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The Relative Effectiveness of an Eight-Week Summer Training Program for Culturally Deprived Preschool Children

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THE RELATIVE EFFECTIVENESS OF AN EIGHT-WEEK SUMMER TRAINING PROGRAM FOR CULTURALLY DEPRIVED PRESCHOOL CHILDREN

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GENERAL INTRODUCTION AND STATEMENT OF THE PROBLEM

INTRODUCTION

This study was an attempt to evaluate three variables of a federally sponsored preschool training program for culturally deprived pre-first grade children. The program was designed to provide these children with experiences which would enhance their educational opportunities. It was comprehensive in the sense that the total culturally deprived pre-first grade population in Yakima, Washington, had the opportunity to participate. The program was staffed by a director, two guidance consultants, a physical education consultant, twenty-six experienced classroom teachers, and various volunteer community individuals, agencies, and organizations. Included were a multitude of language development activities, activities for physical development, opportunities for rhythms and music, art activities, field trips, and many types of enrichment experiences. Also included were times for lunch and rest, visual perceptual training, and complete medical and dental examinations together with appropriate follow-up care.

The program was eight weeks in length. The teachers participated on a nine-week basis; the first week being spent at the University of Washington, Seattle, Washington, for orientation activity.

It was believed by the professional and lay personnel involved in the program that the culturally deprived youngster enters first grade with a serious handicap. This feeling is quite obviously compatible with the general feelings across the state and nation considering the growing concern and participation of the federal and state governments. The product of this concern is the evolvement of many types of preschool programs designed to help youngsters overcome the negative effects of cultural deprivation. Proponents initiating the program agreed that helping these children at an early age could give them the attitudes and skills which would enable them to find successful accomplishment in the classroom instead of repeated failure.

The environment surrounding the typical middle-class child was carefully considered when laying the groundwork for the preschool summer training program. It was hypothisized that the middle-class child differs from the typical culturally deprived child in several observable ways. The middle-class child has carefully guided experiences inside and outside his home. His ability to attach verbal symbols to concrete objects is rewarded with praise and expressions of affection. Almost everything he learns is immediately and continuously reinforced by an admiring family. He is continually exposed to language in a variety of situations and is encouraged to imitate the language of his parents. His environment contains a wide variety of toys, household

utensils with which he may play, books, pictures, magazines, TV, radio, records, and musical instruments. His parents usually read to him or tell him stories, they have intellectual and social aspirations for him, and they encourage and respond to his efforts to understand his physical and social environment (11:2).

It was again hypothesized that the portrait of the socio-economically disadvantaged child would represent almost the complete anti thesis. He often lives in a crowded home which fails to provide him with developmental experiences. Neighborhood environment often restricts these opportunities even further. A variety of anxiety and insecurity producing situations make it literally impossible to create the calm, harmonious, stimulating climate the young child needs. Conversation in the home is often limited to admonitions accompanied by physical punishment. Poverty prevents the purchase of many of the amenities of social living and the child's only contacts may be with adults who are unhappy and discouraged, and who feel oppressed as they view the opulence of successful people. They are virtually indifferent to the education they did not have and have little aspiration for themselves or their children (11:3).

With these things in mind, the framework for the training program was developed. The purposes of this program are briefly summarized in the following ten statements (11:4).

1. To help the child develop a fluency in oral language.
2. To help the child create a more positive self perception.
3. To assist the child in becoming a part of his social and physical environment.
4. To expand the child's environment and help him extend his horizons.
5. To help the child develop a social awareness and increased competence to cope with social relationships.
6. To help the child develop emotional stability.
7. To help children find satisfaction in working harmoniously with other children.
8. To provide space, equipment, time to explore, investigate, experiment, discover, and create.
9. To increase the child's sensory perception so that he is vitally aware of the impressions his senses bring to him.
10. To increase the child's understanding of behavior that is helpful, supportive, and socially desirable--in other words, to help the child begin to develop his own value system.

While the effort on the part of the federal government to stimulate interest in these programs and the corresponding

interest on the part of various non-profit agencies and organizations to initiate such programs seems to be adequate in terms of providing monies, facilities, and staff, there does seem to be a need to effectively evaluate these programs at the local level. There are, however, no general or specific guidelines for such an evaluation process.

Because of this apparent need, it seemed to be of current value to design a study which would attempt to evaluate some of the variables which the program attempted to effect; more specifically, to evaluate expected intellectual growth, visual perceptual growth, and social growth.

Statement of the problem. It was the purpose of this investigation to measure and interpret the effects of preschool experiential training on a sample of culturally deprived pre-first grade children in Yakima, Washington, in the areas of intellectual ability, visual perceptual development, and social maturity. It was felt that organized data regarding the effects of this training would be helpful in making a determination as to the value of the training itself, and in providing information which would be of use in developing similar programs in the future.

Hypotheses to be tested. 1. It is suspected that children from culturally deprived home backgrounds are handicapped in the areas of intellectual ability, visual perceptual development, and social maturity. Prediction: Children from

culturally deprived home backgrounds will perform significantly lower than children from non-culturally deprived home backgrounds in the areas of intellectual ability, visual perceptual development, and social maturity.

2. An experientially oriented preschool training program for culturally deprived children should enhance their opportunity to profit from the first grade program. Prediction: Children participating in the preschool summer training program will significantly improve their scores on instruments designed to measure intellectual ability, visual perceptual development, and social maturity.

3. Culturally deprived children should be more nearly comparable to non-culturally deprived children in areas crucial to academic success after participating in the preschool training program. Prediction: There will be no significant differences between culturally deprived children and non-culturally deprived children in the areas of intellectual ability, visual perceptual development, and social maturity after the participation of the culturally deprived children in the preschool training program.

Procedures used in the study. 1. Before the beginning of the preschool training program the children participating in the program were given tests designed to assess intellectual ability and visual perceptual development. A control group of non-culturally deprived children were given the same

tests during the same period of time.

