A COMPARATIVE ANALYSIS OF COGNITIVE GROWTH OF HOMEBOUND CHILDREN AND PRESCHOOL CHILDREN IN THE HASLETT PUBLIC SCHOOLS

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ABSTRACT

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A great deal of literature has been written on the virtues and non-virtues of preschool programs. Advocates of formal institutional preschool programs claim that quality supervision can enhance children's cognitive and social development. If this is so, research should reveal that children with similar community backgrounds in formal preschool settings make greater gains than children who are not in such a preschool setting. The present study was an attempt to determine and measure differences between groups of Haslett, Michigan, children who are in a formal preschool setting as opposed to young people who are not. Two preschool groups were used as experimental units. The Haslett Public School Title I preschool and the Haslett Child Development Center served as the experimental programs, and the control group was comprised of fifteen children within the same community who were not in any formal preschool setting. All individuals in each of the three groups cited above were

administered pretests and posttests during the Fall and Spring of the 1975-76 school year. The researcher has completed a comparative analysis of the three preschool group's cognitive development. The selected subjects ranged in age from four years to four years, six months.

The researcher found that the experimental groups of preprimary-aged children made greater score gains than the control group of homebound children. The latter group did improve but did not make the significant cognitive group gain scores that the Title I Head Start group made. Although the day care-nursery group gains were not significantly greater than those of the homebound group, the day care group did make the larger gain.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

STATEMENT OF THE PROBLEM

> Equipped with auxiliary services, supportive staff and appropriate plant facilities, the public schools can provide day care-nurseries with a degree of quality care unmatched by smaller and less organized institutions. The structure is therefore providing consistent care that parents can rely on (Billings, 1976, 516).

The researcher wanted to determine if there were differences between the pretest and posttest cognitive gain scores of three groups of preschool children over an eight month period. The pretests and posttests were conducted during the Fall and Spring of the 1975-76 school year. The research was conducted to examine the practical and functional role that public schools serve to preprimary educational programs.

In addition to the above, the researcher conducted supplementary analysis to determine if there were statistically significant cognitive gain scores for each of the five CIRCUS subtests or for only some of them. Once it is determined which of the subtests, if any, are significantly different between the three preschool groups, the researcher will analyze the rationale for the statistically significant differences.

Introduction

The growth of child care in the United States is the result of an increasing need for child care facilities. Despite the declining preschool population, the number of children under six years whose mothers were in the United States labor force increased by half a million (from 5.6 to 6.1 million) between 1970 and 1974, (Schwertfeger, 1975:1). Currently, one-third of all preschool children have mothers in the labor force. Year-round full time jobs were held by twenty-five percent of all mothers with at least one preschooler. Most mothers who work are either divorced, widowed, separated; or, their husbands were unemployed or earned incomes too low to support a family. The six million preschool aged children all require child care. Many of these preschoolers need the group experience which child care provides. The latest available statistics reveal that in 1974 there were 83,286 licensed (or approved) day care centers and family day care homes with a total licensed capacity of over one million children. This capacity only meets less than one-sixth of the need for child care (Keyserling, 1975:434). The movement in support of a comprehensive national day care-nursery system has been gaining strength, but much more work needs to be done.

In 1974, only seven states had initiated universal kindergarten programs, and in forty-four states day-care licensing and administration is carried out by welfare departments and are totally separated from state boards of

education. Day care, although its status has improved, still labors as an institution that grew up with the dual stigma of being a charitable service for distressed families and whose mothers violated conventional mores by working away from home (Day Care, 1974:27).

On a local level, a recent survey conducted by the Office for Young Children in Ingham County, Michigan, revealed that in 1974, 7,507 women with children under age six work, while spaces for children in child care centers and licensed homes number only 2,500 (Ibid., 29). In 1974, Ingham County had fifty-four child care centers, twenty-seven day care centers, fifteen parent cooperative pre-schools and twelve nursery schools. Finally, there are seven hundred licensed family day care homes. (These figures do not include Title I or other public preschool programs.) It is evident that there is a strong need for quality day care centers based on the statistical data listed above.

The arguments against using the public school sector for day care programs vary. Allen is fearful that the public school's concern with the very young child primarily focuses on his or her cognitive development and would not place equal emphasis upon children's affective needs (Allen, 1975:22).

In addition, with current declining enrollments within the public schools and unemployment for teachers, the teacher unions are pushing for child care integration into

the public schools in order to reinstate union members. To illustrate this point, Albert Shanker, President of the American Federation of Teachers, argues that ". . . universal early education is a must. The responsibility for the enlarged program should be borne by the public schools" (Ibid., 22). Mr. Shanker's concern for preprimary education is probably as great, or greater, than his concern for more instructional positions being created for teachers.

In addition to the question of public school adaptability to day care, there are also questions regarding contractual discrepancies between primary and preprimary staff. The latter group works throughout the year and much longer hours. Therefore, contractual language that exists for teacher unions will have to remain flexible for day care employees if they are to become part of the bargaining unit.

Furthermore, the Haslett Child Development Director desires that head teachers be certified in child development rather than have traditional elementary certification. The developmental degree program is more child oriented and emphasizes the preschooler's stages of emotional and intellectual development. There is widespread agreement, even among teachers' organizations, that the training of elementary teachers does not necessarily qualify them to work with very young children. According to some child development advocates, the certification system supported by the

organized teaching profession is too rigid and does not adequately recognize incompetence (Ibid., 77).

Significance of the Study

It is hoped that this study will serve several purposes. First and foremost, it will provide some insight into the pros and cons of the incorporation of day care programs into the public school program. At the time of this writing, several of Haslett's neighboring school districts are contemplating the incorporation of day care-nurseries into their public schools. This dissertation may serve as a valuable reference source. Secondly, the researcher will provide some historical observations about day care-nursery centers which may dispell some stereotypes in this country regarding day care centers.

Why the School Site for Day Care Nursery?

The public school plant can provide a logical site for a day care-nursery program. If a school has a hot lunch program, a day care-nursery does not have to hire its own cook. Also, the day care-nursery director does not have to be concerned with the responsibility for ordering and/or preparing the food . . . the kitchen staff can perform this task as they do for the remainder of the children in the building. The United States Department of Agriculture provides commodities to public schools which can greatly reduce costs for snacks and hot lunches. A day care-nursery center can reimburse the district's hot lunch

program at a similar rate that fees are assessed to other children. The cost for the hot lunches can be part of the tuition fee paid by the participating parents. In addition to cooking personnel, the other auxiliary staff are available, including custodians and bus transportation personnel. These individuals are already working for the public school system and are used for cleaning the rooms and transportation of children to and from the school. The custodians have managed to clean the additional rooms that once served regular elementary children prior to enrollment declines. Transportation drivers are able to bus preprimary children using the same routes that serve regular elementary pupils. A day care-nursery could pay additional costs for those drivers who need to extend their route to accommodate a few of the preschool children. However, these costs are very minimal in relationship to the costs that would be needed to generate a center's own transportation program. These existing auxiliary services greatly reduce salary costs as well as the annual insurance premiums of the Center.

Existing school library facilities, media equipment, school gym and playground equipment are immediately accessible to the children and day care staff. These facilities and equipment can be scheduled for use at times that will not conflict with regular elementary instruction.

Thus, the existing plant site can broaden the range of educational activities and learning materials while greatly reducing initial capital outlay costs.

In addition to the above, special services staff (e.g., resource teachers, psychologists, and speech therapists) can work with the day care-nursery children in order to diagnose potential skill deficiencies; and, in some cases, they work with the children on a periodic basis. In the Haslett Public Schools, the elementary music and physical education staff provide blocks of time for the Center's children in order that they can improve their vocal and motor talents. The music and physical education instructors consider this a part of their regular instruction. The total block of instructional hours is divided equally between the day care-nursery program and the regular elementary grades.

Declining enrollments are making it possible for more and more school systems to make classrooms available for community needs. Declining enrollments following the lower birth rates and/or population shifts result in surplus classrooms. Whether the unused space becomes a problem or an opportunity for different service to the community depends in part on the creative thinking of school personnel. If deterioration is allowed to start or accelerate, a building can quickly become a neighborhood liability as an unsightly distraction.

> Like many Americans, some school facilities will be forced to change their "careers" once or more during their years of service to society in general and their communities in particular. And, like people, the facilities will need some help from the local school leaders (Axelrod, 1972:29).

Theoretical Basis for the Study

Dewey theorized that educational experiences for youth are the means by which one learns (Dewey, 1963:89). Dewey believed that trained educators could provide experiences relevant to a child's actual life and make the experiences build upon one another. He believed that incidental experiences occurring in isolation could not have a long term positive influence upon children. Preprimary educational experiences treated in an intelligently directed manner, according to Dewey, could move a child toward positive cognitive development (Ibid., 91).

Quality preschool experiences for children can be planned by a competent instructional staff. Preprimary educators who understand the child's educational and social needs can provide experiences that offer positive learning development.

Piaget believes that cognitive development is partially affected by heredity. He asserts that to some degree neurological structures impede or facilitate cognitive development (Wadsworth, 1974:33). However, even though inherited neurological structures influence cognitive development, the structure alone cannot explain the development. Piaget theorizes that intellectual functioning also needs actions in a person's environment for cognitive development to occur (Ibid., 33). Piaget believes, like Dewey, that without these experiences cognitive development cannot take place. The more purposeful the experiences, the greater

the degree of cognitive development. Educational specialists, trained in understanding the cognitive development of children, can provide positive growth experiences for the child.

Piaget also believed in stages of development. Basically, he categorized development of individuals in four periods of cognitive growth as:

1. The period of sensori-motor intelligence (0-2 years). During this period behavior is primarily motor. The child does not yet "think" conceptually, though cognitive development is seen.

2. This period of preoperational thought (2-7 years) is characterized by the development of language and rapid conceptual development.

3. This period of concrete operations (7-11 years) is the period when the child's cognitive structures reach their greatest level of development, and the child becomes able to apply logic to all classes of problems.

4. During the period of formal operations, approximately (11-15 years), the child develops the ability to solve all classes of problems that can be solved through logical operations. According to Piaget, the child's cognitive structures reach maturity during this period (Ibid., 1974:33-102).

For the purposes of this research, the researcher was interested in the developmental period of preoperational thought (2-7 years). This stage of cognitive development includes the ages of preschool children. By the age of four the typical child has mastered the use of language. He can speak and use most grammatical rules, and he can understand when he is spoken to (Ibid., 65). The acquisition of language profoundly affects intellectual life. Piaget writes:

> This language has three consequences essential to mental development: (1) the possibility of verbal exchange with other persons, which heralds the onset of the socialization of action; (2) the internalization of words, i.e., the appearance of thought itself, supported by internal language and a system of signs; (3) last and most important, the internalization of action which from now on, rather than being purely perceptual and motor as it has been heretofore, can represent itself intuitively by means of pictures and mental experiments (Ibid., 67).

Piaget contends that this preoperational thought period increases the powers of cognitive development. He suggests that enriching environmental stimuli increases the child's intelligence. Quality preschool programs, as well as quality home care can provide the verbal stimulation in the child's environment necessary to enhance cognitive growth.

Both Dewey and Piaget purport that meaningful experiences planned at appropriate stages of a child's development can impact positively on a child's intellectual development. Quality pre-primary programs can enhance a child's intellectual development.

Definitions of Preprimary Educational Terms

Child Care Center

The State of Michigan defines child care center under Public Act 116, 1973 as:

> . . . a facility, other than a private residence, receiving more than six preschool or school age children for group care for periods of less than twenty-four hours a day, and where the parents or guardians are not immediately available to the child. It includes a facility which provides care for not less than two

> consecutive weeks, regardless of the number of hours of care per day. The facility is generally described as a child care center, day care center, day nursery, nursery school, parent cooperative preschool, play group, or drop-in-center. Child care center does not include a Sunday school where children are cared for during short periods of time while persons responsible for such children are attending religious services (State of Mi., 1973:437).

