success of the 1973-74 operation of the Prekindergarten.

By far the most significant strength of the Program was its overall effectiveness in meeting the principal educational objectives. One of the major objectives set forth by the program was to successfully resist

the tendency toward regression of those developmental gains made by the children during their two previous years in the Early Learning Program of the PRIDE Project. Such gains were achieved in the areas of intellectual development, language development, social development, reading achievement and mathematics achievement. In addition, the Prekindergarten was designed to provide for the continuous development of the children over and above these gains in order to adequately prepare them to compete with the formal school system.

In the area of intellectual development, the children successfully resisted educational regression of previous gains and maintained continuous progress in this area of their overall development. They made significant gains in the development of their multi-sensory perception and discrimination skills. The children were able to recognize gross visual and tactile similarities and differences with little difficulty. Recognition of likenesses and differences in color, shape, size and texture using commercial and project-made lotto games was also a significant achievement. A unique aspect of the Prekindergarten Program was the emphasis placed on sensory integration. For example, an auditory-visual integration task required that a child watch as two different objects were sounded. The objects were set before the child and an object identical to one of these before the child was sounded out of the child's sight. The child then pointed to the object sounded. The children were also introduced to conceptual relationships within the conceptual-language section of the general curriculum. Through the manipulation of real objects, the children were able to successfully demonstrate an understanding of concepts such as classification, association, opposites, sequencing and spatial relations.

Language development was an integral part of the entire Prekindergarten Program. In order to focus emphasis on this important area of the children's development, the conceptual-language aspect of the program was designed for use within the framework of the general curriculum. This program was not designed as a discrete and separate area of learning but rather as a guide for developing specific conceptual-language skills within the daily activities schedule. The children significantly increased their general vocabulary through teacher elaboration of child-initiated verbalization and by direct instructional procedures. By the end of the school year, the children were able to utilize numerous descriptive adjectives in identifying common objects and were able to verbally express their ideas concerning these various objects. In addition to increasing their general vocabulary, the children also learned the names of concepts such as colors, shapes, sizes and relationships. Accuracy and maturity of speech were also increased using teacher elaboration and direct teaching procedures.

The children successfully maintained and extended their previous gains in the area of social development. Opportunities for the individual activities enabled the children to develop self-confidence and personal responsibility skills. Small and large group activities fostered cooperative interaction and positive relationships. The children learned to respect themselves and others as individuals.

Reading achievement for those children participating in the afternoon session of the Prekindergarten was measured by their ability to identify up to sixteen reading words in printed form. By the end of the school year they were learning to combine these reading words into simple three-to-five-word sentences. Project-made reading books were

designed to present the reading words within the context of a story line. Commercial books were also used to present various reading words in a story context. Many of the children were able to successfully identify those words they knew in library books, on street signs and on posters. Their story comprehension skills were greatly increased. The morning session of the Prekindergarten used a commercially available phonics approach to reading. Although the children using this latter program were unable to recognize whole words by the end of the school year, they were able to successfully identify several alphabet letters and their corresponding sounds. This series provided extensive reading readiness activities and materials which enabled the children in the morning session to develop a firm foundation for beginning reading. Because the Lippincott series used a multi-sensory approach, the children also increased their sensory perception and discrimination skills.

In the area of mathematics achievement, the children made significant gains. The children in both the morning and afternoon session of the Prekindergarten used the Project-designed math curriculum. By the end of the 1973-74 school year the children were making simple qualitative and quantitative discriminations, such as "the same," "not the same," "same number," etc. Many children had a firm understanding of this trichotomous description. They were able to determine the number of objects in a set up to the set of nine objects, including the empty set. Matching numerals to corresponding sets of objects was another mathematics gain achieved by the participating children. Copying mathematical patterns and matching in one to one correspondence tasks was also learned. Many children were rote counting from one to twenty,

and others were rote counting up to thirty and forty. Mathematical symbols such as +, -, =, >, and < were being introduced by the end of the school session, thus laying the foundation for future computational skills.

By enabling the participating children to successfully resist any tendency toward regression in the areas of development and achievement represented above and, at the same time, enabling them to exhibit significant gains in these areas over the program period, the Cognitively Oriented Prekindergarten demonstrated its most significant strength. The Prekindergarten Program also facilitated the children's attainment of a second major objective: the successful demonstration of a final level of development or achievement in the specified areas at or above the normal level for children of the same age. This accomplishment proved to be an important strength of the Prekindergarten Program in that it aided in preparing the participating children for effective competition later with children from more advantaged homes within the formal school system.

An important improvement of the 1973-74 Prekindergarten Program operation over the previous year's operation was the use of a single classroom facility in the Learning Research Center on the campus of West Chester State College. During the 1972-73 school year, two separate facilities had been employed for classroom operations. The morning session of the Prekindergarten had been conducted in a local neighborhood church. The afternoon session had been held in a classroom facility shared with the morning kindergarten teacher of the Laboratory School at the Learning Research Center. In September of 1973 a classroom facility in the Learning Research Center was vacated,

and the Prekindergarten was given clearance to conduct its program operations in that facility.