2. The culturally deprived children then participated in the preschool summer training program for a period of eight weeks.

3. At the end of the eight-week training program, both groups of children were again assessed in the areas of intellectual ability and visual perceptual development.

4. During the latter portion of the first month of the regular school term, three teachers from three different elementary schools in Yakima rated their first grade children in the area of social maturity. Children rated were culturally deprived children who received preschool summer training, culturally deprived children who did not receive preschool summer training, and non-culturally deprived children who did not receive preschool summer training.

5. The effects of the preschool summer training in the area of intellectual ability was further assessed during the second month of school when all first grade students in Yakima were given a group intelligence test as part of a district procedure. A comparison was made between children who were culturally deprived and received preschool summer training, and children who were culturally deprived and did not receive preschool summer training.

DEFINITION OF TERMS

The term cultural deprivation, as used in this study, was meant to include children from families having an annual income of less than $3,500.00.

The term non-culturally deprived, as used in this study, was meant to include children from families having an annual income of more than $6,500.00.

The term intellectual ability, as used in this study, was the intellectual ability as assessed by the Peabody Picture Vocabulary Test and the SRA Primary Mental Abilities Test.

The term visual perceptual development, as used in this study, was the visual perceptual development as assessed by the Bender-Gestalt Design Test.

The term social maturity, as used in this study, was the social maturity as assessed by an adapted version of the San Francisco Social Maturity Scale.

CHAPTER TWO

REVIEW OF RELATED RESEARCH

Importance of Early Training

Several theoretical approaches to learning lead to the prediction that early training is of importance to the child's later development. Two such examples are found in the work of Piaget and Hebb.

Piaget pointed out that intelligence develops through a child's continuous interaction with his environment. In this fashion the early sensori-motor organizations of the child are modified and transformed as the child continually learns to cope with his environment. These learning situations are internalized together with generalizations to new situations; the child takes each experience, assimilates it, and uses this new knowledge in his next related experience. In other words, through experience, he gradually accumulates the skills which equip him to meet a new situation with a steadily increasing manner of efficiency. The changes are continual and progressive; they occur in a fixed order corresponding to Piaget's developmental periods--from the sensori-motor period of infancy to the stage of formal operations in adolescence (18:Ch. 1).

Hebb, in his view of neuropsychology and information processing, would see intelligence as "a function of diversification and mobility of the cell assemblies which are

established as central processes in the nervous system through early stimulation" (10:624). This is often referred to as Hebb's period of primary learning. Without this early stimulation, such as a sterile environment, the cell assemblies do not have a chance to develop and the child is denied the opportunity to develop to his capacity. A rich and varied input of perceptual experience appears to be necessary during this period of primary learning for adequate intellectual development.

Literature Related to Cultural Deprivation

There has been a considerable amount of research done in the past several years which seems to indicate that children from culturally deprived home backgrounds do not come to school with the required readiness skills which lead to eventual academic success.

Wakefield, for example, in his research dealing with educable mentally retarded elementary school children, found that most public school classes for the educable mentally retarded are found in low socio-economic areas.

> Even in Santa Monica, which is considered a typical American community culturally and economically, and where the whole elementary school educable mentally retarded population was included, the proportion of lower income families was 85 per cent.

Wakefield collected background information on parents of 544 children in educable mentally retarded classrooms and compared the data to a computation of the status they would

be expected to have if they were a cross section of the total population in four different areas: tested intelligence, level of schooling, level of family income, and cost of family housing. These areas were chosen because "of their importance as environmental factors in the child's development." In each case it was found that the families of the educable mentally retarded children were not representative of the total population, but below (24:144).

The Yakima Public Schools, Yakima, Washington, conducted research which seems to support the assumption that children from economically depressed areas do not do as well in school as children from non-depressed areas. The areas were chosen on the basis of family income, number of welfare recipients, home value, and number of home owners. All of the third and fifth grade children in the Yakima schools were given the Lorge Thorndike Group Intelligence Test. The depressed and non-depressed areas were then compared. The results are shown in Table I.

The data in Table I indicates a mean IQ difference of 9.36 IQ points between children from depressed and non-depressed neighborhoods in the third grade, and a difference of 12.34 IQ points at the fifth grade level.

In the same study the same children were given the Iowa Tests of Basic Skills (ITBS). These results are shown in Table II.

TABLE I

MEAN IQ, t-VALUES, AND PROBABILITIES OF CHANCE DIFFERENCES BETWEEN ECONOMICALLY DEPRESSED AND NON-ECONOMICALLY DEPRESSED ELEMENTARY SCHOOLS ON THE LORGE THORNDIKE GROUP INTELLIGENCE TEST

School	Grade 3 Mean IQ	Grade 3 t	Grade 5 Mean IQ	Grade 5 t
1	94.13	10.43*	93.35	8.92*
2	100.61	5.70*	96.79	6.05*
3	102.30	4.46*	103.44	2.55**
4	99.38	6.59*	95.32	6.83*
5	96.38	8.78*	93.11	7.99*
6	101.57	5.00*	95.75	6.60*
Mean	99.06	6.83*	95.96	6.49*
7	110.82	--	112.98	--
8	107.14	--	105.54	--
9	105.15	--	103.62	--
10	108.67	--	110.82	--
11	109.38	--	107.08	--
12	110.14	--	108.53	--
13	107.67	--	109.56	--
Mean	108.42	--	108.30	--

*Significant at the .0005 level of confidence
**Significant at the .01 level of confidence

TABLE II

MEAN GRADE EQUIVALENT, t-VALUES, AND PROBABILITIES OF CHANCE DIFFERENCES BETWEEN ECONOMICALLY DEPRESSED AND NON-ECONOMICALLY DEPRESSED ELEMENTARY SCHOOLS ON ITBS

