

ABSTRACT 543

A STUDY TO DETERMINE WHETHER THE ADVANTAGES GAINED IN THE
EIGHT WEEK SUMMER HEAD START PROGRAM IN CARTER COUNTY
CONTINUED THROUGH SECOND GRADE

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STATEMENT OF THE PROBLEM

The purpose of the study was to determine the carry-over values derived from the first Head Start Program in Carter County two years after those activities had been experienced.

SOURCES OF DATA

In order to obtain information which would be appropriate and of sufficient quantity for the best interests of this study it was deemed necessary to secure tests from a multiplicity of sources. The California Achievement and California Mental Maturity tests which were administered to the First Grade children enrolled in Carter County Schools during the 1965-1966 school year were obtained from the office of Dr. Mary Northcutt, Professor of Education, Morehead State University. A list of students who were eligible participants of Head Start was also obtained from this office.

Additional data were derived from the California Achievement tests which were administered to Second Grade children in the Carter County

Schools during the 1966-1967 school year.

The California Mental Maturity tests which were administered to all First Grade children in the Carter County Schools during the school year of 1965-1966 were not administered again during the 1966-1967 school year. Hence, only the 1965-1966 IQ scores were used for the purposes of this research.

A roster of the children who were enrolled in the 1965 Head Start Program in Carter County was obtained from Mrs. Ollie Rogers, Local Project Director for the Carter County Head Start Program. In like manner, a list of the teachers involved in the 1965 Head Start Program was also obtained from Mrs. Ollie Rogers.

Another source of data was a list of First Grade children enrolled in the Carter County Schools who were retained during the 1965-1966 school year. A list of Second Grade children enrolled in the Carter County Schools that were retained during the 1966-1967 school year was developed. Both of these lists were obtained from Miss Ruby Flannery, Director of Pupil Personnel for the Carter County Schools.

METHODS AND PROCEDURES

The data which were obtained through the steps and procedures previously described were accumulated and compiled in tables and figures for reasons of logic and expediency of treatment. For example, the data obtained from the California Achievement test given in the 1965-1966,

1966-1967 school year was confined to raw scores and entered into a table. Likewise the raw scores from the California Test of Mental Maturity given during the 1965-1966 school year were tabulated and entered into a table.

A two by two analysis of variance of California Achievement Test gain scores, adjusted for California Test Mental Maturity scores, was performed. The two factors were; Head Start participation and sex.

The procedure used for the analysis of variance was that of Winer.

MAJOR FINDINGS

The statistical treatment of the data revealed that Head Start Participation and Sex, did not yield a significant "F" ratio.

Consequently, the findings indicate that no evidence was found that changes in California Achievement Test scores could be attributed to participation in the Head Start Program.

Inspection of the mean California Achievement Test gain scores revealed that the pupils who did not attend the Head Start Program achieved a higher mean gain (52.86) than those who did attend (44.05) Head Start.

CONCLUSIONS

After the accumulation of the data which were collected in the processes of this study and an analysis of these data the following conclusions appear to be warranted:

1. There may well have been carry-over values from the Head Start Program that were not tested nor measured.
2. The instruments involved in the testing procedures were not designed to measure the type of carry-over values conceivable inherent with Head Start Programs.
3. Certain types of Head Start gains appear to be quickly lost in regular school.
4. There are striking similarities in the results of the National evaluation of Head Start gains.

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CONTINUED THROUGH SECOND GRADE

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Presented to
the Faculty of the School of Education
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In Partial Fulfillment
of the Requirements for the Degree
Master of Arts in Education

by
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M. P. H.

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CHAPTER I

INTRODUCTION

A STUDY TO DETERMINE WHETHER THE ADVANTAGES GAINED IN THE EIGHT WEEK SUMMER HEAD START PROGRAM IN CARTER COUNTY CONTINUED THROUGH SECOND GRADE

I. STATEMENT OF THE PROBLEM

The purpose of the study was to determine the carry-over values derived from the first Head Start Program in Carter County two years after those activities had been experienced.

II. HYPOTHESIS

The hypothesis of this study was that there are "carry-over" values to be derived from the first Head Start Program in Carter County through Second Grade.

III. IMPORTANCE OF THE STUDY

There has been a difference of opinion among the teachers of Carter County concerning the effectiveness of Project Head Start on the children of the county. The first eight-week Head Start Program in the Carter County Schools was initiated in the summer of 1965. Up to this date a very limited amount of research has been done concerning the carry over values or long range results from the first Head Start Programs.