Day Care Nursery

Previous to Act 116, P.S. 1973, "day care or nursery" had been technical licensing terms used by the Department of Social Services. These designations have been changed in the State of Michigan to "child care centers" in the 1973 regulations, Public Act 116 (Ibid., 473). However, this dissertation uses the term day care-nursery center in lieu of the new term, child care center.

Preschool (Preprimary)

Generally, this term refers to those programs for children below kindergarten or sometimes below first grade. However, in the private sector, ages two to five are often served, since five year old children participate before or after the public school kindergarten program.

Early childhood programs are based on ages of children. The diagram below illustrates the types of programs available for children between age zero and nine years old.

Table 1.1.--Preprimary and Primary Instructional Programs for Children.

EARLY CHILDHOOD (0-9 years of age)		
Preprimary		Primary
Pre-Kindergarten (0-4 years old)	Kindergarten (5 years old)	(6-9 years old)
Day Care-nursery centers	Elementary schools Day Care Centers Nursery Schools	Elementary Schools (Grades 1-3)
Cooperative nurseries		
Child Development Centers		
Infant-Toddler Programs		

Homebound

Homebound refers to children who do not attend any preschool institution prior to their admittance to a regular kindergarten program. Homebound children may stay with their natural parents throughout their preschool years and/or with a sitter when the parent(s) are working.

Title I

Title I, Project Head Start, was created in 1965 under the Elementary and Secondary Education Act, Public Law 89-10. Title I was established to provide local educational agencies with financial assistance for the education of low-income families (89th Congress, 1966:27).

Limitations of the Study

The researcher used the CIRCUS test to pre and post-test the three preprimary groups. The CIRCUS Test was developed in 1974 by the Educational Testing Service. It was developed to measure cognitive achievement of preprimary and kindergarten age children. Children were pre and post-tested over an eight month period.

1. Although it is difficult to advise on how each of the following factors should be weighed, there are certain qualifications to be kept in mind when interpreting performance on standardized tests. One complication in interpreting the scores as measures of pupil cognitive growth is that changes in willingness to try certain items on the test, rather than the child's actual knowledge about the item is reflected in his score. His intellectual performance may be influenced by the familiarity of the situation, the rapport between the child and the tester and the importance they both place on doing well. In order to avoid tester bias in this study, each of the groups tested had one-third of their populations tested by a different tester. This was done for both the pretest and posttests. In addition, the experimenter had the testers use the same settings for the pretest and posttest to keep the testing conditions similar for both test settings. However, the test scores will reflect familiarity with testing, and in some cases, learned motivation to do well.

2. The second limitation of the study involves the test instrument's regional and cultural limitations. "To some degree, the CIRCUS nursery school samples overrepresent children in the southeast, cities of 50,000 or more children" (Anderson, 1974:7). There were three times the number of children tested in the northeast area of the United States as compared to the southeast. Also, only eleven percent of the total national sample of children were black (Ibid., 7).

3. The study is limited to the Haslett Public School's Title I geographical area. This was the result of the selection process which permits children to be admitted to the Title I program under certain conditions. (Title I children must live within the Title I boundaries of the district and have a need for preschool readiness skills). Thus, random selection of the whole district could not be accomplished. Consequently, a matching technique was used rather than random selection, which will prohibit causal relationships from being drawn. On the other hand, the day care-nursery program is open to any child whose tuition is paid by parents or the State Department of Social Services.

4. To date CIRCUS has no demonstrated validity. Studies are currently in progress. These include: (1) a study relating children's performance on CIRCUS measures to teacher's rating of the abilities and competencies (concurrent validity), (2) a study relating preschool children's performance on CIRCUS measures to their later performance on other measures at the end of kindergarten (predictive

validity), and (3) a study relating children's performance on CIRCUS measures to the educational treatment they receive (Mayer, 1977:71).

Summary

Chapter I explains the need for child care in the United States. Also, the opening chapter addresses some to the positive and negative aspects of preschool programs. The researcher makes an argument for preschool programs in Chapter I and provides rationale for incorporating preschool programs into the public school setting. Available classroom space due to declining enrollments, and school facilities and staff are some reasons for supporting preschool programs and their integration into the public school sector.

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CHAPTER II

THE HISTORY AND RATIONALE FOR DAY CARE-NURSERY

In this chapter the author will deal with the history of the day care-nursery program from its infantile stages to its current developmental status. In addition, the writer in Chapter II will address the growing need for day care-nursery in America.

Today, the extended family is a rarity. Relatives are either geographically separated or, with the change in values from one generation to the next, are psychologically distant from each other. The nuclear family--father, mother and children--is now the rule. There are not only fewer adults, but fewer children too. The average number of children per family (2.1) is reflected in the current birth rate (Breitbart, 1975:30-46).

Children who are entirely dependent on one family are often isolated, confined to playpens and shopping carts, put in front of television, or simply sent out on the streets for long periods of time.

Twenty million people in this country live in families where there is no male adult (Ibid, 27). The

responsibility for child care has been falling more and more to the woman. She is left trying to keep the pieces from exploding in every direction.

> There is a double standard for child care in our country. For those who can afford it, there are education-oriented nursery schools, or private home-bound arrangements that simply shift the burden from one woman to another. These solutions are never thought to damage the child. Yet, when women cannot afford these arrangements--the majority--seek child care, they are accused of neglecting their children. Women are told that child care services should only be used in desperate situations.

Early childhood programs are essentially different from those now operated by public school systems; (the argument goes), and they should not be automatically controlled by the public schools (Sugarman, 1969:76-77). Early childhood programs foster the concept and practice of small child-adult ratios. Early childhood programs also generally encourage a great deal of parent involvement. Finally, early childhood programs emphasize the affective domain as well as cognitive development. Certainly K-12 public education also encompasses both cognitive and affective education. However, at the early childhood level, more emphasis is placed on the latter domain. The public schools have, in many cases, not achieved real parent participation and have not demonstrated an ability to develop programmatic continuity in the realm of affective education.

A leading advocate opposed to preprimary education on the public school sector is Sugarman. Early childhood

programs should be "broadly conceived," she maintains, and should be viewed as essentially different from public school programs. Sugarman goes on to say:

> Assured that the education system would take one-twelfth of its resources and devote them entirely to working with families and young children, I would conceive the argument of sponsorship (Ibid., 77).

But for now, Sugarman still wants evidence that the schools can become more flexible by using other agencies as part of the system. According to Sugarman, the schools have not shown that they are willing to develop a total education system. Sugarman considers a total education system for preschoolers to include a commitment by public education to meet the affective and cognitive needs of preschool children. The traditional educational system would also have to develop a smaller ratio of adults to preschoolers. The adult instructional staff should also have special training and awareness of preschoolers' developmental needs and stages of development. Furthermore, financial resources should be committed proportionately, equal to preschool education as it is for K-12 education.

The idea that alternatives should be provided only if the woman fails to do--or cannot do--her job, has left her with a limited number of day care services. Public, free or low-cost child care is seen as a welfare service for "unfortunate" families, and the programs usually reflect this. They admit children of working mothers only ("work"

being defined as a job outside the home), or other "hardship cases," and offer the child little more than food and shelter.

But things appear to be changing (Anderson, 1969: 381). The poor, both women and men, are no longer willing to be controlled by others. And women, poor and middle class--are no longer willing to let others define their lives for them. In this country, women are beginning to abandon the guilt and fear that has kept them from developing their full potential. Women are no longer willing to be defined as "mother" and are searching for alternatives that can enable them to share child rearing so that it can be satisfying for all those involved (Ibid., 388).

The child care alternatives that are created in this country will depend on how this country feels about its families, what people think about the child care alternatives that already exist, and what their vision of the future may be.

The Preschool Movement

Communal care of children has probably existed throughout man's history and within all societies. It ranges from informal, fortuitous groupings of children within a geographic setting, monitored by the watchful eye of women doing their daily chores, through a variety of increasingly more formal arrangements, to the highly structured programs found in the Israeli and Soviet socities.

Worldwide and historically, the treatment of children has been largely repressive, harsh and even cruel (Dempe, 1968:16). However, there have been bright spots in childbearing attitudes and practices. Over the centuries, there were those who spoke of the value of early childhood education, and more gentle training and treatment. As a result of their efforts, two relatively distinct day care movements have emerged in this country. One resulted in the establishment of nursery schools and kindergartens, largely under private auspices for the pre-school children of the upper and middle classes; the other involved a cyclic expansion and contraction of publicly and philanthropically supported day care programs for the children of working mothers and of the poor.

Each movement had different perspectives: the nursery schools and kindergartens provided an enriched learning and recreational environment for middle and upper class children with their peers, usually for not more than three hours a day; whereas the day care programs for children were held for long hours of the day and were mainly custodial and protective in emphasis. However, the privately organized, philanthropic programs for poor children attempted to blend the two approaches. These philanthropic programs ran for the long hours of the mother's work day because they also provided some measure of enriched experiences for the children. For example, the primary goals of the settlement

house programs were that children of immigrant families learn the English language and adapt to the American culture.

The Development of Nursery Schools and Kindergarten

The nursery and kindergarten movement followed from the efforts of Comenius and Froebel and their latter and present day counterparts in early childhood education. Following the same philosophical tradition, two women, Maria Montessori and Margaret McMillan focused their efforts on children of economically poor families. Montessori and McMillan can be considered among the progenitors of such programs as Project Head Start, which reflect our special concerns as a society for our disadvantaged children.

Three hundred years ago, John Amos Comenius, a Moravian educator and theologian, (1592-1670) wrote a history of early childhood education in which he proposed that children spend the first six years of their lives in a "School of Infancy" with a sensitive and knowledgeable mother as their teacher (Larzar, 1972:60). He felt that the simple lessons a child learned in such a school would lay a sound foundation for his future life.

In the early nineteenth century, Frederich Froebel (1782-1852) formulated the basis for present day kindergartens. His book entitled The Education of Man emphasized spontaneous free play as the basis of learning, the importance of self-activity and motor expression, social cooperation as the core of the curriculum, and the need for special

toys and equipment and stimulating learning through manipulation and action. By the late nineteenth century, Froebel's kindergarten idea had gained the support of active groups in Germany and the United States. In 1868, a training institute for kindergarten teachers opened in Boston; and, a few years later, the first tax supported public kindergarted opened in St. Louis, Missouri (Ibid., 63).

By the 1920s early childhood education had become established within American institutions of higher learning. Leading universities sponsored child development laboratories and model nursery schools, concentrating on the years between birth and six.

Day Care Since 1838

Day care was invented in the nineteenth century--a response to the immigration that brought over five million families to the United States between 1815 and 1860 and to the industrialization that took women who needed to work away from the home and into the factory. Children of immigrant families without relatives or other social connections who might have facilitated arrangements for care were left to fend for themselves in locked apartments or on the streets. In a situation ripe for philanthropic intervention, wealthy women, service institutions, settlement houses, or private individuals organized day nurseries to provide for the care and protection of children of working mothers.

The French creche was the model for the American day nursery. Creches, infant shelters, designed to reduce the high death rates of infants whose mothers worked in factories, emerged in France in the early 1900s. According to one report, they were inspired by a garderie started in Vosges, France in 1770, by a clergyman who noticed a young village woman caring for the children of mothers who were working in the fields (Beer, 1970:36).

Montessori's (1870-1952) concern for the poor children led her to develop special methods of instruction for children in the impoverished areas of Italian cities (Ibid., 40). She felt that early training of these children would both improve their later school performance and help them become better human beings. She used an individualized approach and stresses sensory training, manual skills, explorative experiences and cooperative social behavior. Despite her early efforts to provide an enriched program for poor children, her ideas were adopted largely by middle class Europeans and Americans.