School	Grade 4 Mean G.E.	Grade 4 t	Grade 6 Mean G.E.	Grade 6 t
1	3.6	7.56*	5.0	10.00*
2	3.5	8.40*	5.8	5.29*
3	3.6	7.56*	5.7	5.88*
4	4.1	3.36**	6.4	1.77***
5	3.8	5.88*	5.7	5.88*
6	3.6	7.56*	5.4	7.64*
7	3.9	5.04*	5.5	7.05*
Mean	3.7	6.72*	5.6	6.47*
8	4.6	--	7.1	--
9	4.1	--	6.6	--
10	4.1	--	6.3	--
11	4.6	--	6.8	--
12	4.6	--	6.7	--
13	4.5	--	6.5	--
14	4.7	--	6.7	--
Mean	4.5	--	6.7	--

*Significant at the .0005 level of confidence
**Significant at the .005 level of confidence
***Significant at the .05 level of confidence

The data in Table II indicates a mean difference of seven achievement months between depressed and non-depressed fourth grade children, and a mean difference of ten achievements between depressed and non-depressed sixth grade children (23:5).

Larson and Olson recognized the need to identify the culturally deprived child and, in their studies of the deprived child, systematically developed a set of four basic guidelines for use in the identification process (16:131-134).

1. Language Development. These (culturally deprived) children will exhibit academically inadequate receptive and expressive linguistic skills. This linguistic deficiency may lead to inadequate perceptual and conceptual development.

2. Self-Concept. Young culturally children are likely to develop a concept of themselves which will not foster success in school. They will probably learn to devalue themselves as scholars or students.

3. Social Skill. Children from culturally different backgrounds will not come to school with the kinds of social skills expected and valued by their middle-class teachers.

4. Cultural Differences. Most of the children who are defined as culturally deprived come from the lower socio-economic strata and from minority group subcultures. Therefore, they will not only have value systems which differ from those dominant in the public schools, but they may even view their world in ways which are not easily understood by the middle-class teacher.

In support of these findings, Keller, in evaluating the self-perception of the culturally deprived child, found that 55 per cent of these children in the first grade typically express a low self-esteem, drawing unfavorable comparisons between themselves and their school mates. This figure rose to 65 per cent when sixth grade children were tested. She concluded that "if such self-deprecation is representative of the feelings of most young children from lower socio-economic backgrounds, it suggests one potential source of early school failure" (13:827). A major weakness of this study evolves around the failure of the examiner to perform a similar assessment of children from the middle and upper classes. It is possible that the figures she has given for the culturally deprived children are not far from self ratings of middle-class-age peers.

Milner (17:111) feels that the variable most lacking in the background of the typically culturally deprived leading to academic failure is the communication element in the home. He found, for example, major qualitative differences between lower and middle class children when he documented the relationship between reading readiness and the language interaction between parents and children. This documentation was done by examining the levels of communication between the parents and children, i.e. the culturally deprived homes were found to be largely made up of one way communication from the parent to the child in the form of orders or scolding, or simply very

little communication. The conclusion drawn from his work is that lower class children are not as well equipped as middle class children when they come to school because of a lack of language interaction in the home.

Other studies report similar results. Irwin, for example, found that the systematic reading of stories to young, culturally deprived children for fifteen minutes a day made a measurable difference in their speech production (12:190). He failed, however, to relate this speech production by the culturally deprived child to speech production found in the middle or upper class child. It is possible, for instance, that the culturally deprived child's speech production was as quantitative as that of a middle class child before he began.

Gray, in her review of the literature, concluded that the culturally deprived youngster's difficulty in the academically oriented school setting isn't confined to a lowered intellectual efficiency or a language handicap. In a summary of six studies dealing with the motivational level of culturally deprived children, she suggested (9:8-9):

> The typical middle class child is motivated to achieve and specifically to achieve in school work; he is able to persist toward these more distant goals. In addition, the middle class child finds in the school environment the kinds of activities and materials in which he has learned to take an interest. By contrast, the culturally deprived child comes from a situation where he is not motivated to achieve in the sense in which McClelland uses the term (the development of an internalized standard of excellence).

> Particularly this deficit will show up in academic performance, since this is an area that is little valued in his home. He will lack the ability to put off his desires of the moment for more future goals, and possibly will lack persistence toward these goals. In general, the activities which predominate in school will not be those that draw his greatest interest. The culturally deprived child comes to school with a patterning of attitudes that greatly handicap him insofar as successful performance in the typical school is concerned.

It is likely that studies like those mentioned by Gray have been misinterpreted when setting up programs for the culturally deprived child. An obvious, and possibly erroneous conclusion from her summary would suggest that the typical culturally deprived individual is not interested in education. Findings in several studies do not support this conclusion. Riessman, for example, found that over 50 per cent of the white lower socio-economic group and 70 per cent of the Negro group said that education was what they most missed in life (19:10).

> Even more significant is the fact that the respondents supplied the word 'education'; they did not select it from a list of possible choices provided by the interviewer. This would seem to mean that education, at some level, not only is important to this group, but also is in the forefront of their minds (19:10).

This is not an isolated finding. Sears and Maccoby found that parents of culturally deprived children are more concerned that their children do well in elementary school than are middle class parents (21:430). This concern may be due to the fact that middle class children are doing better

and require less attention, but does indicate a degree of interest in education on the part of the culturally deprived parent.

These findings do not appear to be related to interest alone on the part of the culturally deprived. Durkin reported that over 55 per cent of the children who had learned to read before coming to school came from lower socio-economic homes. . .

> family interviews consistently revealed a ready, even enthusiastic acceptance of pre-school reading ability on the part of the lower-class families; and, to the contrary, something of a guilt feeling reaction from the higher classes (6).

These seemingly contradictory findings appear to indicate that the failure of existing educational programs to educate culturally deprived children to satisfactory standards is something more than a lack of motivation or interest. Riessman suggests that the failure may be caused by a difference in goals as projected by the middle class educator and the lower class individual seeking the education (19:15).