There is a growing conviction among educational leaders that the

years from three through five can determine the degree of success in grammar school.¹ This view is substantiated by Harvard's Jerome S. Bruner who suggests that any subject can be taught effectively in some intellectually honest form to any child at any age of development.² He further states that:

Kindergarten experience has long been assumed to play an important role in the preparation of children for first grade. Generally children who have attended kindergarten are considered to be more mature than those who have not had this experience.³

Thus it is that kindergarten training has been considered valuable as a prerequisite for a successful, well-rounded education.

The 1960 White House Conference, composed of 700 delegates recommended that every elementary school should have a kindergarten by the end of the 1960's.⁴ Yet many areas, such as Carter County, do not offer kindergarten training today. Public funds are available for kindergartens in twenty-seven states; yet unfortunately more kindergartens are available in urban than rural areas.⁵

¹"Head Start Its Pressures and Rewards," Newsweek, LXVII (May 16, 1966), p. 109.

²Ibid. ³Ibid.

⁴Neath, Headley, The Kindergarten: Its Place in the Program of Education, New York, The Center for Applied Research in Education, Inc., 1965, pp. 19-20.

⁵A. K. Steiner, "A Report on State Laws: Early American Education," School Life, XXXIX, 8 (1957), pp. 7-10.

The Head Start program could be called a substitute kindergarten. Head Start Children are given experiences which will enrich their background and their understandings. These experiences should subsequently enable the culturally disadvantaged child to more successfully handle formal school work.

IV. LIMITATIONS OF THE STUDY

In order that the study would be kept within the desired limits the following limitations were established:

1. Thirteen Carter County elementary schools comprised the area included.
2. The Head Start Program which was initiated in the summer of 1965 was used.
3. The collection of data was limited to the years of 1966 and 1967.
4. Only those students attending the First Grade in the 1965-1966 school year were included in the study.
5. Only those students attending the Second Grade in the 1966-1967 school year were included in the study.
6. The study does not accept the responsibility for the ascertainment of the reasons for the results.

V. DEFINITION OF TERMS

In the study the following terms are defined as explained below:

Kindergarten. An educational institution or section of a school system, devoted to the education of small children usually from four to six years of age; characterized by organized play activities having educational, socializing values, by opportunities for self-expression

and training in how to work and live together harmoniously and by an environment, materials, curriculum and program carefully selected to provide for child growth and development.⁶

Carry over. To hold over for another season, to persist from one stage to another or from one sphere of activity to another.⁷

Continuing. Lasting, enduring.⁸

Values. To rate or scale in usefulness, importance or general worth a relative worth, utility or importance, degree of excellence.⁹

Advantages. Any condition, circumstance, opportunity, or means, particularly favorable to success, or to any desired end.¹⁰

Carter County. A rural county in Northeastern Kentucky with a population of approximately 20,817 inhabitants. The county's economy is based largely on agriculture.

VI. BACKGROUND FOR THE STUDY

Historically, Project Head Start was launched in February, 1965 by its Honorary Chairman, Mrs. Lyndon B. Johnson. Dr. Julius B. Richmond was selected as national project director. The 1965 summer program was designed to reach 100,000 children, but had the effect of reaching more than 561,000 young people.

⁶Carter V. Good, Dictionary of Education (New York: McGraw-Hill Book Company, Inc., 1945), p. 232.

⁷Webster's Third New International Dictionary (Springfield, Massachusetts, G. & C. Merriam Company, 1964), p. 344.

⁸Ibid., p. 493. ⁹Ibid., p. 2530. ¹⁰Ibid., p. 25.

Head Start was a seven or eight week program for culturally or economically deprived children in disadvantaged areas who were eligible for admission to school in September. These children came from overcrowded, barren or one parent homes.

Generally these children had little or no access to books, pencils, blocks, crayons, scissors, toys and puzzles which are so familiar to children of middle-class families. They didn't know the names of colors as middle-class children tend to do.

By definition,

Head Start refers to the opportunity given disadvantaged pre-school children and their families to participate in a comprehensive, Child Development Center program to give them a "head start" in warding off the damaging effects of poverty, whether it be poverty of health, food, human relationships, material necessities, or opportunities for rich learning experiences.¹¹

Woodruff defined Project Head Start as a program to help children get ready for school through good health care and through having a pleasurable learning experience during the summer.¹²

Several years ago, Latham and Sugg as consultant and director, respectively for the North Carolina Comprehensive School Improvement Program did a pilot study under the auspices of the Ford Foundation

¹¹C. R. Hudson, "What We Mean by Head Start," Teachers College Journal, LXXVII (October, 1965), p. 8.