In England, humanitarian Margaret McMillan (1860-1931) founded the "open-air" nursery. She created garden spots in the heart of London for children from two to seven years old and stressed the values of sunshine, fresh air, baths, food, sleep, natural play and low ratio of children to teachers. As a result of her efforts, the Fisher Act was passed which established nursery schools in the English national school system in 1918 (Ibid., 42).

The first United States day nursery was opened in Boston in 1838, by Mrs. Joseph Hale, to provide care for the children of seamen's wives and widows. In 1854, the Nurses and Children's Hospital in New York City opened its version of the day nursery to care for children of working mothers who had been patients. Two women from Troy, New York, visited the hospital nursery, liked the idea, and opened their own in 1858. Connected with the Troy Center was a clinic that provided medical care to the community as well as to the nursery children. During the Civil War, the children of women who worked in hospitals and factories in Philadelphia were served by a nursery that opened in 1863. In 1893, a model day nursery was set up in the World's Fair in Chicago. It cared for 10,000 children of visitors. By 1898, approximately 175 day nurseries were operating in various parts of the country, enough to warrant the creation of a National Federation of Day Nurseries, through which it was hoped "to unite in one central body all nurseries and to endeavor to secure the highest attainable standard of merit" (NSSE, 1929:15).

The quality of these early nurseries depended very much on the resourcefulness and energy of the director. Those that had the advantages of strong leadership attempted, in addition to providing clean, healthy places for children, to offer something of interest for them to do during the day and to solve, for other members of the family, problems that came to their attention. Other nurseries were at best

custodial holding operations that focused on physical care and protection against environmental hazards. American day nursery personnel often had admission requirements such as the following from a day care started in Baltimore in 1888: "Children who can be cared for at home will not be received, nor will children of idle, unworthy parents" (HWC, 1964:56).

Because the majority of the early day care centers served immigrant families, the staffs hoped to socialize the children as well as providing them with protection and care. Jane Addams described the evolution of the Hull House day care as follows: "It is now carried on by the United Charities of Chicago in a finely equipped building in our block, where the immigrant mothers are cared for as well as the children, and where they are taught the things which will make life in America more possible" (Addams, 1910:131-135). Such things included manners, eating habits and hygiene. The concern for socialization was reflected in the recommendations of the 1905 National Conference on Day Nurseries which, among other things, suggested that day nurseries provided separate toothbrushes for each child and encourage children to brush at least once during the day. In California, where the first public school nurseries were opened after the passage of a compulsory school law in 1910 as a measure against the truancy of older siblings, the nursery programs were designed to "begin proper education and to Americanize foreign children" (op. cit., NSSE:16).

Day care centers, although usually supported by parent's fees (about ten cents per day) and private subscriptions, did receive some support from the states. For example, Maryland in 1901 donated $3,000 to support two day care sites in Baltimore. In addition, there was some pressure from city agencies to increase the number of day care units because immigrant parents, lacking child care, were giving up their children to the care of public institutions at great expense to the public. In 1899, in New York City, 15,000 children were turned over to orphan asylums at a cost of over a half a million dollars, a practice that led social agencies to recommend day care centers as a "more humane and less costly method."

Day care was still by no means coming into its own as an institution. Social workers criticized day care health standards and suggested that day care centers jeopardized home life. Opponents to day care believed that parents, particularly mothers, were being neglectful of their parental responsibilities by enrolling their children into day care centers. Social workers believed that the parent-child relationship could not be supplanted by the institutional setting of day care centers.

The first White House Conference on Children and Youth, held in 1909, heralded home life and urged that children be cared for in their own homes whenever possible. The Conference also recommended mothers' pensions as a substitute for day care, and by 1913 twenty states had

enacted laws authorizing financial assistance to indigent mothers, with payments ranging from two dollars a week to fifteen dollars a month for the first child. It was hoped that the pensions would enable mothers to stay at home to care for their children, but the payments were not adequate to the purpose. Consequently, day care centers continued to exist and mothers continued to work.

In general, the late nineteenth-century movements for social reform were silent on the subject of day care. Abuses in foster homes and orphan asylums occasioned the passage of some state laws that gave boards of charities responsibility for licensing child-care facilities. In New York City, the Bureau of Child Hygiene in 1905 required a licensed physician to give medical exams to every child cared for in a day care center, because there was no regular inspection of facilities by health officials and little was done to close centers that fell below minimum standards. Most licensing staffs were somewhat unclear about their responsibility and more concerned with state subsidizing institutions than with the quality of their centers. The women's suffrage movement concentrated on winning the vote, on the passage of child labor laws, and on improving conditions for women in factories but had little to say about day care. Charlotte Gilman, who published The Home: Its Work and Influence in 1903, seems to have been a lone advocate of extended group-care services. "Our homes are not planned or managed in the interests of

little children," said Miss Gilman, "and the isolated home-bound environment is in no way adequate to the child's proper rearing" (Gilman, 1903:329-331). She suggested that day care centers had a better record of care for children, and then added, "that which no million separate families would give their millions of children, the state can give and does" (Ibid., 331).

The Nursery School

During World War I, the Women's Committee of the Council of National Defense discussed the possibility of establishing day care centers in manufacturing areas, but no action was taken on a national level.

The care and education of young children, however, became a national concern during this period because of the popular belief that problems in early childhood had caused the physical or mental deficiencies that disqualified so many men for military service. In 1915, a group of faculty wives at the University of Chicago organized the first U.S. cooperative nursery school to offer an opportunity for wholesome play for their children, to give the mothers certain hours of leisure from child care, and to try the social venture of cooperation of mothers in child care. In the 1920s, experimental centers that emphasized research in child care and development were opened in Detroit, New York, and Boston, and at the Universities of Iowa, Minnesota and California. However, American day care centers, when

operated privately, served primarily middle class children whose parents were eager to give them an early educational experience, or if connected with universities, concentrated on research, not relief (op. cit., Beer:50-52).

The Depression and Its Impact on Preschool Children

Day Care had its largest growth during the depression of the 1930s with the creation of day care programs financed by the federal government under the Federal Emergency Relief Administration and later the Work Progress Administration (WPA). Until the depression, the United States was the only major industrial country that did not provide some type of federally funded child care program. In 1933, to create jobs for unemployed teachers, President Roosevelt authorized expenditures for day care centers to care for children of needy, unemployed families or neglected or underprivileged homes where preschool age children would benefit from the program offered. All personnel, including teachers, cooks, nurses, nutritionists, clerical workers and janitors were to come from the relief rolls. The program provided money for inservice and preservice training for staff, encouraged parent education, and did much to increase public consciousness of the value of preschool education (Chisholm, 1971:E4549). Although the schools had been created to meet a welfare need, funds were administered through state departments of education and local school boards, and the day care centers were primarily identified

as an educational service. Some of the centers were open for five hours a day and others were open for up to nine hours daily. By 1937, 40,000 children were being cared for under the program, which is still considered by professionals to have provided excellent health and nutritional care as well as education (Ibid., E4549). The WPA centers served the dual purposes of providing employment and of relieving some of the conditions of the depression that affected children adversely. A testament to the strength of the day care movement, the program represented the first federal recognition that the education and guidance of young children was a responsibility warranting the appropriation of public funds.

In what might best be seen as a separate but related development during the depression, Title V of the Social Security Act passed in 1935 allowed for grants-in-aid for child welfare research in day care. In most states the social security funds were administered throughout departments of public welfare, a precedent of much greater consequence for the future identity of day care than the WPA.

From 1933 to 1940, the federal government spent $3,141,000 on child care and provided services for 300,000 children. Because three-quarters of these day care centers were housed in public schools, many people began to feel that it was desirable and possible for the public schools to provide care and education for children under five years of age. The administrator of the WPA stated that the

emergency day care centers should become "a permanent and integral part of the regularly established public school programs" (Roby, 1975:88).

The Preschool Era During World War II

The second phase of public child care began with the entry of the United States into World War II. During World War II, the labor of women was essential to the war effort. Consequently, the crucial need to have day care for working mothers became a national problem, spanning the social and economic classes. Between January 1941, and January 1944, the number of employed women increased by four million.

The entry of the United States into World War II occasioned a dramatic shift in the public attitude toward the working mother and sparked a major federal investment in the care of children. Day care was very much in order, but its advocacy seems to have represented a tremendous psychological strain for a nation whose only unambivalent venture in child care had been an employment program for adults and whose social workers had been trained to advise mothers to stay at home.

In an ambitious attempt to accommodate both the ideal and the reality, the United States Manpower Commission in 1942 made the following statement: "The first responsibility of women, in war as in peace, is to give suitable care in their homes to their children" and at the same time cautioned employers to set up "no barriers to employment of

women with children, and to provide them with flexible hours, shifts designed to coordinate with family life, and child care services" (Women's Bureau, 1953:246).

The money for day care came from legislation passed by Congress without trauma or search for a rationale because of the acute manpower needs. Public Law 137, the Lanham or Community Facilities Act, was passed in June 1942, to provide for the acquisition and equipment of public works made necessary by the defense program. During the Lanham period the Federal Government spent $51,922,977 (matched by $26,008,839 from the states) on 3,102 day care centers, which served a total of 600,000 children. Forty-seven states took advantage of the program, although most centers were located in California, Washington and New York. The effort was impressive, but it was estimated that the centers only served forty percent of the children in need of care (Bauch, 1971:85).

The most explicit purpose of the Lanham programs was to allow mothers to work. In one congressional discussion of the Lanham Act, Carl Hayden remarked, "It is entirely proper that the Federal Government should appropriate child care money because congress declared war, child care is a war problem, support will cease with the end" (Ibid., 29). So it did. In September 1945, nine national organizations appealed to the President to forestall the closing of the Lanham centers, but the centers were closed in February, 1946.

What Exists Today?

At present, only mothers with paying jobs are included in the available statistical data as needing day care services, and the data do not include women at home who are interested in alternative care. Yet the information that is available shows an enormous and growing need for services. In 1965, there were 4.2 million children under the age of six with working mothers; in 1970, 5 million, and the figures are steadily rising (op. cit., Breitbart:30). Still, according to the Day Care and Child Development Council of America, there are fewer than 700,000 children in licensed day care facilities.

Throughout the 1960s Federal spending for day care increased significantly, but in a pattern calculated to reinforce an already segregated system of services--public day care for the poor and private nursery schools or child care centers for the affluent. The Social Security Act was amended in 1962 to provide funds for day care through state departments of welfare and again in 1967 to provide seventy-five percent federal funding for day care of children of past, present and potential welfare recipients as defined by the states. As part of the antipoverty programs, Head Start was inaugurated in 1964 under the Economic Opportunity Act (EOA) to provide a compensatory version of the day care center program for socialization, which attempted to bring immigrant children into the mainstream of American life. The EOA also provided supportive services for manpower

programs. In 1965, Title VII of the Housing and Urban Development Act provided financial and technical assistance for day care centers; in 1966, the Model Cities Act included day care projects as part of a city demonstration program (Caldwell, 1971:48). A relaxation of the official disapproval of group care for infants came in 1967, with a provision to channel Head Start money into a number of demonstration Parent and Child Centers (PCC) for children under three. Under the 1967 Social Security amendments, some money was provided for day care of children whose parents enrolled in the Work Incentive Program (WIN). Most of the Federal programs, with the exception of Head Start, were designed to provide income maintenance for the poor; the WIN program was restricted by the Federal Government's requirement of mandatory registration. Every able-bodied person who is receiving Aid to Families with Dependent Children (AFDC), and who is not needed at home to care for an invalid or for a child under six has been required to register for training and job placement by WIN. Each participant must register with the State Employment Service for work or training. As part of the program's benefits, day care is provided, but rationing of jobs and day care services is frequently necessary because of the number of applicants (Barth, 1974:19).