> Education is desired by the culturally deprived more than is generally recognized. Different segments probably want education for different reasons. Some desire it for vocational improvement, others so that they will not be deceived as easily in the modern world, still others because of their respect for science. The difficulty in the school system arises because the school stresses education for its own sake and as a means for the development of self-expression--orientations which the culturally deprived do not share. Furthermore, the discrimination unwittingly practiced in the school aggravates the problems, and produces the schism between school and education.

Literature Related to Programs for the Culturally Deprived

There is relatively little literature available pertaining to programs which have dealt primarily with educating the culturally disadvantaged preschool child. Only recently, with federal stimulation, has there been a tendency to provide preschool training for these individuals on a widespread basis.

There is information available on one such study, however, conducted at the Indiana University Medical School by Dr. Gerald Alpern, Director of Research. In the study 15 Negro children, age 4 and 5 years, were given seven months of preschool training, and 15 were not given the training. All were tested before and after the training program. Alpern stated, "The results of the study, to date, are concluded to bring into serious question assumptions concerning the benefits to poverty-stricken children of a nursery school enrichment program" (1:17). Alpern could find no evidence that preschool training "could significantly alter the attitudes and learning characteristics of lower class children," or could affect the intelligence of the children, and in none of the comparisons of verbal skills, information, and school readiness "were there any significant differences between the group that attended nursery school and the group which did not attend" (1:17).

Gray, on the other hand, found that there was a significant intellectual increase among children who received

preschool training in a study conducted by the George Peabody College for Teachers. She stated, however, . . . "that the large gains of the group with whom they worked over the summer may be in part the result of the increased ease with which the children learned to relate to strange adults, and the reinforcement procedures used during the summer that probably served to increase the children's task orientation" (9:6).

The seemingly converse findings indicated by the two above studies indicates a need to effectively evaluate the present program for culturally deprived preschool children being conducted throughout the nation. Perhaps such evaluation will serve to highlight those techniques and methodologies which are most helpful in providing the deprived with the experiences they need.

CHAPTER III

RESEARCH DESIGN AND PROCEDURE

RESEARCH DESIGN

This study was concerned with the relative effectiveness of a federally sponsored preschool training program. Subjects included in this study were children from culturally deprived home backgrounds who received preschool training, children from culturally deprived home backgrounds who did not receive preschool training, and children from non-culturally deprived home backgrounds who did not receive preschool training.

An attempt was made to assess measurable growth of these children in three different areas: (1) Intellectual growth as assessed by pre-training and post-training administrations of the Peabody Picture Vocabulary Test, intellectual ability as assessed by the SRA Primary Mental Abilities Test, (2) visual perceptual growth as assessed by pre-training and post-training administrations of the Bender-Gestalt Design Test, and (3) social growth as assessed by an adaptation of the San Francisco Social Maturity Scale.

PROCEDURE

Selection of the Sample

The data for this study were obtained from children entering first grade in the Yakima Public School System,

during the school year 1965-66. Children selected for the experimental culturally deprived groups came from home backgrounds which had an annual income of less than $3,500.00. Children selected for the experimental non-culturally deprived groups were from home backgrounds which had an annual family income of more than $6,500.00.

Grouping of the Sample

Three groups of children participated in this study: (1) culturally deprived children who received preschool summer training, (2) culturally deprived children who did not receive preschool summer training, and, (3) non-culturally deprived children who did not receive preschool summer training. Family income for children in group one was determined during an interview which was conducted with each of the parents of children participating in the summer training program. Family income for children in groups two and three was determined by parent occupation as listed in the school records. The average income by parent occupation as listed in the 1964 United States Bureau of Census Reports was used to determine the $3,500 and under, and $6,500 and over criteria selection points.

Originally, 60 children were selected to participate in the initial portion of this study. This number was reduced to 42 because of family moves and general unavailability during the post-training testing period. More specifically there were 23 children in the experimental group (culturally

deprived), and 19 children in the control group (non-culturally deprived). These children were involved in a testing program designed to assess intellectual ability and visual perceptual development on a pre-training, post-training basis.

There were 74 children involved in the second portion of this study. These children were rated by their first grade teachers in three different elementary schools in the district. Two of the schools were located in culturally deprived areas, and one of the buildings was located in a non-culturally deprived area. The assumption, based on the findings of Della-Dora, was made that children in the selected classes represented the area immediately surrounding the school (5:230). The ratings were done in the general area of social maturity as measured by an adapted version of a social maturity rating scale. The children involved in this portion of the study were formed into three groups: (1) 21 culturally deprived children who received preschool training, (2) 23 culturally deprived children who did not receive preschool training, and (3) 30 non-culturally deprived children who did not receive preschool training.

There were 60 culturally deprived children involved in the final portion of this study. Intellectual ability was again the variable which was assessed. Thirty of the children involved had received preschool training and 30 had not received preschool training. Actual selection was made by using a table of random numbers (3:502).

The children in this study who were from culturally deprived home backgrounds and did not receive preschool training were not excluded from the program. They either were not in Yakima at the time, or were not available for some other undefined reason. Every effort was made by the staff and community to include every eligible youngster in the program. Too, all of the groups consisted of an equal number of boys and girls.

Tests Used in the Study

The test battery utilized in this study consisted of an individual intelligence test, a group intelligence test, and individual visual perceptual test, and a social maturity rating scale. These tests were:

(1) The Peabody Picture Vocabulary Test: This test provides a standardized estimate of a subject's verbal intelligence through measuring his hearing vocabulary (7:25).

(2) The SRA Primary Mental Abilities Test: This is a group test designed to provide a multiple-factor analysis of intelligence.

(3) The Bender-Gestalt Test: This is a design test which, among other things, gives a fairly good indication of a child's visual perceptual acuity when scored by the Koppitz Developmental Scoring System (2:12-37).