¹²M. D. Woodruff, "You Might Like to Know," New York State Education, LII (June, 1965), p. 10.

for Project Head Start.¹³ Following this pilot study statistical analyses were made over a 12 month period of time which tend to substantiate the validity of the Head Start Program with respect to carry over values of pre-school experiences and these results are definitely related to and present implications for the Head Start programs which have been initiated in Kentucky. This relationship, logically, is sound because of the similarity between the topography, economics and educational similarities of the two states.

Numerous studies and periodicals dealing with values, rewards or pressures of Project Head Start were investigated and selected representative statements are listed in the following manner:

Hyman and Sill (1965), Wolff (1966), Smith (1965, 1966) and others have demonstrated the positive results of Head Start Programs which have included significant gains in IQ scores.¹⁴

Professor Edmund W. Gordon, director of research and evaluation for Project Head Start, told the editors of Scholastic Teacher that Project Head Start was an overwhelming success. Additionally, he indicated that more than 1.4 million children have been served by the Head Start programs. In this process, he insisted, sixty-five percent of the nation's poorest counties were served.¹⁵

¹³Derived from Personal Conversation with Dr. James L. Latham, Professor of Education, Morehead State University, Morehead, Kentucky. September, 1967.

¹⁴Irwin A. Hyman, Deborah Sill Kliman, "First Grade Readiness of Children Who Have Had Summer Head Start Programs," Training School Bulletin 63:163-7, Fall, 1967.

¹⁵Edmund Gordon, "Which Way Head Start," Scholastic Teacher, May 13, 1966, p. 2.

Mukeiyi insists that disadvantaged children have vocabulary disabilities. The length and complexity of their sentences, their articulation and sound discrimination do not match those of the more favored group.¹⁶ In like manner Goodenough states that:

Research has shown that some culturally disadvantaged Head Starters entered the project with a vocabulary of less than one hundred words as compared to an average five year old vocabulary of 2,172 words.¹⁷

It appears that in Child Development Centers growth in vocabulary has been tremendous. Dr. Richard Orton, Staff Director, Head Start, in the December, 1966, Instructor has termed Head Start "past the trial run" with the project being designed to reach the whole child and involvement of his family. Teachers, social workers and nurses examined and tried to alleviate certain problems of the poor such as; lack of adequate housing, medical attention, employment and education.¹⁸

Gordon emphasises the following point:

When measured by standardized and non-standardized tests of school readiness and intellectual function, the children served showed consistent gains between pre-and-post measurements of function.¹⁹

¹⁶Rose Mukeiyi, "Roots in Early Childhood For Continued Learning," Childhood Education, XLII September, 1965, pp. 28-34.

¹⁷Florence Goodenough, Developmental Psychology, New York, D. Appleton-Century Company, 1945, p. 280.

¹⁸Richard E. Orton, "We're Past The Trial Run," Instructor, LXXVI (December, 1966), p. 8.

¹⁹Gordon, op. cit., p. 2.

The Office of Economic Opportunity states that:

Disadvantaged children may not have had any other environmental experience except that of their own home. There can be no doubt that an environment meager in stimulation, and often damaging in terms of emotional well-being can slow or twist a child's development.²⁰

The Glamour Magazine contained an interesting article which suggests that school to disadvantaged children may be confusing or threatening. Children may have difficulty with authority figures, a teacher, so that having to do what the teacher expects, seems to be incomprehensible to them. Project Head Start aimed at salvaging the great potential in these children.²¹

Children from culturally or economically deprived families often enter school lacking curiosity. Characteristically, these children are withdrawn or overly aggressive and unruly. All too frequently disadvantaged children have little encouragement from their parents, a fact which tends to inhibit their behavior.

Project Head Start programs include diagnostic, remedial and developmental efforts including health, social and psychological services, and pre-school learning experiences.

Brown suggested that:

Head Start is an attempt to give pre-school children of the poor a chance to catch up with their kindergarten and first-grade class-

²⁰Project Head Start, Daily Program 1, Office of Economic Opportunity, Washington, D. C., [n.d.] p. 9.

²¹"Need a Summer Project? Why Not Head Start?" Glamour, May, 1965, p. 104.

mates and reduce the likelihood of their becoming "drop-out" candidates.²²

Siberstein suggests that in the United States our educational system is geared to teach middle class children. These children appear in the classroom with good motor development and with the ability to sit still in class. They have an interest in academic material and an eagerness to learn. These children generally come from homes with cooperative parents who are aware of the value of education.²³ The Journal of Home Economists included an article which stated that:

The first survey of its kind ever undertaken in this country shows that only a small fraction of the children who are most in need of preschool training attend nursery school or kindergarten. Only about $\frac{1}{4}$ of all youngsters below the compulsory school attendance age were enrolled in pre-school programs last year, and by far the poorest showings were among children from families with very low income.²⁴

Culturally or economically deprived children are very much like any other youngster. They have needs, wants, and problems. However, their needs and wants are seldom met and their problems almost never solved. They are not prepared nor are they ready for learning.