During the 1960s, early childhood education came into full flower as a goal for all children and a recommended component for all programs. Head Start, popular

interpretations of the work of researchers in early childhood development, and the marketing genius of the educational hardware and software industry put it, "cognitive development" into common argot and created a nation obsessed with the intelligence quotient of its children. Advocacy organizations for children also followed the trend. In 1967, the National Committee for the Day Care of Children, which was founded in New York in 1960 to press for an expansion of day care services, collectivized its efforts for change. Parents' demands for more developmental day care programs for children did not result in any significant public programs.

In the late 1960s, with day care facilities available for only a fraction of the five million children whose mothers were at work, a fresh and positive note for day care came from the women's movement, which unlike its predecessor in the early twentieth century, gave day care high priority in its demands for change. Feminists challenged the assumption that day care is a welfare service for children whose parents have to work, arguing that child-care should be available to all working mothers regardless of their reasons for seeking employment or their economic status. Women's movement activities, along with pressure for more early childhood services and dissatisfaction with the welfare system, have had the effect of broadening the concept of the day care or at least of placing discussion of the services in a positive context. Federal response,

however, has not gone much beyond a series of comprehensive child-care bills that have been introduced but not signed by the President, with some regularity since 1967. Such bills envision a system of services for young children set up under an authority independent of the welfare system, serving a mixture of economic groups and providing a full range of developmental services for children.

While the movement in support of a comprehensive or universal day care system has been gaining support, there are still major hurdles. Only seven states have initiated universal kindergarten programs, and in forty-four states, day care licensing still is recognized as an institution that grew up with the stigma of being for the poor (DCCDCA, 1970:31).

In addition, day care continues to suffer as an institution in search of a reliable professional constituency. One does not have to go far, even today, to find a social worker or an early childhood educator who will comment on the need for more and better day care, and simultaneously deprecate the use of day care by women who do not have to work. Without such a constituency the success of efforts to lobby for expansion of day care at local, state and federal levels is contingent on the ability of its advocates to effect working coalitions among professionals and agencies competing for control of programs and among community and social reform groups who often balk

at any signs of compromise to their particular philosophies of child care.

Summary

In Chapter II, the writer has provided some historical data about preschool education in America. The writer provided this Chapter so that the reader could have some understanding of the history of day care in this country. By understanding day care's past, the reader should have more insight in day care's present status, and a greater insight of the needs and importance of day care in our country today.

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CHAPTER III

REVIEW OF LITERATURE

Introduction

The body of literature dealing with preschool programs is plentiful, particularly since the 1960s and the advent of the Title I program. However, most of the historical research examines various types of preschool programs as separate entities. There is little research in which a comparative analysis of preschool programs has been made. Most researchers have examined the effectiveness of a particular type of preschool environment. Occasionally longitudinal research has been done with a particular type of preschool program, such as Title I, to assess the programs impact on children after they enter the regular school setting. A review of the literature also has indicated that the occasional comparisons of preschool programs have only examined differences in instructional methodology and how it has affected children's cognitive or affective development.

After a review of the literature through the Education Index and the Educational Research Information Center (ERIC), little research was found in which there had been

an attempt to compare the effectiveness of different types of preprimary programs. Only two studies were found that compared homebound subjects with subjects in day care-nursery programs. It became evident to the researcher that more research needed to be conducted comparing various types of preschool programs. This is necessary so that educators and the general public can make educational decisions and policies about the future of preschool programs based on empirical evidence.

> We have researched a time in our work as educators when the "why" behind what we do is becoming increasingly important. If we are to continue to receive the support that we need from the public to operate the kinds of programs that we know are best for children, we must provide knowledge based upon empirical evidence. That is the primary reason for this study to be undertaken (Butler, 1973:77).

The researcher used six ERIC descriptors to gather historical data related to this study. The six descriptors included: (1) preschool education, (2) testing, (3) educational research, (4) child development, (5) day care-nurseries, and (6) Title I. These six descriptors were fed into the Michigan State University Library's computer terminal to obtain the data. There were over 300 educational research projects related to preschool education. However, few of the writers in these preschool studies dealt with cognitive growth of the populations studied. Even fewer compared preschool programs against each other to compare cognitive growth gains. This is a unique characteristic of

this research; to compare preschool institutional environments against one another in order to make a comparative analysis of academic gains.

The bulk of the educational research for preschool educational projects occurred during the 1960s. Title I was one of the main catalysts for this interest in academic growth of preschool youngsters. What follows is a review of the meaningful data that have been collected on preschool programs and their academic success.

Research Favoring Preschool Education

One of the major controversies in psychology and child development has been concerned with the relationship of heredity and environment with intelligence. Fluctuation of opinion in one direction or the other has been a major determinant in regard to the significance of the contribution that might be made by early childhood educators (Fuller, 1960:72). Unfortunately, educators are still far away from understanding the exact nature of intelligence. There is not yet a complete resolution of the controversy. It is recognized that there are genetic factors that are fixed at the moment of conception, but understanding intelligence is complicated by the fact that heredity and environmental aspects vary together, not independently (Ibid., 72).

Bloom has pointed to three reasons why the early environment is of crucial importance: first, the rapid growth of selected characteristics makes the variations in

the early environment so important because they shape these characteristics in their most rapid periods of formation. Secondly, the development in the early years provides the base upon which later development depends; and finally, it is much easier to learn something new than it is to stamp out one set of learned behaviors and replace them with a new set (Bloom, 1964, 213).

In the context of the statements cited above, Bloom has often been quoted in support of educational programs which are academically oriented; however, Bloom is quite specific in his statement that attempts by some parents and some preschool programs to teach children to read, to write and to do simple arithmetic are misdirected education (Batler, 1968:266). His view of preschool education is that it is a very complex process of "learning to learn" which requires a very well prepared amateur or temporary . . . volunteer. Early childhood education programs are believed by Bloom to have their greatest "payoff" when specifically designed to meet the educational needs of children, which is accomplished in the process of "learning to learn" rather than by introducing preschool children to academic instruction comparable to the introduction to the three "R's." The latter academic instruction has traditionally been introduced to children at the primary grade levels in the public schools.

For many years, almost unknown to American psychologists because of the lack of translations, John Piaget was

studying the process of developing intelligence. As translations were made in the early 1960s, Piagetain concepts found their way into the writings of leading American psychologists. Piaget believed in child developmental stages and had the following theories that strongly influenced American preschool education.

1. The importance of sensorimotor experience.
2. The importance of language that relates to labeling, categorizing and expressing, which is tied intimately to developing greater facility in thinking.
3. New experiences are most readily assimilated when built in the familiar.
4. Repeated exposure to a thing or idea in different contexts contributes to the clarity and flexibility of a growing concept of the thing or idea.
5. Accelerated learning of abstract concepts without sufficient related direct experience may result in symbols without meaning (Burgess, 1965:96).

Continued Emphasis on Intellectual Development

Again, in the mid-1960s, researchers began to be concerned with the effects of day care-nursery and kindergarten on intellectual development. However, in some respects, the reasons for the focus were quite different. Programs were being planned to develop specific cognitive abilities, and research was conducted to see if such abilities were indeed being developed. Nationwide concern was voiced over the problems of disadvantaged children of low socioeconomic status where few concerns had ever been raised before.

Between 1964 and 1974, enrollment in preschool day care-nurseries tripled from approximately 470,000 to 1.6 million. During that period the total population of three and four year olds decreased from 8.4 to 7.0 million, but the proportion enrolled in school increased from ten percent to twenty nine percent of the age group. The most recent data available to the researcher showed the total United States population enrolled in preprimary education as follows (U.S.B.C., 1972:132):

Three year olds:

males	15.8%
females	15.3%

Four year olds:

males	33.3%
females	33.8%

Recent researchers have indicated the importance of providing experiences to stimulate the intellectual and socio-emotional growth of children during their earliest years of childhood. Among educational leaders there are those who posit that education in the earliest years is vital to the foundation of a child's intellectual and social growth. Jensen states:

> Our present knowledge of the development of learning indicates that preschool years are the most important years of learning in a child's life. A tremendous amount of learning takes place during these years; and this learning is the foundation for all further learning (Jensen, 1969:449-487).

Consonant with Jensen's view, a researcher conducted a study in the early 1970s and he found that preschool experiences were associated with higher scores on intelligence tests and that cognitive advantages of such training are increasingly evident as the child proceeds through the grades (Deutsch, 1963:163-66).

For years there has been a gap between the performance of disadvantaged and middle class children on intelligence and achievement. It has also been known that as the child gets older the gap increases. One of the goals for Head Start and other intervention programs was to prevent this gap from forming and from growing progressively larger. There is some evidence that if intellectual training is begun soon enough, social class does not influence the child's performance (Hodes, 1976:57). However, most studies reviewed by this researcher have confirmed the difference in the initial test scores of middle class and disadvantaged children (Horowitz, 1976:45). Participation in Head Start has been found in some studies to improve conceptual maturity and stop the progressive retardation, but not close the gap between the middle class and the disadvantaged children (Ibid., 45).

Head Start

There were three preprimary programs included in this research. In this study, Head Start was one of the two experimental programs.

Head Start was a major undertaking for the Federal Government in the 1960s. It marked a new era for early childhood education. No one would have believed that a program to give half a million disadvantaged preschool children a boost before entering school could be planned and put into operation in three short months, least of all many of the long time professionals who have fought for public support for early childhood education for the past half century. Head Start helped to make many Americans aware, more than anything else, of the needs that children have in the three to six age group.

Head Start, which was established under the Economic Opportunity Act of 1964, continues to be the most popular preprimary program for children at the federal level. Head Start is still relatively experimental. Its long term educational effect on the children involved appears to be relatively weak. Nevertheless, it has forced recognition of the fact, known for some time, but not widely accepted, that the children of the poor frequently arrive at school age seriously deficient in their ability to profit from formal education.

Studies of children in Head Start have been conducted by a variety of investigators, from widely different parts of the country, dealing with children of different backgrounds participating in programs that differ widely in form and content. Tests most frequently used are the Stanford Binet and the Peabody Picture Vocabulary Test. A

minimum intellectual gain of from five to ten I.Q. points was reported in the early finding. Several investigators reported that the findings were remarkably consistent, with about two-thirds of the studies on file in the Office of Economic Opportunity reporting either a significant increase in I.Q. or a superiority for children with Head Start experience against homebound children with similar social and economic backgrounds, but with no Head Start experience.

Prior to 1965, there had been little research on preprimary instruction within the public school sector. Since that time the preponderance of research has involved disadvantaged children; prior to that date few preschool children were enrolled in public education. Consequently, most of the research dealing with cognitive growth of preschoolers deals primarily with disadvantaged Title I children. Head Start research is extensive, but it has not been contrasted against other preschool programs. Comparative data only exist between longitudinal studies of Title I verses non Title I pupils from their kindergarten years through their elementary grades. Stevanne Auerbach cites some major findings for pupil growth in Title I programs.

1. Disadvantaged children who attend formal Title I programs show greater measured increases on standardized intelligence test scores than comparable children who do not attend a preschool program.

2. It cannot be determined how much of this change represents development of intellectual capability and how much represents other factors, e.g., learning to take tests, greater self-confidence, familiarity with different adults, etc.

3. Large scale public programs have generally produced smaller changes in measured intellectual ability, on the average, than have smaller, well-designed and expertly staffed programs (Auerbach, 1975:77).