An advantage related to the use of a single classroom facility was the conservation of the teachers' time. During the 1972-73 operation of the Prekindergarten, it was necessary for the teachers to transport various materials back and forth between the two separate classroom locations. With the use of a single facility for the 1973-74 school year enabled the teachers to set up permanent displays, put up bulletin boards related to different areas of the curriculum, design learning centers around the room for individualized instruction, display concept charts, set out materials and display the children's work. Thus the teachers were able to more freely arrange the physical environment of the classroom to best serve the needs and interests of the children.

Because the Prekindergarten was conducted in the Learning Research Center, an additional strength of the 1973-74 program operation was the greater availability of excellent instructional media and facilities for both the morning and afternoon sessions. The children in both sessions had the opportunity to use the Total Environment Room, particularly for reading readiness activities and small group reading instruction. During the previous year, the children participating in the morning session of the Prekindergarten had not had this opportunity due to their isolated location. Several children in the afternoon session this year had the opportunity to work on the teaching machines in the Learning Research Center with an indiviudal tutor. These teaching machines were programmed to present lessons in areas such as rhyming words, loud and soft sounds, matching exercises, story

comprehension, etc. The Prekindergarten also had convenient use of excellent audio-visual materials from the Educational Media Office of West Chester State College in addition to the use of books and instructional kits from the curriculum and children's libraries. The Prekindergarten's location on the college campus was also more convenient for those student assistants assigned to the program as the teacher aides.

Parent and community interest and communication were also significant strengths of the Cognitively Oriented Prekindergarten during the 1973-74 school year. The parents of those children participating in the program demonstrated their interest by attending an "open house." Although the parents were encouraged to visit the program at any time, the "open house" was set up as a means of extending a special invitation to the parents to observe the daily operations of the Prekindergarten. The parents responded positively to the observed progress of their children. Parental interest was also exhibited by those parents who volunteered to help out at special parties and on field trips. Frequent telephone conversations established an open line of communication with the parents. At that time teachers and parents exchanged ideas and information related to the program operation and individual children. Information concerning the instructional program and progress of the children was also communicated to parents in the form of a newsletter.

In summary, the Cognitively Oriented Urban Prekindergarten for the 1973-74 school year demonstrated outstanding program strength in the following four important areas: experience derived from the previous year of operation and subsequent curriculum revision to

better meet the needs and levels of development of the participating children; overall effectiveness in enabling the participating children to attain the major objectives set forth by the program in the areas of intellectual development, language development, social development, reading achievement and mathematics achievement; efficient use of classroom facilities and the arrangement of the physical classroom environment to best carry out the instructional program; and the establishment of communication lines with parents and the community.

Program Weaknesses

The Cognitively Oriented Urban Prekindergarten demonstrated its overall strength and effectiveness by forestalling any intellectual, social and emotional regression of those significant gains attained by the children in two previous years with the PRIDE Project and by continuing the high achievement and motivational levels of the children. Nonetheless there were several weaknesses related to the 1973-74 Prekindergarten Program operation and curriculum.

A weakness related to program operation and implementation was that of transportation. In order to transport the children to and from the Prekindergarten, it was necessary to lease a station wagon from a local car dealership. At the beginning of the school year, there was a delay of several weeks in the delivery of the vehicle and alternate arrangements had to be made for transporting the children. Although the leased station wagon served as an adequate means of transportation, it was necessary to transport the children in shifts in order to insure maximum safety. A larger, bus-type vehicle would have better facilitated this transportation. In addition, there

was some difficulty at the beginning of the school year in employing drivers for the Prekindergarten although this problem was later alleviated.

Another operational weakness of the 1973-74 Prekindergarten Program was the delay in beginning the instructional program for the children. This occurred due to the delayed decision concerning the availability of the classroom facility in the Learning Research Center. After the Prekindergarten was given clearance to conduct its classroom operation in the facility, additional time was required to relocate materials and equipment and to set up the physical learning environment. Thus the starting date for the children was set back a week later than originally planned.

The energy crisis and rising prices also had an effect on the operation of the Prekindergarten Program. The gasoline shortage often made it difficult to obrain gas for the Prekindergarten car. Rising food prices limited the quantity and variety of food available for breakfasts and snacks.

Because the average age of the participating children for the 1973-74 school year was slightly lower than that of the participating children during the previous year, some curriculum revisions were undertaken to better meet the needs of the children. Additional teacher planning was necessary to best meet the differences in levels of development between those children participating in the morning session and those children in the afternoon session.

A weakness related to the implementation of the Prekindergarten curriculum concerned the reading program used with those children in the morning session. These children used a commercially available

phonics approach to beginning reading. As mentioned previously, due to the extensive amount of time devoted to each letter of the alphabet, the children participating in the morning session of the Prekindergarten, in contrast to those in the afternoon session, were unable to complete the specified number of alphabet letters necessary before combining the letters to form words.

Many of the program weaknesses for the 1973-74 school year were related to operation and implementation and were sufficiently alleviated shortly after the start of the Prekindergarten Program. Program weaknesses related to curriculum were minimal due to effective curriculum revisions based on observations of the previous year of operation. The curriculum provided for the positive development and achievement of all participating children. The overall strength and effectiveness of the 1973-74 Cognitively Oriented Prekindergarten overshadowed any weaknesses encountered in program operation.