(4) An adaptation of the San Francisco Social Maturity Scale: This is a forced choice rating scale designed to give

an indication of a child's social maturity in a variety of areas.

The Peabody Picture Vocabulary Test and the Bender-Gestalt Design Test were utilized in the initial portion of the study. They were administered to the experimental group (culturally deprived children who received preschool training), and the control group (non-culturally deprived children who did not receive preschool training) during the first week of the training program and again during the final week of the training program. Form A of the Peabody Picture Vocabulary Test was administered to half of both the experimental and control groups during the pre-training testing, and Form B was administered to the other half of each group. This procedure was reversed during the post-training administrations.

The SRA Primary Mental Abilities Test was administered to all first grade students in the Yakima Schools as part of a district policy. This test was given during the fourth week of school. The results used in this study were selected randomly with the sole selection criterion being that of cultural deprivation.

The adaptation of the San Francisco Social Maturity Scale was used in this study to assess social maturity. Three first grade teachers from three different elementary schools in the district did the actual rating of their first grade students. They were told that the maturity scale was a new instrument and was being considered as an implement to

the existing psychological testing program. Two of the teachers had an almost even distribution of students in their rooms who were culturally deprived and had received preschool training, and who were culturally deprived and had not received preschool training. The other teacher had non-culturally deprived students who had not participated in preschool training.

Because the instrument used in this study was an adapted version of the San Francisco Social Maturity Scale, it was necessary to obtain some indication of its reliability. This was accomplished by using Pearson's split-half reliability technique (3:391). It was found after thirty administrations that the instrument had a split-half reliability coefficient of .63. This coefficient was found to have a *t*-value of 4.22, significant at the .001 level of confidence.

Description of the Training Program

The training program was geared toward the total development of the child. Attention was given to the physical, mental, social, and emotional aspects of each youngster.

> Imperative to the success of the program was the development of good rapport between the child and the teacher, with the teacher oriented toward helping the child develop a positive self-image and providing a richness of experience. Academic orientation was de-emphasized (23:7).

Daily activities included:

(1) A multitude of language development activities (storytimes, simple creative dramatics, opportunities to talk

and share, games, rhymes, finger plays, etc.).

(2) Activities for physical development (games, gross muscle development, etc.).

(3) Opportunities for rhythms and music.

(4) Art activities suitable to age level.

(5) Field trips and many types of enrichment experiences.

(6) Lunch and rest time.

Guidance for the program was provided by 1.5 elementary school guidance personnel. They worked closely with the director, teachers, volunteers, parents, and the community agencies which were involved in the program. A large portion of their time was spent on an in-service program and parent contacts.

A major emphasis of the program was the involvement of the parents. This emphasis was facilitated by:

(1) The contacts made by the guidance consultants.

(2) The teachers who were oriented to work closely with the parents. Parent-teacher conferences, both formal and informal were held.

(3) The nurse devoted the major portion of her time to work with parents.

(4) Parents were closely involved with the medical personnel participating in the program regarding physical examinations, dental examinations, and appropriate follow-up care.

(5) Parents were involved with field trips, lunch serving, and other activities with the children and teacher.

(6) One full time parent from the community worked closely with each teacher on a paid basis.

The training was conducted during the summer months of 1965, and was eight full weeks in length. The participating teachers spent an additional week attending the University of Washington, Seattle, Washington, for orientation activity prior to the program.

Statistical Procedure

The means and standard deviations were calculated for each of the derived variables (intellectual growth, visual perceptual growth, and social maturity). An intra-group comparison was made of each group in terms of significant change, both experimental and control, and the differences between each of the experimental and control groups were tested for statistical significance.

The statistic *t* was used to determine significance in terms of intra-group and inter-group differences and change.

CHAPTER IV

ANALYSIS AND DISCUSSION OF THE DATA

ANALYSIS OF THE DATA

An initial assumption made prior to this study was that non-culturally deprived children would perform significantly better than culturally deprived children in the areas measured by this study. These areas were intellectual ability, visual perceptual development, and social maturity. The attempts to validate this assumption are summarized in Table III.

In Table III, the means, standard deviations, t-values, and probabilities of chance differences between the experimental and control groups are given for each pre-training testing situation. In effect, a comparison was made between culturally deprived children and non-culturally deprived children in intellectual ability as measured by the Peabody Picture Vocabulary Test, visual perceptual acuity as measured by the Bender-Gestalt Design Test, and social maturity as measured by an adapted version of the San Francisco Social Maturity Scale.

An analysis of the data given in Table III indicates that the non-culturally deprived children (control group) involved in this study performed significantly higher than the culturally deprived children (experimental group) on both the Peabody Picture Vocabulary Test and the Bender-Gestalt Design

TABLE III

MEANS, STANDARD DEVIATIONS, t-VALUES, AND PROBABILITIES OF CHANCE DIFFERENCES BETWEEN THE EXPERIMENTAL AND CONTROL GROUPS PERFORMANCE IN THE AREAS OF INTELLECTUAL ABILITY, VISUAL PERCEPTUAL DEVELOPMENT, AND SOCIAL MATURITY

Group	N	Mean	S.D.	t[a]
Control Group (PPVT)	19	109.52	14.17	2.96*
Experimental Group (PPVT)	23	96.65	11.26	
Control Group (Bender-Gestalt)	19	8.26	4.74	2.67*
Experimental Group (Bender-Gestalt)	23	12.35	5.20	
Control Group (Social Maturity)	21	63.30	10.33	.47 (not sig.)
Experimental Group (Social Maturity)	30	61.86	10.89	

[a]The t was computed with N_1+N_2-2 degrees of freedom.

*A t of 1.70 needed to reach the .05 level of confidence.

Test. The non-culturally deprived children were not, however, rated significantly higher in terms of social maturity as assessed by the adapted version of the San Francisco Social Maturity Scale.