Probably the best known report of such intermediate range effects of preschool programs is the Westinghouse/ Ohio University Report of primary grade children following Head Start. This study was commissioned by the Office of Economic Opportunity in 1968. The general atmosphere surrounding the contract from initiation to repercussions after the culmination of the report in 1969 was that Head Start, although funded since 1965 and still a very popular program, had not proved to be worthwhile in terms of its objectives. The primary objective suggested by Smith and Bissell in a critical review of the Westinghouse study was that: "Head Start is viewed by both Congress and the public as an attempt to prepare disadvantaged children for first grade and to bring their academic skills up to the middle class levels" (Smith, 1970:52). This may be somewhat unfair due to the fact that Head Start did not have as its primary goal school preparation, much less emphasize it. Academic achievement was de-emphasized in all suggested curricula for Head Start programs issued in the Federal guidelines. Affective child development was the primary emphasis. Smith and Bissell felt that limited evaluation questions such as

the Westinghouse/Ohio University group were asked to answer ran the risk of having the program judged by its failure to produce results that were never intended to be produced in the first place. The Westinghouse study led Congress to believe that preschool Title I programs did not make a difference (Engel, 1975:16-19).

The Westinghouse study was designed to answer one question: To what extent are the children now in the first, second, and third grade who attended Head Start programs different in their intellectual and social-personal behavior from comparable children who did not attend? That is, it only attempted to answer the gross question of whether all the money and effort which was put into the Head Start program had "paid off" in terms of the average child's performance on school achievement tests, classroom behavior and attitudes toward others as compared with the average non-participating child. There were some secondary analyses made on the differences in effects of programs with different social/ethnic composition, geographical regions and city size. Also, there were some suggested relations drawn between parent background data and children's performance. However, these were not the major foci of the study. The primary focus of the study was to determine if Head Start children made comparable gains with pupils in grades first, second and third who did not attend Head Start.

As both the authors of the report and the critics have pointed out, the study does not distinguish whether

some centers were successful while others were not, and whether the changes found in the primary grades were associated with immediate changes in the same children during Head Start.

The researcher provides a final word of caution on the interpretation of the Westinghouse study in this context. Although Westinghouse findings were consistent with the generalization about diminishing differences between preschool participants and nonparticipants, the study was not longitudinal; that is, it did not involve retesting of the same children in the first, second and third grades. Thus, an equally appropriate interpretation of what Westinghouse revealed is that, during the years 1965 and 1966, when Head Start was just getting organized, the programs were not as effective in changing children's performance as the 1967 and 1968 programs. The results were in agreement with those which show more differences in the first grade than in later grades. In fact, the Westinghouse/Ohio researchers examined their data and found that there was more cognitive growth in the first grade if no kindergarten grade intervened.

Barnow did a follow-up study on the Westinghouse study in 1973 (Barnow, 1973:188). His findings of the reanalysis suggested that Head Start produces statistically significant cognitive benefits for all the children. Caucasian as well as minority children did well on the pre-post

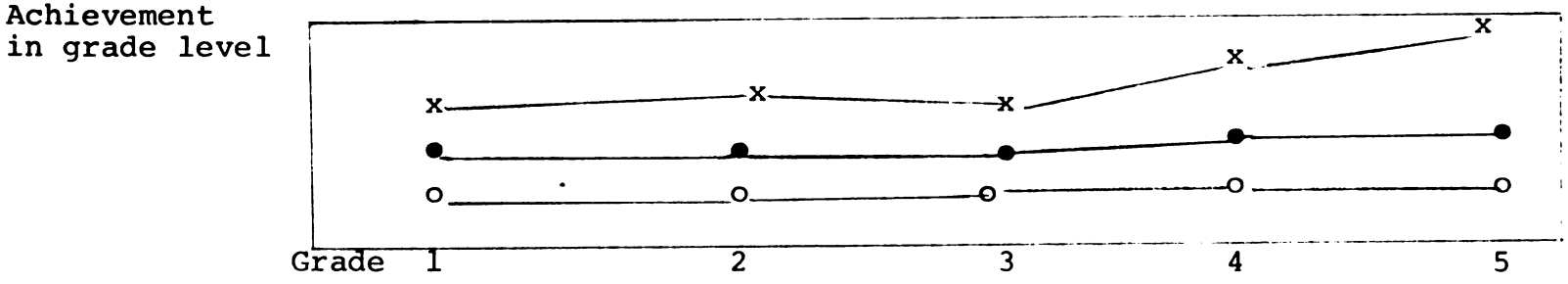

Figure 1.--Schematic trend-achievement over time for primary groups of children (Ibid., 19).

O------O Disadvantaged children with a single year of preschool attendance.

O------O Disadvantaged children without preschool and who entered public school.

X------X Advantaged children with or without preschool experience.

testing. However, there is no evidence from the data that these increases are permanent.

In another study, Weisberg found that Head Start programs are quite homogeneous in their ability to promote general cognitive development (Weisberg, 1974:27-31). His study compared a variety of Head Start programs and found that their unique methods did not influence cognitive gains significantly.

In a study by Cauley, examining the population of three Head Start centers in a full year program, groups were divided into three samples on the basis of scores on the Stanford-Binet Test--a high group with a mean I.Q. of 103.24, a middle group with a mean I.Q. of 88.76, and a low group with a mean of 73.42. All posttest means were significantly greater than the corresponding pretest means. The trend in gains suggested that although the mentally impaired derived significant benefits from the program, they did not show the same gains as the nonimpaired (Cauley, 1968:179).

The Head Start research also gives some detail to its impact on children over a longitudinal period of time. While the evidence is quite positive concerning the impact of Head Start during its existing operation, it is not consistent concerning the long range impact of Head Start. There is research that supports Head Start instruction in that children do not lose what they have gained through the

Head Start experiences but tend to level off to a plateau which allows other children to catch up with them.

Follow-up of full-year, as well as summer programs, continues to provide variable results, especially when program differences are identified. One researcher found that Head Start children who enter a middle class school appear to sustain their advantage over non-Head Start children, whereas similar head starters who mainstream into lower socio-economic schools do not.

> Other studies have found that children whose parents were volunteer participants in Head Start programs sustained their gains better than children whose parents had been actively recruited for participation in the program, or children with parents who had a high level of participation in Head Start (Mallory, 1973:15).

Weis found that children who had a preschool experience scored higher on the Stanford-Binet and Draw-A-Man Test at the end of the first grade than children who had no preschool or kindergarten experience. Further, Weis found that children who had any preschool experience, whether day care-nursery or Head Start, achieved significantly higher grades in arithmetic, reading and writing than children who entered first grade with no prior education (Weis, 1975:54).

Day Care-Nurseries

During the past two decades, a closer assessment has been made of day care-nursery programs to ascertain the impact upon preschool children. A majority of the states

have laws mandating state agencies to license day care-nurseries in order to ensure quality care of preprimary children.

Head Start also has stimulated interest in related preprimary programs. This interest has fostered research in order to determine the viability of preschools for young children. Day care-nurseries have been in this country for decades. However, only in the 1960s have pioneering studies been conducted of a quality nature. Among the more significant research which laid the foundation for the hypotheses stated in Chapter Four of this dissertation is Guidubaldi's study. In this study he compared four types of preschool programs using lower and middle class subjects. Included in the four preschool programs was day care-nursery and Montessori. Each of the programs was designed to provide educational development. The findings indicated that the type of program was not significant. Preschool educational experiences, irrespective of the program, was significant in facilitating educational development. Furthermore, middle class children excelled beyond the lower class children (Buidubaldi, 1974:17).

In a study of culturally deprived children in a day care-nursery center, Bieri discovered that the longer the deprived youngsters were enrolled in the center the greater their intellectual performance. The "old" children (enrolled for over fourteen months) gained as much as ten I.Q.

points over "new" preschool youngsters enrolled in the program for only three months. There were a total of ninety-five youngsters involved in this study (Bieri, 1970: 310-311).

Some findings have been negative regarding preschool education and its affects on young children. Moore has said that there is not a single replicated experiment that has clearly demonstrated the desirability of early schooling or day-care nurseries for the normal child who can have the security of a good home life. It is his belief, without undertaking any empirical studies of his own, that placing children under eight years in programs of cognitive emphasis is not conducive to eventual stability and cognitive maturity (Moore, 1973:24-30). He believes that research should be directed toward parent effectiveness training and home education. In a study that tended to support Moore's views, it was found that quality day care-nurseries did not result in greater cognitive gains for pupils than home-reared children made. These findings are similar to what Kagan found.

In Kagan's study, conducted at Tuft's New England Medical Center, he found that good day care-nursery programs are equal to homecare (Kagan, 1976:8-9). Kagan, working with a team of psychologists, started his own day care-nursery at the Medical Center and selected parents to supervise the program's thirty-two children. These youngsters, who spent five days each week and seven hours a day at the

center, were carefully matched with thirty-two homebound children on the basis of sex, ethnic background and economic status. (An identical research design using the matching technique was employed in this study.)

The researcher studied the cognitive and social development of both the day care-nursery children and the homebound subjects. At no time during the study did the researchers find any difference between the two groups of children in either social or cognitive development. The researchers were, in fact, amazed at the similarities between the two groups. In this study, concluded the researchers, it was found that day care-nursery programs did not affect preschool children's cognitive gains more or less positively than homecare. The researchers did not imply that all day care-nursery programs are good, but that quality day care-nursery programs did not adversely affect the cognitive or psychological growth of young people (op. cit., 3).

In a longitudinal study conducted by Gastright over a three-year period, it was found that there was a positive relationship, independent of a wide range of teaching styles and materials, between test scores and the length of time pupils have in preprimary programs. Five different standardized tests were used over the three-year period. They revealed that the more time spent by subjects in pre-school education, the greater their test score gains upon completion of preschool (Gastright, 1975:12).

In a study conducted by Goodman, three types of preschool programs which ranged from high to low in their learning environments were compared. These treatment groups were compared with a homebound group of pupils who did not have any preschool experience. Goodman's cognitive pre and posttesting of all four groups' subjects disclosed that children in each of the intervention groups showed improvements above those of the control group, but there were no significant differences between the intervention groups (Goodman, 1967:120-125).

And, finally, Braggett's study of preschool children revealed that traditional preschool day care-nursery programs resulted in children doing better at the end of the preschool year and in first grade than their control group counterparts. The three-year longitudinal study consisted of fifty-nine children at four preschools. Each was matched with a non-attender on such independent variables as sex, age, and intelligence. The Stanford-Binet was used as a pretest and posttest for the preschool year, as well as for kindergarten and first graders. At the kindergarten and first grade levels there were significant differences in cognitive growth favoring the experimental groups (Braggett, 1975:10-12).

Summary

Most recognized research on preschool education during the 1970s used the matching technique as a research

design. In none of the results were day care-nurseries found to be inferior to homecare. Much of the research refuted one of the null hypotheses for the present study . . . the null hypothesis that day care-nurseries will not have any greater impact on the cognitive growth of children than will homecare.

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CHAPTER IV

DESIGN OF THE STUDY

This research was conducted to determine the cognitive growth of preschool aged children in three kinds of educational environments in Haslett, Michigan. It was also intended to determine if the Haslett day care-nursery program is comparable to other preschool environments in providing cognitive experiences for children prior to their entrance into the world of school.

This study was designed specifically to measure cognitive growth of two Haslett preschool treatment groups, Title I and day care-nursery, and to compare each with the cognitive gains of a third control group of homebound children who did not have any preschool formal instructional experiences.

In the remainder of Chapter IV, the author will describe the following aspects relevant to the research design:

1. The Title I Head Start Program;
2. The Head Start Staff;
3. The day care-nursery staff;
4. Parent involvement;

5. Haslett Child Development Center Organizational Chart;
6. Daily Schedule;
7. The Organizational Structure of Title I and Day Care;
8. The Control Group of Homebound Children;
9. Description of Populations;
10. The Research Design;
11. Methods of Data Procurement;
12. Test Instrument;
13. Analysis of the Data;
14. Research Hypotheses.

The Title I Head Start Program

Title I Head Start was one of two Haslett preschool programs included in this study. It is limited to serving fifteen children. When entering the program in the fall of the 1975-76 school year, the children ranged in age from four years to four years, six months.

Title I services began in the mid 1960s. It marked a new era for early childhood education. Its primary purpose was to bridge the gap between the half million disadvantaged youngsters and their predominantly middle class counterparts.