Test Results

Objective assessment of the effectiveness of the Prekindergarten Program on the overall growth and development of the participating children was accomplished by administration of a large battery of test measures to each child during the two-week period immediately preceding the start of the program in early October of 1973 and again during the two-week period immediately following the close of the program year in early May of 1974. Each child participated in testing for only one day of the two-week period. Tests were administered with the child and tester alone and without interruption in a pleasant non-distracting atmosphere. Between testing sessions the child engaged in free play activities.

The tests covered the developmental areas of intelligence, language, and social growth, as well as the more specific curriculum areas of reading and mathematical skills. Following is a list of the specific tests utilized:

1. Slosson Intelligence Test (SIT)
2. Peabody Picture Vocabulary Test (PPVT)
3. Verbal Language Development Scale (VLDS)
4. Vineland Social Maturity Scale (VSMS)
5. Preschool Assessment of Reading Test (PAR)
6. Preschool Assessment of Mathematics Test (PAM)

In terms of overall intellectual, language and social growth, test results in these developmental areas are presented in Table 1. In this table, both the means and standard deviations (SD) for each of the testing sessions are given. As can be seen from comparisons between pretest means and posttest means, on the average, the Prekindergarten Program participants gained developmentally in the areas of mental growth, hearing vocabulary, general language ability, and social skills. The results of correlated t-tests between pre- and posttest means indicate that all these gains were found to be statistically significant at the .01 level.

The mean gain in mental age from pre- to posttest on the Slosson Intelligence Test, as derived from the table, was calculated to be 18.25 months. When apportioned over the seven-month program period, this represents a mean gain in mental age of over two and a half months for every month in the Prekindergarten Program or over two and a half times the normal intellectual growth rate.

In the area of hearing vocabulary, as measured by the Peabody Picture Vocabulary Test, the mean language MA's reported in the table show the

children beginning initially at about the 39 month level and ending at the 53 month level. This yields a gain of fourteen months in hearing vocabulary over the seven-month program period, for a rate of gain of two times the normal. On the Verbal Language Development Scale, the mean gain in language age, derived from the table, is 10.79. This represents a rate of growth in verbal language of about one and one half times the normal over the program period.

Gains were also evidenced in social development, as measured by the Vineland Social Maturity Scale. The social ages in months as given in the table indicate that the children progressed from a mean social age of 60.58 to that of 67.57 months of age. While this represents a statistically significant gain over the program period, it also is one which is at the normal rate of growth.

TABLE 1

Pre-Post Test Results in Development Areas

	Pretest		Posttest		
Measure[1]	(Mean)	(SD)	(Mean)	(SD)	t
SIT	55.50	7.39	73.75	9.76	12.13**
PPVT	39.28	8.20	53.28	10.81	8.35**
VLDS	47.39	5.95	58.18	5.62	7.76**
VSMS	60.58	7.71	67.57	8.13	3.91**

[1]Scores given for SIT are mental ages in months. PPVT scores are given in terms of language MA in months. VLDS scores are reported in terms of language age in months. VSMS scores are in terms of social age is months.

**$p < .01$

Turning next to a consideration of what may be termed the curriculum areas, the results of testing here are presented in Table 2. As can be seen from this table, gains from pre- to posttest were evidenced in both the reading and mathematical skills areas. Correlated t-tests comparing pretest and posttest means further indicated that these gains were of statistical significance at the .01 level.

On the Preschool Assessment of Reading Test, which measures both word recognition and reading comprehension, a substantial gain was achieved. On this test, the participating children exhibited a mean pre-post gain of about 25 points out of a maximum possible score of 100 points, representing a highly significant improvement over the pretest achievement level.

The Preschool Assessment of Mathematics Test, used to assess mathematical achievement was designed to measure understanding of a wide variety of quantitative and qualitative mathematical concepts. The pre-post gain of about 31 points on this test, out of a possible 100 points represents a highly significant improvement over the pretest score for the participating children. This difference is indicative of a substantial program induced effect in this area of achievement.

TABLE 2

Pre-Post Test Results in Curriculum Areas

Measure[1]	Pretest (Mean)	(SD)	Posttest (Mean)	(SD)	t
PAR	0.28	0.96	25.22	16.02	6.77**
PAM	14.21	12.33	44.97	17.07	11.68**

[1]Scores for PAR and PAM are given in total raw score form.

**$p < .01$

By all standards the Prekindergarten must be judged a success in readhing its major objectives. It engendered significant intellectual, language and social growth in its participating children as well as achievement in reading and mathematics.

For Black and White children from low income families, the program is most effective in enhancing their overall development. While to date no children from middle income families have participated in the Prekindergarten, it would be expected that the program would have a significant effect on the development of such children. Because the learning activities are based on developmental principles, it can be seen that the program participation would accelerate normal development as well as remediate that which is deficient.

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2. The Cognitively Oriented Urban Prekindergarten: General Curriculum Manual, West Chester, PA: West Chester Educational Development Center, 1973.

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