The initial portion of this study consisted of assessing the intellectual ability of each child selected for this study who was to receive preschool training. The non-culturally deprived children who did not receive preschool training were also tested using the same procedures. The testing was repeated at the end of the eight-week training program for both groups. In Table IV, pre- and post-training means, standard deviations, and t-tests for the Peabody Picture Vocabulary Test (PPVT) are given for both the Experimental and Control groups. There was no statistically significant increase or decrease in intellectual growth for either group.

Table V presents pre- and post-test mean differences, standard deviations, t-values and the probability of a significant intellectual change of one group over the other is given. In analyzing the mean difference in growth it was found that the experimental group did not significantly increase their intellectual ability scores over the control group as measured by the Peabody Picture Vocabulary Test.

In Table VI, the pre- and post-test means, standard deviations, and t-values for the Bender-Gestalt Design Test are given for both the experimental and control groups. The improved performance of both groups was statistically significant.

TABLE IV

MEAN IQ, STANDARD DEVIATIONS, t-VALUES AND PROBABILITIES OF CHANCE DIFFERENCES IN THE PRE-TEST, POST-TEST MEANS OF THE CONTROL AND EXPERIMENTAL GROUPS ON THE PPVT

Group	N	Mean	S.D.	t[a]
Control Group				
Pre-training Scores	19	109.52	14.17	.58
Post-training Scores	19	106.63	14.41	
Experimental Group				
Pre-training Scores	23	96.65	11.26	.46 (not sig.)
Post-training Scores	23	97.65	10.60	

[a]The t was computed with N-1 degrees of freedom.

TABLE V

PRE- AND POST-TEST MEAN DIFFERENCES, STANDARD DEVIATIONS, *t*-VALUES, AND PROBABILITY OF CHANCE INTER-GROUP DIFFERENCES ON PPVT PERFORMANCES

Group	N	Mean Dif.	S.D.	*t*[a]
Control Group	19	-1.05	4.58	.69* (not sig.)
Experimental Group	23	+ .74	3.39	

[a]The *t* was computed with N_1+N_2-2 degrees of freedom.

TABLE VI

MEAN RAW SCORES, STANDARD DEVIATIONS, t-VALUES, AND PROBABILITIES OF CHANCE DIFFERENCES IN THE PRE-TEST, POST-TEST RAW SCORES ON THE BENDER-GESTALT DESIGN TEST FOR THE EXPERIMENTAL AND CONTROL GROUPS

Group	N	Mean	S.D.	t[a]
Control Group				
Pre-test Scores	19	8.26	4.74	1.74*
Post-test Scores	19	7.26	5.29	
Experimental Group				
Pre-training Scores	23	12.34	5.20	3.59*
Post-training Scores	23	10.34	5.74	

[a]The t was computed with N-1 degrees of freedom.
*A t of 1.73 was needed to reach the .05 level of confidence.

In Table VII, the mean difference, standard deviations, t-values and probabilities of chance differences between the experimental and control group's performances on the Bender-Gestalt Test were given. The experimental group did not significantly improve its performance over the control group on the basis of the inter-group comparison.

In Table VIII, the mean raw scores, standard deviations, t-values and probabilities for chance differences between the ratings of the experimental and control group's social maturity as measured by the adapted version of the San Francisco Social Maturity Scale are given. These groups were both from culturally deprived backgrounds. The experimental group received preschool training and the control group did not. The mean raw score and standard deviation is also given for an additional control group; these children were non-culturally deprived and did not receive preschool summer training. No statistically significant differences were found.

Approximately one month after the start of the 1965 school year, an additional control and experimental group was selected to further examine the effect of preschool training on intellectual efficiency. The SRA Primary Mental Abilities Test was utilized. Selection of the groups was made on a random basis with the sole criterion for selection being that of living in a family which had a total income of less than $3,500.00 per year. The children in the experimental group

TABLE VII

MEAN DIFFERENCE, STANDARD DEVIATIONS, t-VALUES, AND PROBABILITY OF CHANCE DIFFERENCE BETWEEN PERFORMANCES OF EXPERIMENTAL AND CONTROL GROUPS ON THE BENDER-GESTALT DESIGN TEST

Group	N	Mean Dif.	S.D.	$\underline{t}^a$
Control Group	19	2.00	3.05	1.12* (not sig.)
Experimental Group	23	1.00	2.76	

[a]The $\underline{t}$ was computed with N_1+N_2-2 degrees of freedom.

TABLE VIII

MEAN RAW SCORES, STANDARD DEVIATIONS, t-VALUES, AND PROBABILITY OF CHANCE DIFFERENCES BETWEEN THE EXPERIMENTAL AND CONTROL GROUP'S PERFORMANCES ON THE ADAPTED VERSION OF THE SAN FRANCISCO SOCIAL MATURITY SCALE

Group	N	Mean	S.D.	t[a]
Control Group	23	60.52	9.68	.43* (not sig.)
Experimental Group	21	61.86	10.88	

[a]The t was computed with N_1+N_2-2 degrees of freedom.

received preschool summer training and the children in the control group did not. In Table IX, the mean IQ, standard deviations, t-values, and probability for chance differences in the means are given for the control and experimental groups. There were no statistically significant differences.

DISCUSSION OF THE DATA

Discussion of PPVT Data

When the Peabody Picture Vocabulary Test was administered to 23 children who were culturally deprived and who received preschool summer training, it was found that there was no statistically significant intellectual growth over the eight-week training period. The test was administered on a pre-training, post-training basis. The Peabody Picture Vocabulary Test was also administered to a second group of 19 children who were non-culturally deprived and who did not receive preschool summer training. Again, it was found that there was no statistically significant change in intellectual ability.

The two groups were then compared with each other by using mean differences of the pre-training, post-training scores of each of the groups. It was found that the children who received preschool summer training did not significantly increase their intellectual abilities over children who did not receive preschool summer training.