The philosophy underlying this program obviously implies that Head Start helps a child learn what a school is and what school is about; also

²²H. Brown, "Project Head Start," Ohio Schools, XLIII (October, 1965), p. 109.

²³Richard M. Siberstein, "Can Head Start Help Children Learn?" Reading Teacher, XIX (February, 1966), pp. 347-51.

²⁴"Need for Project Head Start," Journal of Home Economists, LVII (December, 1965), p. 797.

what a teacher is and what a teacher is like. Head Start provides a richly rewarding learning experience through play environment. It is an informal program designed to promote the all-round development of the child. The Head Start project must be termed an enriching experience rather than a formalized kindergarten program.

The Office of Economic Opportunity suggests that:

The Child Development Center is both a concept and a community facility. In concept it represents the drawing together of all those resources--family, community and professional--which can contribute to the child's total development. It draws heavily on the professional skills of persons in nutrition, health, education, psychology, social work, and recreation. It recognizes that both paid and volunteer non-professionals can make important contributions. Finally, the concept emphasizes the family as fundamental to the child's development. Parents should play an important role in developing policies; will work in the Centers and participate in the programs.

As a community facility the Child Development Center is organized around its classroom and outdoor play areas. Ideally it should also provide a program for health services, parent interviews and counseling, feeding of the children and meetings of parents and other residents of the community. The space is arranged so as to permit working in small groups or individually with the children.²⁵

Goals of Head Start

Some of the broad goals of the Head Start Program may be stated in the following manner:

1. Improving the child's health
2. Helping the child's emotional and social development by encouraging self-confidence, self-expression, self-discipline and curiosity.

²⁵Project Head Start, Medical, Office of Economic Opportunity, Washington, D. C., [n.d.], p. 1.

3. Helping the children to get wider and more varied experiences which broaden their horizons.
4. Improving and expanding the child's ability to think, reason and speak clearly.
5. Giving the child frequent chances to succeed.
6. Developing a climate of confidence for the child which will make him want to learn.
7. Increasing the child's ability to get along with others in his family.
8. Helping both the child and his family to a greater confidence, self-respect and dignity.²⁶

Nature of Head Start Programs

Similarly, the Office of Economic Opportunity indicates that: Head Start uses the skills of the teachers in the schools. These teachers, however, must have special training in order to participate in the Head Start Program. In this process the teachers usually are encouraged to attend regional workshops at nearby colleges or universities for the purposes of orientation and improvement of techniques.

Benoit indicates that Head Start can take credit for a reduced child-teacher ratio and the increased cooperation and participation of parents in the education of their children. Head Start is responsible for a growing awareness that the child must be seen in relation to his total environment, in the home, in the classroom, in the community.²⁷

²⁶Office of Economic Opportunity, Project Head Start, Community Action Program, Washington, D. C., [n.d.], p. 11.

²⁷William Benoit, "The Accomplishments of Head Start," Head Start Newsletter Special Issue (Summer 1967), p. 16.

Head Start also makes use of other professional as well as some non-professional people. The parent as a non-professional person can and does play an important role in developing policies and working in the Head Start Centers as a paid or volunteer aide. Head Start draws on the professional skills of persons in health, nutrition and social work.

Health Considerations and Provisions

The Head Start program includes a medical evaluation of each child followed by corrective measures if needed. In many of the Head Start centers a majority of the children had never been to a physician. In like manner the Head Start program includes dental evaluation and care.

In the medical area of the Head Start program for 1956-1966, 98,000 children with eye defects were detected; 90,000 children were found to have bone and joint disorders; 7,400 children were found to be mentally retarded; 2,200 children had active cases of TB; 900,000 children had dental defects; and 740,000 children had not been immunized for polio. All of these children were treated or referred for special treatment. In addition to these health problems children of the poor were generally undernourished. Studies indicate that poor nutrition during early childhood has an effect on both physical growth and on mental functioning of the child.²⁸ Therefore, the sound nutrition provided at the Child Development Center to increase the nutrient food intake of each child should enable him to develop sound physical resources which have a

²⁸Office of Economic Opportunity, Project Head Start (Nutrition) Washington, D. C., [n.d.], p. 2.

bearing on his mental functioning.