Head Start was established in 1964 under the Economic Opportunity Act. The children who qualify for Title I are lacking in certain preschool readiness skills (cognitive or affective). To be eligible for Title I, children must reside in a school attendance area that has relatively high concentrations of children from low-income families and be educationally restricted to disadvantaged children alone.

For the Haslett Public Schools, the screening process for Title I Head Start applicants includes an auditory discrimination examination with a PRIDE inventory test. Also an interview between the family and the head teacher is conducted to determine the families' views of their child's needs. Finally, the child is admitted on a probationary basis to determine if he or she can benefit from the program.

The general course content for the Haslett Title I Head Start program is listed below.

DAILY SCHEDULE

8:35-8:45 . . . . Arrival and Telling Time
8:45-9:00 . . . . Group Discussion and Story Time
9:00-9:50 . . . . Free Time and Individual Activities
9:50-10:00 . . . Clean Up
10:00-10:15 . . . Small Group Discussion
10:15-10:30 . . . Small Group Activity
10:30-10:50 . . . Outdoor Activities or a large motor activity in Gym
10:50-11:00 . . . Getting Ready for Lunch
11:00-11:30 . . . Lunch and Dismissal

SPECIFIC TOPICS OF DISCUSSION

colors	Halloween	living and nonliving things
nursery rhymes	winter	
Thanksgiving	magnets	safety
five senses	spring	foods (4 food groups)
zoo animals	body parts	Dental health
where we live	Fall	plant grow
shapes	good health habits	farm animals

Enrichment Activities

Field trips Film strips Cooking Art Music

The following are the goals for preschool. Because of the age differences in class, some children will achieve more--some less.

Reading Readiness

1. Matches, points to, and names the eight basic colors.
2. Matches, points to, and names common objects.
3. Tells the likenesses and differences in pictures and objects.
4. Tells about a picture.
5. Likes to look at books and listen to stories.
6. Knows left from right.
7. Recognizes his first name.
8. Matches, points to, and names some of the letters of the alphabet.
9. Knows his address, phone number and birthday.

Number Readiness

1. Understands the meaning of: big/little
   tall/short (long)
   more/less
   first/last
   middle
   next to
   beside
2. Matches, points to, and names the four basic shapes.
3. Counts to five.
4. Counts to ten.
5. Matches, points to, and names the numerals 1-10.
6. Matches, a numeral with the correct amount of objects (1-10).
7. Matches, points to, and names a penny, nickel and dime.

Opposites

up/down	happy/sad	loud/soft
in/out	clean/dirty	heavy/light
on/off	fast/slow	dark/light
good/bad	sunny/rainy	hard/soft
old/new	open/close	go/stop
cry/laugh	asleep/awake	start/finish
hello/goodbye	lost/found	over/under
hot/cold	yes/no	front/back
girl/boy	push/pull	

Large Motor

1. Can walk at least ten feet on a straight line without stepping completely off the line with either foot _____
2. Can jump with both feet rising together over a line _____
3. Can hop three consecutive times using one foot _____
4. Can kick a ball without losing his balance or falling _____
5. Can throw a bean into a basket _____
6. Can skip or gallop, leading with the preferred foot _____
7. Bounces a ball _____
8. Throws _____
9. Catches _____

Fine Motor

1. Holds crayon properly
2. Can copy: ≠
   0
   1
   -
   X
   □
   Δ
3. Colors in approximate areas containing design.
4. Shows ability to stay within design.
5. Can cut on a line.
6. Strings beads.
7. Can put together a puzzle (5-8 pieces).
8. Can button.
9. Can zip.
10. Prints his first name.

Speech

1. Speaks in single words.
2. Speaks in single phrases.
3. Speaks in whole sentences.
4. Speaks clearly.

Social

1. Shows interest in others.
2. Cooperates.
3. Shares.
4. Respects other people's property.
5. Good listener (attention span).
6. Participates in group discussions.

Materials used to accomplish the tasks cited above include the PRIDE Reading Readiness Kit, Peabody, Sullivan and staff-developed materials. In addition, field trips are taken annually to the following sites: Fenner Arboretum, local store, fire station, Michigan State University greenhouse and animal barns, Potter Park, city airport and Ferguson Park.

The total cost for the Title I Head Start program is $15,188.00. The breakdown of expenditures is as follows:

Administrative cost	$ 600.00
Teaching staff-salaries	11,000.00
Supplies	238.00
Transportation	1,200.00
Fixed Charges	800.00
Food	1,350.00
Total	$15,188.00

During the 1975-76 school year there were fifteen children enrolled in the Title I preschool program. There were nine males and six females. In September of 1975 the children ranged in age from four years to four years six months. The socioeconomic levels of the families were divided into two primary levels of income. Eleven families were earning a total income of less than $10,000 annually

and the remaining four families were earning a total family income greater than $10,000 annually. (These data were procured through family application forms for admittance to Title I).

The Head Start Staff

The Title I Head Start Staff is comprised of two members. The head teacher has a Bachelor's Degree in elementary education and is currently completing a Master's Degree in Child Development. Her assistant is a parent of one of the Title I children and has no post high school credit. The head teacher is responsible for the weekly and long-range plans. The teacher and her assistant jointly share instructional assignments.

The Day-Care Nursery Staff

The Haslett Child Development Center provides a twelve-month program licensed by the Michigan Department of Social Services and meets federal interagency requirements. The Center is open to the public on a nondiscriminatory basis. Haslett Child Development Center is designed to support and strengthen the quality of family life as a unit by providing supplemental and complimentary care for young children.

The staff's primary concern in developing a day care program is the total developmental growth of the child. The Center's staff realizes that this will be different for each child as the staff works on individual growth needs.

While all children will be developing mentally, physically, socially and emotionally, their concerns in these areas will be unique. At the Center, the staff is concerned that every child has an opportunity to grow through normal stages of growth at his/her own rate, accepting the principle that each stage needs to be adequately worked through for the individual child if he/she is to move on to higher levels or development with a solid foundation of experiences and perceptions. Only when this happens can the instructional staff expect children to develop self-confidence, imagination and the motivation to explore and master larger segments of their world.

Man learns through his senses. Therefore, the Center strives to provide an environment that encourages exploration and stimulation. When these experiences are provided in a warm accepting atmosphere, it promotes children's symbolic development in language, speech and conceptualization.

The Center is staffed by a director, head teacher for each room and enough assistant teachers and aides to maintain a 1 to 5 ratio between adults and children. It uses the school's cook, bus drivers and custodian. Staff are listed by name and position for each room in the September newsletter. Any changes are reported in the monthly newsletters as they take place. Pictures of the staff with their names, position and room are placed on the hallway bulletin board.

The director has a Master's Degree in child development. The head teachers have Bachelor's Degrees in child development, social work and psychology.

Parent Involvement

Due to the fact that many of the parents work or go to college, it is recognized that their work will allow them little time for direct parent involvement in the classrooms. If parents do not work and enjoy working with children, they may volunteer or apply for positions if there are openings. Through newsletters, parent meetings and workshops, as well as by personal contact, they are continually made aware of classroom activities and the rationale behind them with questions and suggestions invited.

Some of the other parent involvement activities are: parent classes, fund raising projects, social events, serving on the board, driving on field trips, bringing in special snacks, making things for the Center (curtains, puppets, etc.), and serving on committees (phoning, playground improvements, etc.).

Haslett Child Development Center is a non-profit tax exempt corporation established to meet the community's need for a full day, part day and after school care. The Center is sponsored by the Haslett Public Schools in that they can provide the Center with space not needed by their programs. The Center pays for utilities, food, and services by auxillary personnel. The program uses three rooms in an

elementary school for classrooms and a fourth room for office space (this is shared with the adult education class).

Membership on the Board includes officers, school representatives, parent representatives and the administrative director of the Center. The Board meets every other month to discuss the progress of the Center and to approve all policies pertaining to the operation of the Center.

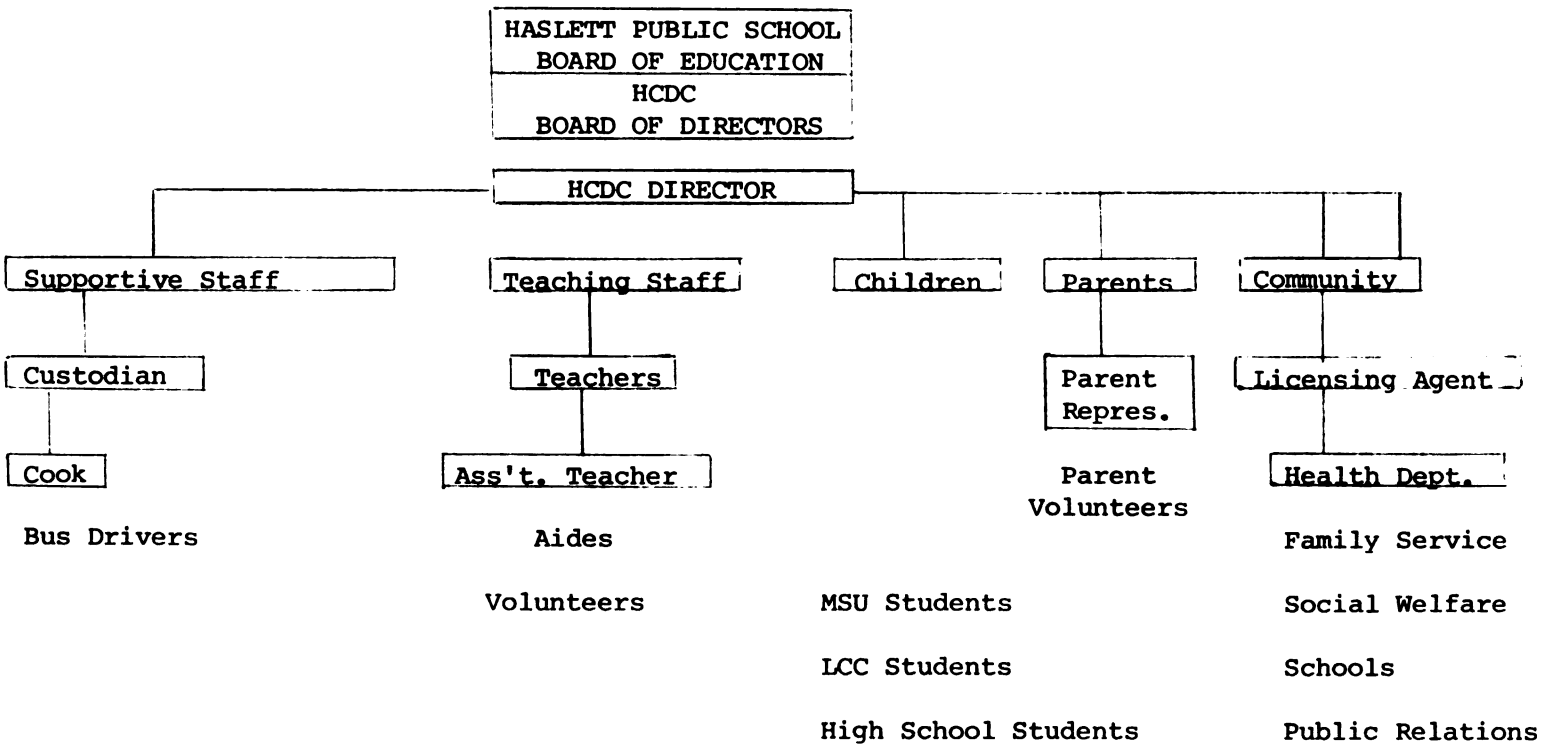
Home visits may be made in the fall and conferences are encouraged in the spring. These are in no way to be considered the only contacts between the staff and parents. The parents may request a conference at any time and much informal contact occurs during pick up and arrival times.