TABLE IX

MEAN IQ, STANDARD DEVIATIONS, t-VALUES, AND PROBABILITY FOR CHANCE DIFFERENCES IN THE MEANS FOR THE EXPERIMENTAL AND CONTROL GROUP'S PERFORMANCES ON THE SRA PRIMARY MENTAL ABILITIES TEST

Group	N	Mean	S.D.	t[a]
Control Group	30	94.76	12.54	.27 (not sig.)
Experimental Group	30	95.60	11.79	

[a]The t was computed with N_1+N_2-2 degrees of freedom.

The study also revealed that, while there were no significant changes in intellectual efficiency manifested by either group, the control group (non-culturally deprived) performed significantly higher than the experimental group (culturally deprived) on the Peabody Picture Vocabulary Test. However, the preschool training experienced by the experimental group did not significantly effect this difference.

Discussion of Bender-Gestalt Data

The Bender-Gestalt Design Test was used in this study to assess the visual perceptual development of the children participating in the program. When it was administered to a group of 23 children who received preschool summer training on a pre-training, post-training basis, it was found that there was a statistically significant increase in visual perceptual development. It is suspected that this significant growth can be partially attributed to maturation and partially attributed to the fact that the children participating in the program received specific visual perceptual training.

The test was also administered to a group of 19 children who were not culturally deprived and who did not receive preschool summer training. It was found that they, too, had a statistically significant increase in visual perceptual development as assessed by the Bender-Gestalt Design Test. This can only be attributed to maturation and normal summer play experience.

When the two groups were compared on an inter-group basis, it was found that there was no statistically significant difference in the visual perceptual growth of the experimental group over the control group.

Discussion of the San Francisco Social Maturity Scale Data

The adapted version of the San Francisco Social Maturity Scale was used in this study to assess any change in social development as a result of preschool summer training. Teachers who participated in rating the children did not know who had received preschool training except in isolated cases. There were 74 children involved in this portion of the study. One control group had 30 children, one control group had 23 children, and the experimental group had 21 children. When the ratings were made it was found that children from culturally deprived home backgrounds were not rated significantly lower than children from non-culturally deprived home backgrounds. Neither was there a statistically significant difference between children who were culturally deprived and received preschool training, and those who were culturally deprived and did not receive preschool training.

CHAPTER V

SUMMARY AND IMPLICATIONS

One of the most perplexing problems facing the nation today is the task of educating the socio-economically disadvantaged child. When to start the educational process, which educational techniques to use, and which areas to emphasize are questions which must be answered if beginning successes in the education of the culturally deprived are to be realized. If these questions can be answered, a promising step toward helping the culturally deprived child help himself will have been realized.

This study involved three groups of children: (1) culturally deprived children who received preschool summer training, (2) culturally deprived children who did not receive preschool summer training, and (3) non-culturally deprived children who did not receive preschool summer training. The total N was 176. The actual selection of these three groups, when it had been determined whether or not the selection criteria had been met, was made on a random basis.

An investigation was first made on the differences between culturally deprived children and non-culturally deprived children in the areas of intellectual development and visual perceptual development. These findings were obtained from the pre-training testing. It was found that the non-culturally deprived children scored significantly higher

(.05 level of confidence) than the culturally deprived children in both of the aforementioned areas. Toward the end of the training program, both groups were again tested using the same procedures. The data indicated that there were no statistically significant changes in either group.

Approximately one month after the start of the 1965-66 school year, three first grade teachers were asked to rate their first grade children in terms of social maturity using a standardized social maturity scale. Again, the children in these three first grade rooms were culturally deprived with preschool training, culturally deprived without preschool training, and non-culturally deprived without preschool training. The teachers of the culturally deprived children were unaware as to who had received preschool training. The data indicated that there were no statistically significant differences between any of the three groups.

During the first month of school all first grade children in the system were administered a group intelligence test as part of a district policy. The data obtained from this testing indicated that there were no statistically significant differences between the performances of culturally deprived children who had received preschool training, and culturally deprived children who had not received preschool training.

The one variable assessed by this study which did show statistically significant growth was visual perceptual development.

This significant growth was experienced by both groups, however. As a consequence, the growth experienced by the culturally deprived children receiving preschool summer training cannot be directly attributed to the specific training made available by the program. The data obtained from the non-culturally deprived children who did not receive preschool training seems to indicate that maturation and normal summer play experience contributes equally to visual perceptual development.

IMPLICATIONS

On the basis of the findings in this study it would seem that the preschool summer training program conducted in Yakima, Washington, failed to precipitate a positive change in the children participating in the program in the specific areas of intellectual ability, visual perceptual development, and social maturity. These results can be explained in at least three ways: (1) the program curriculum did not sufficiently meet the defined needs of the children, (2) the program wasn't of sufficient length to effect the desired growth patterns, or (3) the children weren't involved in the training at the appropriate age level. These interpretations seem to be compatible with the literature regarding the education of the culturally deprived child.

It should be emphasized at this point that this study was an attempt to evaluate only three variables of a

multi-variable program. Some of the aspired program goals inherent in the training, but not a part of this research, were the children's self-concepts or self-perceptions, their attitudes toward adults in general and specifically toward teachers, their attitudes toward school, their physical and dental health, and their knowledge of self-care. Neither did this study address itself to the attitudes in the community toward the school and educational process in general as a result of the gross adult participation in the training program. Expressions by the training staff, adults, physicians, and others concerned with the program would seem to indicate that these goals were more nearly attained than those variables which were assessed by this study.

Certainly an attempt to measure and evaluate these more intangible aspects of the training program should be made before abandoning similar training efforts in the future. The program was appropriately meant to be a beginning effort in the elimination of some of the negative elements inherent in the culturally deprived environment.

BIBLIOGRAPHY

BIBLIOGRAPHY

1. Alpern, G. "The Failure of a Nursery School Enrichment Program for Culturally Disadvantaged Children," U.S. News and World Report, 16-17, November, 1965.