Shriver made the following observation:

Poverty's children are its most innocent, most helpless victims. But they are also more easily removed from its clutches. By meeting their need for attention and affection, by tending to medical needs that drain their energy, by opening their minds to the world of knowledge, we can set them on the road to successful lives.²⁹

Many of the pre-school children in Carter County are from poverty stricken homes. Tragically, their parents, in many instances, are unable to provide more than the basic necessities of life thereby setting the stage for malnutrition.

The Initiation of the Program

The administrators of the Head Start Program in Carter County felt that Head Start should be available for all children who would be entering school in the fall of 1965. The first Head Start Program in Carter County was initiated in the summer of 1965. There were 285 children enrolled in the following eight centers: Upper Tygart, Olive Hill, Lawton, Grahn, Carter City, Prichard, Hitchins, and Star. During the 1965 summer Head Start Program in Carter County a definite effort was made to secure both professional and non-professional personnel who could best contribute to the total development of the children.

There was no discrimination in any way in regard to race, color or creed. All teachers had an A.B. degree and had experience in teaching.

²⁹Sargent Shriver, Head Start, Office of Economic Opportunity, Washington, D. C., [n.d.], p. 5.

They had a knowledge of the children, the community, and the neighborhood residents. Most of the teachers in the Carter County Head Start program attended a training period at Morehead State University where aims, objectives and activities were formulated. The majority of the teachers had taught on the primary level, with two teaching in the intermediate grades.

In selecting the director, a person was chosen who had a Master's Degree in Education and had worked as a teacher and principal for 32 years. She had a thorough knowledge of the people and of the county, which was considered to be advantageous. The classes began on June 21, 1965 and were conducted five days a week for 4 hours a day Monday through Friday for a period of eight weeks.

Parents served as paid teacher--aides in all of the Head Start centers in Carter County. In some situations high school students served as volunteer teacher aides. The parents, with few exceptions, were usually parents of children in the Head Start Program. The first Head Start Program in Carter County could be termed a success in terms of cooperation and involvement of teachers, parents, physicians, health workers, social workers and other professional groups in the community.

Previous Research

A study (1965) was done to compare and analyze the effectiveness of the first eight week Head Start Program in Carter County, Kentucky for the Summer 1965 by Campbell and Ellington, graduate students* at Morehead

*Robert Campbell and Evelyn Ellington, 1966 Graduate students at Morehead State University, Morehead, Kentucky.

State University. This study was under the direction of Dr. Mary Northcutt, Professor of Education, Morehead State University, Morehead, Kentucky.

Comparisons were made on beginning readiness and year-end achievement of pupils who attended the 1965 Summer Head Start Program with that of pupils who, though eligible, did not attend. Pupil scores were used to determine whether attendance in the Head Start Program accounted to a significant degree for differences in achievement during the first grade. The scores used were grade placement scores and raw scores. The following statements are prompted by the program in Carter County:

1. Pre-School Inventory Total Possible 315
 - At the second week of First Grade:
 - (a) Pupils eligible and attending Head Start 261.024
 - (b) Pupils eligible not attending Head Start 253.024
2. Pre-School Inventory Total Possible 315
 - At the eighth week of First Grade:
 - (a) Pupils eligible and attending Head Start 265.418
 - (b) Pupils eligible not attending Head Start 259.590
3. California Test of Mental Maturity (March 1966)
 - Total possible in raw score 100
 - (a) Pupils eligible and attending Head Start
 - Actual Grade Placement 1.64 (1.637)
 - Raw Score 60.9 (60.884)
 - (b) Eligible pupils not attending Head Start
 - Actual Grade Placement 1.7 (1.678)
 - Raw Score 59.6 (59.597)
4. The California Achievement Test (March 1966)
 - Total possible in raw score 265
 - (a) Eligible pupils who attended Head Start

Actual Grade Placement	1.948
Raw Score	168.599

(b) Eligible pupils not attending Head Start

Actual Grade Placement	1.812
Raw Score	150.729

The results of the four tests given to eligible attending Head Start pupils and eligible not attending pupils tended to show that there is not a significant enough difference in the two groups to substantiate the effectiveness of the Head Start Program.

Perhaps a pertinent guiding philosophy may be summarized in the following statement:

Max Wolff's study on three New York 1965 Head Start Programs has awakened us all to the danger that the encouraging progress made by Head Starters can be lost in regular school. Even more, children once exposed to learning, can be positively harmed by a non-responsive school environment, and can be set³⁰ back further than they would have been without a Head Start summer.

³⁰Margaret Wirtz, "After Head Start, What?" Head Start Newsletter Special Issue, (Summer, 1967), p. 15.