There is a parent-staff communication board on each classroom door. This allows the parent to leave a written message to all the staff (in many cases the first teacher in leaves before the children do--the late p.m. staff needs the information too). There is a yellow box on the director's desk where any messages about schedule changes, etc., may be left.

Daily Schedule

While consistency within the daily program is needed so the children can predict and order their day, there is also a need for flexibility. This permits adaptation of plans to fit extremely hot or cold days, special guests as well as the mood of the group and/or teacher on a particular day.

Haslett Child Development Center
Organizational Chart



7:00 a.m. - 8:00 a.m.: Breakfast and freeplay

Arrival of initial staff and a few children whose parent's employment dictate they leave the children at the Center at this early hour. The few children who arrive early eat breakfast before starting their play. Reading stories, quiet table games, paper, crayons, and other art materials are also available to the children. Plans allow an adult whose attention can be focused on the children arriving and ease this transition from home and sleep.

8:00 - 8:30 a.m.: Freeplay continues

At 8:15 a.m. the part-time preschoolers leave and move to their classroom. By 8:30 a.m. most of the children have arrived, the full staff is present and all three rooms are in use.

8:30 - 8:45 a.m.: Clean-up

This is a time planned for children to help put away the toys used during the morning freeplay. As the children are consistently helped and encouraged to take responsibility for re-establishing order in their surroundings, it helps them gain a sense of mastery over their environment. It is also one more opportunity for developing cooperative interaction.

8:45 - 9:00 a.m.: Large group

Large group is provided to assist children in placing themselves so that they do not become overstimulated or too tired. During this time children may listen to records

or the teacher may read or tell a story or poem. This is not an active play time, but one used for rest and relaxation.

9:00 - 9:15 a.m.: Small group

During the small group period a group of 5 or 6 children are grouped with one adult who leads an activity which is adaptable to each child's needs and abilities and yet allows the teacher to interact with the children in a more controlled setting than freeplay.

9:15 - 9:35 a.m.: Wash and snack

Toileting and washing in preparation for snack. Children help set out cups and napkins. These along with many other self-help activities allow the children a feeling of independence as well as practice in counting and one to one correspondence.

9:35 - 10:20 a.m.: Outdoor play

Outdoor play is generally enjoyed by children as an important part of their development. Plans for play foster the large muscle development necessary at this age. Outdoor equipment includes swings, slide, sand, climbers and lots of running and jumping room. Large wheeled toys are available during nice weather. Sleds are available in the winter. A gym with an indoor climber, balls, etc., is available during very cold or wet weather.

10:20 - 10:50 a.m.: Continued outdoor or indoor large motor (Depending on the weather).

10:50 - 11:00 a.m.: Wash for lunch

Toileting and washing hands in preparation for lunch.

11:00 - 11:30 a.m.: Lunch

Staff sit with children to encourage social interaction and a relaxed feeling during lunch. Children are encouraged to try new foods but never forced to finish all foods.

11:30 - 11:40 a.m.: Preparation for Naptime

After lunch the children wash, toilet and brush teeth. They then go to the nap room and settle down to soft music. Naptime is a quiet time when all children will lie on their cots and rest whether they sleep or not.

1:00 - 2:30 p.m.: Wake and Freeplay

Anytime after 1:00 p.m. the children may get up as they wake. They are taken to another room for a quiet freeplay and wake up period.

2:30 - 2:50 p.m.: Wash and snack

(see a.m. snack)

2:50 - 3:00 p.m.: Large Group

3:00 - 3:45 p.m.: Outdoor

(see a.m.)

3:45 - 4:30 p.m.: Small group quiet activities

Upon coming into the building the children go to the carpet and hear a story or some small quiet activity. The children are then settled down from their active outdoor play and move to the table activities, or watch Sesame Street.

4:30 - 6:00 p.m.: Freeplay

Many children have gone home by this time of day. The remaining children are often those who arrived around 8:30 a.m. and missed the earlier freeplay period. This part of the program is designed to allow children to "finish" some play started earlier or relax with a book they didn't have time to look at earlier, etc. The art activities are simple and easy to get out of when parents arrive to pick up their children.

Play is valued by the staff as the most meaningful means of learning for pre-school children. Recognizing the need for repetition to gain play also gives children an opportunity to stimulate their imaginations through the world of fantasy. Each child will adapt and assimilate in his individual style those experiences most meaningful to him in his present stage of development and can then move confidently on to further growth and development.

Weekly lesson plans are posted in each room along with the daily schedule. The themes for the month or each week within the month are listed in the monthly newsletter.

Food Program

The day care-nursery hot lunches are prepared by the elementary cafeteria staff for those children who stay for lunch. A snack is served in the morning and afternoon. Juice and crackers are the standard menu but nuts, raisins, fruit, vegetables, toast, popcorn, milk, etc., are itermixed

to introduce the children to a variety of foods. The children sometimes make their snack (pudding, jello, etc.).

Resource People and Places

A part of the HCDC program is to provide special experiences for the children. Such traditional field trips as the fire station and trip to the zoo are included. Other places in the community include a farm that grows small pumpkins and allows the children to pick their own; a man that raises rare birds and gives up fertilized eggs to hatch in the classroom. One of the Center's parents visits the children frequently and has equipment to demonstrate carding and spinning wood and then weaving it. He also has a cider press, makes ice cream and peanut butter, etc., by hand.

The Center uses the public library, stores, swimming pool, post office, parks, a log cabin, train, football field, etc., within walking distance. The program has been fortunate to be in a good location and have access to many of the public school facilities (i.e., gym, movie projector, music room, etc.).

Budget (Monthly)

Salaries	$5,000	
Equipment	500	(The program is still expanding and purchasing new equipment to keep up with growing enrollment.)
Supplies	100	
Food	500	
Utilities	200	
Phone	70	
Insurance	50	
Adm. fees	10	
Subs	100	
	$6,530	monthly expenses

Income (Estimate)

55	full-time capacity enrollment
30	one week fees
1650	
x 4	weeks in a month
$6600	monthly income

The Control Group of Homebound Children

The control group of pupils did not have any formal preschool instructional experience before or during the present study. The subjects were selected because they had characteristics comparable to the Title I Head Start children. These characteristics included age, sex and socio-economic levels.

The researcher labeled the control group of subjects as homebound children. This term refers to the fact that the children were not enrolled in any preprimary programs.

All of the homebound children resided within the same geographical Title I area as did the treatment group subjects.

With the exception of three homebound children, all of the subjects resided in the home of their respective families. In the three exceptions, the children stayed with babysitters during their families' working day.

Each homebound child's parents had to give consent for their child to participate in the project (no family had more than one child in the study). The parents had to bring their child to the school test site for both pre and posttesting. In each case, the parents were most interested in seeing their child's test results. These data were made available to each parent following the posttest.

The Organizational Structure of Title I and Day Care

The Haslett day care-nursery center's personnel structure is very much analagous to that of Haslett Title I Head Start. Both staffs have very similar organizational components, which include the following:

Haslett	
H.C.D.C.	Title I Head Start
Day Care Board	Haslett School Board
Director	Director
Head Teachers	Head Teachers
Teacher's Aides	Teacher's Aides

Both organizations have a board. However, the Center's Board is comprised of staff and parents. On the other hand, Title I is under the auspices of the Haslett School District; and therefore, the district's school board has the ultimate control of the program.

The director of the day care-nursery is an advisory member of the board. She has a Master's Degree in child development, and her only occupational role is the operation and supervision of the Center. The Title I director also serves as the special services director for the school district. His Title I role is primarily involved with writing proposals and gathering year-end data. The collected data are submitted to the State Department of Education. He does not have the daily contact with his instructional program that the day care-nursery director has.

Both programs have at least one head teacher and one aide. However, the Title I program, which maintains only a maximum of fifteen pupils, has only one head teacher and one aide. This provides approximately a one to seven teacher to pupil ratio, whereas, the Center maintains a one to five ratio between adults and children due to state and federal licensing requirements. The latter program requires more staff because of the ratio restrictions and also because of the eleven-hour day, which necessitates two shifts of instructional personnel.

The head teachers in the Center's program have a Bachelor's Degree in child development or some other related

field. The Title I teacher has a Bachelor's Degree in elementary education. Her aide has no formal educational experience beyond high school. The Center's aides range from part-time high school students to Michigan State students working toward degrees in early childhood education.

Description of the Populations

The school district from which Title I subjects were selected is located east of Michigan State University, East Lansing, Michigan. The district measures approximately twenty-two square miles in area. The Title I area eligible for Title I Head Start funding encompasses four schools in a six-mile radius. A description of these schools and their percent of low-income families is included in Table 4-1. The Table indicates that over twenty percent of the population is low income, which qualifies the district as a Title I area.

The Haslett School population is mainly middle class with approximately twenty percent of the families classified as low income. Minority students comprise less than one percent of the school population, and the teaching staff has one percent racial-ethnic minority representation. Differences in socio-economic status were considered as variables for the purpose of this study but not racial-ethnic representation. However, all but one of the subjects were caucasians.

Table 4.1--Eligible Title I Public Schools (school attendance areas having a percentage of low-income students).

SCHOOL	All children residing in attendance area and eligible to attend listed school (including non-public)				
	Number	Number From Low-Income Families	Percent	Number of Title I Participating Pupils	Total of Estimated Expenditures for Title I (To nearest dollar)
Ralya Elementary	131	41	31.2	3	12,336
H. M. Murphy	426	97	22.7	12	12,336
Haslett Middle School	482	122	25.3		
Haslett High School	704	128	18.1		

Number of public schools in the district not eligible for Title I:

Elementary 1, Middle or junior high 0, high school 0.

School building within entire school district which has the lowest percent of children coming from low-income families.

Name of School Building Having Lowest Percent	Percent
Wilkshire Elementary	12%

Only children in the Title I geographical area are eligible for Head Start. Also, only children residing within this area were included in the study for both experimental and control groups. Within this geographical area, there were 258 children between the ages of four years and four years, six months. There were 111 preprimary children enrolled in the Title I geographical area. The remaining 147 pupils were homebound children having no public school preprimary instructional experience.

The Research Design

The researcher used children in two preschool treatment groups, Title I Head Start and the Haslett Child Development Center. These groups were compared with a third control group of homebound children. The latter group of young people did not have any formal preschool instruction during the study. Each of the three groups contained fifteen subjects. This number was selected because of the state enrollment guideline limitations for teacher-pupil ratios in Title I Head Start. The state guidelines also specify the types of children that can be enrolled in the Title I program. As stated earlier, each child needs to reside in the Title I geographical area of a school district and have preschool readiness needs in cognitive and/or social development. Consequently, each preschool child is screened into Title I. Therefore, it was not possible to randomly select preprimary subjects for the Title I program.

Whenever possible, randomization should be used to control for confounding variables. However, with the mandatory preselection of Title I subjects, it was not possible to randomize.

Alternatives to the random selection technique were explored. In the absence of an opportunity for random selection, the most appropriate alternative was matching.

In the matching technique, three matching variables were used. In this factorial design the matching variables were age, sex and socioeconomic levels. The latter variable was based on total family income. In other words, the female subjects in the Haslett day-care-nursery and homebound programs matched with the Title I female subjects who had the same ages and socioeconomic levels (see Chapter V, page 85).

Test Instrument

In this study the researcher used the test instrument entitled CIRCUS. The CIRCUS Test was highly recommended by the Michigan State Department of Education. CIRCUS was developed by the Educational Testing Service (ETS) in order to evaluate early education programs.

During the 1972-73 school year the CIRCUS instruments were field tested with a national sample of preprimary children in order to collect (a) normative data, (b) the alpha reliability of the instruments, and (c) assess the workability of the administration, scoring and reporting

systems. Testing was completed in 190 kindergarten classes and ninety-seven school classes in 145 preprimary centers. A total of 1,979 kindergarten children and 1,006 nursery school children took part in the CIRCUS administrations (op. cit., Anderson, 12-18).