2. Bender, L. A Visual Motor Gestalt Test and Its Clinical Use. American Orthopsychiatric Association, Research Monographs Number 3. New York: The American Orthopsychiatric Association, 1938.

3. Blommers, P. and E. F. Lindquist. Elementary Statistical Methods. Boston: Houghton-Mifflin Company, 1960. 528 pp.

4. Bloom, B. Stability and Change in Human Characteristics. New York: John Wiley and Sons, Inc., 1964.

5. Della-Dora, D. "The Culturally Disadvantaged: Further Observations," Journal of Exceptional Children, 29: 226-236, January, 1963.

6. Durkin, D. "Children Who Learn to Read Prior to First Grade: A Second-Year Report." Paper presented at American Educational Research Associated Meeting, Chicago: February, 1961.

7. Dunn, L. M. The Peabody Picture Vocabulary Test. Minneapolis: American Guidance Service, Inc., 1959. 32 pp.

8. Frostig, M. and D. Horne. Frostig Program for the Development of Visual Perception. Chicago: Follet Publishing Company, 1964. 168 pp.

9. Gray, S. "The Performance of the Culturally Deprived Child: Contributing Variables," Today's Educational Programs for Culturally Deprived Children, Unpublished.

10. Hebb, D. O. "A Neuropsychological Theory," Psychology: A Study of a Science, 1:622-643, 1:622-643. New York: McGraw-Hill, 1959.

11. Heffernan, H. Enhancing the Lives of Young Children. (Unpublished).

12. Irwin, O.C. "Infant Speech: Effect of Systematic Reading of Stories," Journal of Speech and Hearing Research, 3:95-112, March, 1951.

13. Keller, S. "The Social World of the Urban Slum Child: Some Early Findings," American Journal of Orthopsychiatry, 33:823-831, October, 1963.

14. Kephart, N.C. The Slow Learner in the Classroom. Columbus, Ohio: Charles E. Merrill Books, 1960.

15. Koppitz, E.M. The Bender Gestalt Test for Young Children. New York: Grune and Stratton, Inc., 1964. 195 pp.

16. Larson, R. and R. L. Olson. "A Method of Identifying Culturally Deprived Kindergarten Children," Journal of Exceptional Children, 30:131-134, November, 1963.

17. Milner, E. "A Study of the Relationship Between Reading Readiness in Grade One School Children and Patterns of Parent-Child Interaction," Journal of Child Development, 22:189-190, 1960.

18. Piaget, J. The Origins of Intelligence in Children. New York: International Universal Press, 1952.

19. Reissman, F. The Culturally Deprived Child. New York: Harper and Row, Publishers, 1962. 140 pp.

20. Riese, H. Heal the Hurt Child. Chicago: The University of Chicago Press, 1962. 615 pp.

21. Sears, R. and E. Maccoby. Patterns of Child Rearing. Evanston: Row, Peterson and Company, 1957.

22. Strang, R. "The Linguistically Handicapped: Learning English as a Second Language--A Theoretical Model," Journal of Exceptional Children, 30:12-18, September, 1963.

23. The Differences in Performances on Group Achievement and Intelligence Tests in the Yakima Public Schools. (Unpublished research done as partial requirement for Federal support in economically depressed areas).

24. Wakefield, R.A. "An Investigation of the Family Backgrounds of Educable Mentally Retarded Children in Special Classes." Journal of Exceptional Children, 31:143-146, November, 1964.

25. Walker, H.M., and J. Lev. Statistical Inference. New York: Henry Holt and Company, 1953. 508 pp.

APPENDICES

APPENDIX A

APPENDIX A

FREQUENCY DISTRIBUTION FOR PPVT

Experimental Group		Control Group	
PPVT #1	PPVT #2	PPVT #1	PPVT #2
119	106	142	137
119	112	132	127
108	110	127	119
107	103	123	119
107	108	119	111
103	108	115	115
103	89	114	109
103	106	114	121
100	97	112	97
99	92	106	109
99	102	106	101
98	102	102	108
98	102	102	93
97	106	100	92
93	105	97	85
89	101	95	95
87	78	95	113
85	76	92	94
85	89	88	81
82	89		
82	89		
82	87		
78	89		
N=23	N=23	N=19	N=19
X=96.65	X=97.65	X=109.52	X=106.63
SD=11.26	SD=10.60	SD=14.17	SD=14.41

APPENDIX B

APPENDIX B

FREQUENCY DISTRIBUTION FOR BENDER-GESTALT

Experimental Group		Control Group	
B-G #1	B-G #2	B-G #1	B-G #2
1	0	0	0
6	2	2	0
7	5	3	4
7	4	3	5
8	5	3	3
9	4	4	3
9	7	7	5
9	10	7	7
10	8	7	2
10	7	9	6
11	10	10	7
12	12	10	4
12	10	11	10
13	9	12	9
14	9	12	16
14	16	13	11
17	15	14	11
17	19	14	16
17	16	16	19
19	19		
20	12		
21	18		
21	21		
N=23	N=23	N=19	N=19
X=12.34	X=10.34	X=8.26	X=7.26
SD=5.20	SD=5.74	SD=4.74	SD=5.29

APPENDIX C

APPENDIX C

RAW SCORES ON SAN FRANCISCO SOCIAL MATURITY SCALE

Experimental Group	Control Group 1	Control Group 2
77	77	79
76	75	76
74	74	76
74	74	74
74	71	73
71	66	72
69	66	72
67	64	71
67	64	71
65	63	70
64	63	69
62	62	69
60	59	69
58	58	68
57	58	68
53	57	65
51	56	64
48	50	63
47	50	61
45	49	60
40	48	60
	45	57
	43	55
		55
		53
		52
		47
		46
		44
		40
N=21	N=23	N=30
X=61.86	X=60.52	X=63.30
SD=10.88	SD=9.68	SD=10.33