CHAPTER II

COLLECTION AND TABULATION OF DATA

In order to obtain information which would be of appropriate nature and sufficient quantity for the best interests of this study it was deemed necessary to secure tests from a multiplicity of sources. The California Achievement and California Mental Maturity tests which were administered to the First Grade children enrolled in Carter County school during the 1965-1966 school year were obtained from the office of Dr. Mary Northcutt*, Professor of Education, Morehead State University. A list of students who were eligible participants of Head Start was also obtained from this office.

I. THE COLLECTION OF DATA

Additional data were derived from the California Achievement tests which were administered to Second Grade children in the Carter County Schools during the 1966-1967 school year. These tests were administered by the classroom teacher and scored by the researcher. The California Achievement tests given in the 1965-1966 school year and the tests given in the 1966-1967 school year were administered during the month of March. In the 1965-1966 school year California Achievement tests (form W) were administered. In the 1966-1967 school year California Achievement tests (form X) were likewise administered.

*Mary Northcutt, Regional Director of Head Start Programs.

Mrs. Ethel Huber, Elementary Supervisor for the Carter County Schools, distributed these tests to the following thirteen Carter County Schools: Star, Lawton, Soldier, Erie, Clark Hill, Upper Tygart, Grahn, Hitchins, Olive Hill, Prichard, Shell Rock, Carter City and Willard.

The California Mental Maturity tests which were administered to all First Grade children in the Carter County schools during the school year of 1965-1966 were not administered again during the 1966-1967 school year. Hence, only the 1965-1966 IQ scores were used for the purposes of this research.

A roster of the children who were enrolled in the 1965 Head Start Program in Carter County was obtained from Mrs. Ollie Rogers, Local Project Director for the Carter County Head Start Program. In like manner, a list of the teachers involved in the 1965 Head Start Program was also obtained from Mrs. Ollie Rogers. These Head Start teachers were contacted and asked to check the 1965 Head Start roster for children who were ineligible but participated in the first Head Start Program anyway. Fifty-five children were found to be ineligible because of their economic status. The test results of those who were found to be ineligible were disregarded for the purposes of this study. The results of the California Achievement and Mental Maturity tests were then tabulated into two groups. The first group represented children who were eligible and attended the first Head Start Program and continued through the First and Second grades in Carter County. The other group repre-

sented children who were eligible but did not attend the first Head Start Program but continued through First and Second grades in Carter County. From each grouping of tests, every other test was selected for use in the study.

Another source of data was a list of First Grade children enrolled in the Carter County Schools who were retained during the 1965-1966 school year. It was found that thirteen children were retained in the First Grade from the eligible (non-attending) group and seventeen children were retained from the eligible (attending) Head Start group. A list of Second Grade children enrolled in the Carter County Schools that were retained during the 1966-1967 school year was developed. Both of these lists were obtained from Miss Ruby Flannery, Director of Pupil Personnel for the Carter County Schools. In checking the list of retentions for Second Grade children in the 1966-1967 school year it was found that six children from the eligible (non-attending) Head Start group and six children from the eligible (attending) Head Start group were retained in Second Grade.

II. TABULATION OF DATA

The data which were obtained through the steps and procedures described in the previous section of this chapter were accumulated and compiled in tables and figures for reasons of logic and expediency of treatment. For example, the data which were obtained from Dr. Mary Northcutt's office, Morehead State University, were entered into a table which was developed for these purposes. These data were confined to raw

scores. Consequently, the data obtained from the California Achievement test given in the 1965-1966, 1966-1967 school year were also confined to raw scores.

The IQ and the raw scores of the tests administered during the 1965 and the 1966-1967 school years for the two previously mentioned groups were entered. Likewise the raw scores were connected to grade placement scores and entered into a table for the boys who attended Head Start and for the nonattending but Head Start eligible boys. It seemed there was a greater variance in grade placement for boys than girls. Additionally, the low IQ scores for the boys and girls eligible but not attending Head Start were also entered into a table.

Similarly the extremely high IQ scores were entered for the girls and the boys eligible and attending Head Start. The high IQ scores were also entered for the girls and boys who were eligible but did not attend Head Start.

The data so tabulated are presented in the following tables under appropriate self explanatory headings. These tables will be evaluated in subsequent sections of the study.

TABLE I
ELIGIBLE BOYS AND GIRLS ATTENDING HEAD START

Student	IQ Score	Achievement Score 1966 Possible (265)	Achievement Score 1967 Possible (265)	Difference
1	96	160	236	76
2	87	111	184	73
3	120	156	190	44
4	138	218	248	30
5	138	199	233	24
6	138	227	245	18
7	149	223	234	11
8	111	133	164	31
9	91	117	153	36
10	119	167	233	76
11	98	97	228	131
12	64	18	68	50
13	115	170	210	40
14	88	135	228	93
15	93	173	218	45
16	118	178	235	57
17	105	156	182	26
18	111	204	237	33
19	71	130	157	27
20	93	149	244	95
21	107	183	219	36
22	87	136	128	- 8
23	110	145	166	21
24	130	149	205	56
25	133	215	218	3
26	121	186	204	18
27	87	108	226	118
28	91	93	172	69
29	100	126	191	65
30	116	116	106	- 10
31	118	175	163	- 12
32	126	188	154	- 34
33	97	168	229	61
34	110	58	134	76
35	141	163	202	39
36	106	122	192	70
37	128	174	220	46
TOTALS				1630

TABLE II
 ELIGIBLE BOYS AND GIRLS NOT ATTENDING HEAD START

Student	IQ Score	Achievement Score 1966 Possible (265)	Achievement Score 1967 Possible (265)	Difference
38	126	183	236	54
39	124	201	235	34
40	76	88	65	- 23
41	104	154	246	92
42	88	136	184	52
43	84	86	217	131
44	98	184	225	41
45	84	81	179	98
46	108	177	222	45
47	107	96	180	85
48	79	145	186	41
49	94	79	215	136
50	95	113	193	80
51	135	181	229	48
52	119	192	237	45
53	98	168	200	32
54	105	188	207	19
55	98	187	223	36
56	85	129	190	61
57	111	193	200	7
58	95	182	206	24
59	75	99	158	59
60	102	175	210	35
61	95	179	236	57
62	127	152	243	91
63	72	32	90	58
64	100	154	167	13
65	114	132	205	73
66	73	61	159	98
67	76	63	167	104
68	107	158	197	39
69	111	144	220	76
70	105	150	160	10
71	127	205	248	43
72	92	190	190	0
73	94	130	172	42
74	115	160	180	20
TOTALS				1956

TABLE III
BOYS AND GIRLS ATTENDING HEAD START
WITH LOW IQ SCORES

Student	IQ Below 90	Score Difference 1966-1967
22	87	- 8
27	87	118
2	87	73
12	64	50
14	88	93
19	71	27

TABLE IV
ELIGIBLE BOYS AND GIRLS NOT ATTENDING HEAD START
WITH LOW IQ SCORES

Student	IQ Below 90	Score Difference 1966-1967
63	72	58
66	73	98
67	76	104
40	76	- 23
42	88	52
43	84	131
45	84	98
48	79	41
56	85	61
59	75	59

TABLE V
ELIGIBLE BOYS AND GIRLS ATTENDING HEAD START
WITH HIGH IQ SCORES

Student	IQ Above 90	Score Difference 1966-1967
24	130	56
25	133	3
26	121	18
30	116	- 10
31	118	- 12
32	126	- 34
35	141	39
37	128	46
3	120	44
4	138	30
5	138	24
6	138	18
7	149	11
10	119	76
16	118	57

TABLE VI
ELIGIBLE BOYS AND GIRLS NOT ATTENDING HEAD START
WITH HIGH IQ SCORES

Student	IQ Above 90	Score Difference 1966-1967
62	127	91
71	127	43
38	126	54
39	124	34
51	135	48
52	119	45

TABLE VII
GRADE PLACEMENT FOR ELIGIBLE BOYS ATTENDING HEAD START

Student	Grade Placement
21	2.7
22	1.5
23	1.9
24	2.4
25	2.7
26	2.4
27	2.9
28	1.9
29	2.2
30	1.3
31	1.8
32	1.7
33	2.9
34	1.6
35	2.4
36	2.2
37	2.7

TABLE VIII

GRADE PLACEMENT FOR ELIGIBLE BOYS NOT ATTENDING HEAD START

Student	Grade Placement
61	3.1
62	3.3
63	2.1
64	1.9
65	2.4
66	1.8
67	1.9
68	2.3
69	2.7
70	1.8
71	3.5
72	2.2
73	1.9
74	2.0

CHAPTER III

TREATMENT AND ANALYSIS OF DATA

From the outset of the study it became apparent that the available data, which were in association with the Head Start Program in Carter County, would be difficult to treat statistically. This observation was made for several reasons, such as:

1. There was wide variance of mental maturity scores (IQ's) among the participants.
2. The number of participating subjects was not as large as one would desire.
3. The number and nature of communities from which the participants were derived presented a complex sample.

Obviously, these variables would tend to contaminate the data in varying degrees. Additionally, the test which was selected and utilized in conjunction with the program, while valid and reliable for ordinary purposes, does not necessarily constitute the type of evaluative coverage necessary for serious investigations regarding the cumulative outcomes of Head Start Programs. This feeling became more intense as the data were examined and it became obvious that such coincidental variables as; sex, I.Q. scores, economic status, and achievement levels were influencing the outcomes.

It quickly became evident that the data would require rather sophisticated techniques of treatment and analysis. Consequently specialized advice was sought and the suggestions for statistical treatment of the data were followed. The following description of the

treatment processes and related findings are to be found in the following statements.

A two by two analysis of variance of California Achievement Test gain scores, adjusted for California Test Mental Maturity scores, was performed. The two factors were; Head Start participation, and sex.

Table IX presents the California Test Mental Maturity mean and standard deviation for each of the four cells of the two by two matrix.

TABLE IX

CALIFORNIA TEST OF MENTAL MATURITY
MEAN AND STANDARD DEVIATION

	Head Start Participants		Non- Participants	
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>
Boys	100.57	18.15	112.23	16.43
	N-17		N-14	
Girls	99.56	16.14	107.15	22.87
	N-20		N-23	

The procedure used for the analysis of variance was that of Winer.³¹ This analysis is summarized in Table X.

³¹B. D. Winer, Statistical Principles in Experimental Design, New York, McGraw-Hill, 1962, pp. 599-618.

TABLE X

ANALYSIS OF COVARIANCE

Source	SS	df		F
Sex	869.8183	1	869.8183	<1
Participation	231.8172	1	231.8172	<1
Sex X Participation	446.6565	1	446.6565	<1
Error	81076.6206	69 over 72	1175.0235	

The analysis did not yield a significant "F" ratio for either factor or for the interaction. Consequently, the findings indicate that no evidence was found that changes in California Achievement Test scores could be attributed to participation in the Head Start program. Inspection of the mean California Achievement Test gain scores (Table XI) reveals that the pupils who did not attend the Head Start program achieved a higher mean gain (52.86) than those who did attend (44.05) Head Start.

TABLE XI

MEAN CAT GAIN SCORES

	Head Start Participants	Non- Participants
Boys	36.12 N-17	57.71 N-14
Girls	50.80 N-20	53.57 N-23
Total Boys and Girls	44.05 N-37	52.86 N-37

It should be mentioned at this point that these results do not necessarily imply that the Carry-Over Values of Head Start are negligible or negative, but rather suggests that the values that are derived are in a form not measured by the instruments which were utilized. Additionally, as the literature suggests, there may well be contaminating influences within the school and/or the community which tend to nullify any gain so derived. The question arises as to whether any tests are available which will adequately and appropriately assess the wide variety of possible outcomes for Head Start Programs.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

1. SUMMARY OF RESULTS

The problem and chief concern of this study was to determine the carry-over values which were derived from the first Head Start Program in Carter County, Kentucky two years after those activities had been experienced. In the problem solving processes of this study data pertinent to this Head Start Program were collected and tabulated from the files of the Superintendent of Carter County Schools. These data consisted largely of the results of the California Test of Mental Maturity; The California Achievement Test; and personal data which were in association with the participants of the program and of those who were eligible for participation but did not attend.

The data which were collected and tabulated were subjected to statistical treatment and produced the following results:

1. A two by two Analysis of Covariance of the California Achievement Test, adjusted for California Test Mental Maturity scores and the two factors: Head Start Participation, and Sex, did not yield a significant "F" ratio.
2. Inspection of the mean California Achievement Test gain scores revealed that the pupils who did not attend the Head Start Program achieved a higher mean gain (52.86) than those who did attend (44.05) Head Start.
3. Investigations should be made regarding more appropriate evaluation instruments to be utilized in assessing the nature of possible carry-over values derived from Head Start Programs.

4. Longitudinal studies should be made to determine whether there are carry-over values from Head Start Programs that may emerge at a time later than the two-year interim.

2. CONCLUSIONS

The statistical results which were derived from the treatment of the data tend to support the following conclusions:

1. The hypothesis of the study must be rejected in so far as statistical considerations are concerned.
2. There may well have been carry-over values from the Head Start Program that were not tested nor measured.
3. The instruments involved in the testing procedures were not designed to measure the type of carry-over values conceivably inherent with Head Start Programs.
4. Certain types of Head Start gains appear to be quickly lost in regular school.
5. There are striking similarities in the results of the National evaluation of Head Start gains.

3. RECOMMENDATIONS

The results and conclusions which were drawn from this study appear to warrant the following recommendations:

1. Further study should be made regarding the possibility of the presence of untested variables and carry-over values which may be derived from Head Start Programs.
2. Further study should be made regarding the relationship of the quality of the public schools and possible carry-over values derived from Head Start Programs.

3

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BIBLIOGRAPHY

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APPENDIXES