An article written by Mayer cited earlier in this research is critical of the CIRCUS instrument because of the length of the test as well as its inappropriateness for large group administration (op. cit., Mayer 72).

The researcher only administered five of the possible fourteen tests. The five tests selected by the researcher were chosen because of their emphasis in the cognitive domain. This naturally reduced the amount of time required to administer the test, which should have been responsive to some of the criticism regarding the test's time involvement for young children. (Each of the three testers still reported a time of sixty to ninety minutes for administration of the test). Mayer was also critical of the test's limitations with groups. The test was given to each child on a one to one basis.

This was possible because the CIRCUS Test requires a one to one relationship between tester and testee. The Haslett Child Care director's office was the testing site scheduled for the pre and post testing. The homebound subjects brought their children to the school test setting for assessment.

The five subtests included the following cognitive measures:

1. How Much and How Many
    a. Counting
    b. Relational Terms
    c. Numerical Concepts
2. Look Alikes
    a. Complex Matching
    b. Reversals
3. Finding Letters and Numbers
    a. Capital Letters
    b. Lower Case Letters
    c. Numbers
4. How Words Sound
    a. Sound Similarities
    b. Sound Differences
5. Listen to the Story
    a. Comprehension
    b. Interpretation

Subtest number one, "How Much and How Many," examines quantitative concepts: demonstrating understanding of enumeration, counting, one-to-one correspondence, ordination, comparison and quantitive language through the identification of appropriate pictures (40 items).

Subtest number two, "Look-alikes," examines a child's visual discrimination. Children match identical letters, numbers, and drawings (33 items).

Subtest number three, "Finding Letters and Numbers," tests a child's cognitive understanding of letter and numeral recognition as well as discrimination. The similar letters and numbers (20 items).

Subtest number four, "How Words Sound," tests for auditory discrimination, discriminating among phonemes, including initial and final consonants and medial vowels (44 items).

The final subtest, "Listen to the Story," tests for comprehension, interpretation and recall of oral language. A child is read a story and asked to interpret what the story was about and what it meant (25 items).

Coefficient alpha reliabilities have been provided for each of the five subtests within the CIRCUS instrument. The reported reliability coefficients are in the .77 to .92 range (see Appendix C for the reported coefficients).

Methods of Data Procurement

In order to fulfill the requirements demanded for the hypotheses of this study, it was necessary for the researcher to have the CIRCUS Test administered. This Test was administered in the fall and spring of the 1975-76 school year. There were five subcomponents of the CIRCUS instrument used by the researcher to measure cognitive group gain scores. All subcomponents of the CIRCUS instrument used by the researcher measured cognitive group gain

scores. All forty-five of the subjects were able to participate in the pre and posttesting.

To avoid tester bias, three testers were used. Each tester was a teacher aide employed by the Haslett Public Schools at the elementary level of instruction. None of the three testers had formal educational training beyond two years of college. Two of the testers worked in the pre-school treatment programs and the third tester was an aide for one of the elementary schools.

Each tester was asked to administer the CIRCUS Test to one-third of the subjects in each of the three groups. The testers administered the posttests to the same subjects that they pretested in the fall. Also, the same test site was used for all forty-five test subjects.

Analysis of the Data

The researcher wanted to determine if there were significant differences in cognitive gain scores for three preprimary groups of children. The null hypotheses to examine this question were written as follows; Ho_1: There will be no significant differences among the three group mean gain scores. If differences do exist, the following questions will be explored: First, did the treatment groups, Title I and the day care-nursery make greater cognitive gains than the homebound children? Secondly, did the day care-nursery group of children make greater gains than the Title I pre-school group? Analysis of variance was conducted

to examine the null hypotheses. An analysis of variance did reveal which group or groups made significant gains. To determine where the differences existed a Scheffe' post-hoc analysis was performed. Through this post-hoc analysis it was determined that between group differences of at least 8.38 would be significant. There were no significant differences between any of the other pairs of gain scores.

The second null hypothesis that the researcher dealt with was stated as follows; Ho_2: There will be no significant differences in the gain scores as measured by the three testers. The interaction of tester by group was also performed.

A supplementary analysis of the data was conducted to determine if there were significant differences for all of the CIRCUS battery of subtests or only in some specific cognitive areas. Once again an analysis of variance was conducted for each of the five subtests.

The statistical results obtained in examining the null hypotheses are reported in Chapter V. In addition, Chapter V also contains the results of the supplementary analysis of the data.

Research Hypotheses

The following null hypotheses were used for this research:

Ho_1: There will be no significant differences among the three group mean gain scores.

Ho_2: There will be no significant differences in the gain scores as measured by the three testers.

If a difference does exist, then the following two questions will be explored:

1. Did the treatment groups, Title I and the day care-nursery make greater cognitive gains than the home-bound children (control group)?

2. Did the day care-nursery group of children make greater gains than the Title I pre-school group?

The intent is to determine which Haslett pre-school program has, if any, the greatest cognitive impact upon children. An alpha level of .05 was set.

Summary

Chapter IV contains a description of the educational programs that were measured in this study. The description of the control and experimental groups is provided so that the reader will better understand the types of programs that were examined.

In addition to the above, the researcher also discusses in Chapter IV the design of the research, the research instrument used for data procurement, and analysis of the data. The research design is based on a size limitation established by Federal regulations for Title I. This size restriction affected all three of the groups under investigation equally. All of the groups were matched on the basis of three matching variables using the CIRCUS Test.

CHAPTER IV REFERENCES

1. Scarvia B. Anderson et al., CIRCUS Manual and Technical Report, Educational Testing Services (Princeton, New Jersey: 1974) pp. 12-18.

2. Rochell S. Mayer, "CIRCUS: Comprehensive Program of Assessment Services for Pre-primary Children," Journal of Educational Measurement 14 No 1 (1977): pp. 65-72.

CHAPTER V

ANALYSIS AND DISCUSSION OF RESEARCH DATA

Introduction

This study was undertaken to determine if two Haslett preschool programs would make significantly greater cognitive group gain scores than a controlled group of homebound children. The latter group was not enrolled in any formal preschool program. Thus, the research study consisted of three groups; each group comprised of fifteen subjects. One group, Title I Head Start, was selected on the basis of predetermined criteria established by Federal Title I guidelines. The two other groups ; subjects were matched with the Title I group on the basis of sex, socio-economic levels and age. These three subcomponents were controlled for, and therefore, are not characteristics that could explain differences in the test scores.

Matching subjects resulted in an equal distribution of pupils for the three variables cited above. Each group was composed of nine males and six females; each group had the same number of families divided into two primary levels of income; (eleven families were earning a total income of less than $10,000 annually), and each group contained an

equal number of subjects whose ages ranged from four years to four years and six months at the time of testing. These data were acquired by having the Title I Head Start and the day care nursery subjects' parents fill out registration forms. The researcher had to get the same data by interviewing the parents of the homebound children.

All of the findings were based on the results of the pre and post CIRCUS Test discussed in Chapter III. The pretest was administered in September 1975 and the posttest was given to the same subjects in May 1976. There were no missing values.

In the remainder of Chapter V, the analysis and findings will be provided. The following subtopics have been included in this chapter:

1. Hypotheses
2. Analysis
3. Discussion

Hypotheses

Ho_1: There will be no significant differences among the three group mean gain scores.

Ho_2: There will be no significant differences in the gain scores as measured by the three testers.

Analysis

In order to determine if there were differences among groups, and if there were significant differences among testers, a two-way analysis of variance was conducted.

As indicated in Chapter IV, there were three testers involved in this study. Each of the three testers administered the test to five subjects in each of the three groups. Also, each tester administered the tests to the same subjects on the posttest that they tested on the pretest. The results of this analysis are reported in Table 5.1.

In response to hypothesis 1, regarding differences among the groups, an F ratio of 5.31 was attained. This was significant at the .05 level. Therefore, the null hypothesis was not retained. The researcher concluded that there were significant differences between the groups. The analysis of variance provided an overall indication of whether or not there were any differences among any groups being tested. When the analysis of variance results indicated a significant difference, the researcher then conducted a Scheffe' post-hoc analysis to determine specifically where the significant differences existed. The following is the formula and computations for the Scheffe' post-hoc analysis.

$$\Psi L \pm \sqrt{(J-1\ F_{2}J-1,\ (1-\alpha)} \qquad \sqrt{MSe\ \frac{c\ 2}{In}}$$

$$\sqrt{2\ X\ 3.16} \qquad \sqrt{80.72\ (1/15 + 1.15) = 8.38}$$

Using the analysis, it was determined that the critical score level was 8.38. This means that wherever differences between the means are found, which exceed 8.38, those groups

Table 5.1--Analysis of Variance of the Results of Group and Testers on Gains of the CIRCUS Test.

Source of Variation	Mean Squares	df	F Ratio	p
Groups	428.42	2	5.31	.01
Testers	147.49	2	1.83	.17
Interaction	55.29	4	.68	.61
Error	80.72	36		

scored significantly different. An inspection of Table 5.2 reveals that there is a significant difference in the gain scores between the Title I and homebound groups with the former group obtaining significantly higher differences. There were no significant differences between any of the other pairs of gain scores.

The researcher concluded that the two experimental programs did assist the children in the five cognitive areas that were tested.

There are a total of seventeen test instruments for CIRCUS. However, only five subtests were administered to assess group cognitive gain scores using pre and posttests in the fall and spring of the 1975-76 school year. The pre and posttesting period occurred over an eight-month period. These tests included the following cognitive areas:

1. Quantitative concepts
2. Visual discrimination
3. Letter and numeral recognition
4. Auditory discrimination
5. Comprehension, interpretation and recall of oral language

The researcher's findings indicated, that of the three groups studied, the preschool Title I Head Start group made the greatest cognitive gains over the pretest and post-testing period. The second treatment group of children, those in the day care nursery program, made comparable gains with the homebound group of children. However, the treatment programs did not appear to have an adverse effect on the preschool youngsters. Group gain scores were made by both

Table 5.2--Group Means for the Pre-Post and Gain Scores on the CIRCUS Test for the Title I, Day Care and Homebound Groups.

Group	Number	Mean Pre	Mean Post	Mean Gain
Title I	15	88.2	105.0	16.8
Day Care	15	121.1	135.0	13.9
Homebound	15	107.6	114.0	6.4

groups, although the Title I group was the only one of the two treatment groups that made statistically significant gains as compared with the control group of homebound children.

With hypothesis II, the researcher was concerned with any differences which might be disclosed among the three testers. The results of this analysis have been displayed in Table 5.1. As can be seen by an inspection of this table, there was no significant tester effect at the .05 level. Hence, the researcher retained the null hypothesis of there being no differences due to testers.

The interaction of tester by group was performed to determine if there were any differential effects of testers and groups. An F ratio of .68 was obtained (see Table 5.1) which was not significant.

Supplementary Analysis

The researcher has examined total test scores up to this point. The researcher is, in addition, interested in further investigation to determine if the data that were found on the total test scores occurred in all cognitive areas that were measured by the test or just in specific areas.

The researcher ran an analysis of variance for each of the five subtests. The data are reported in Table 5.3. A review of Table 5.3 indicates that there was no significance for the interaction effect, which was also the case

Table 5.3--Analysis of Variance of the Results of Groups and Testers on Gains of each of the Five CIRCUS Subtests.

SOURCE OF VARIATION	SUBTEST	MS	df	F	P
GROUPS	Quantitative Concepts	46.16	2	4.29	.02
	Look Alikes	18.82		1.48	.24
	Finding Letters & Numbers	20.69		1.76	.18
	How Words Sound	27.02		1.89	.16
	Auditory Discrimination	40.20		4.02	.02
TESTERS	How much and How Many	3.82	2	.36	.70
	Look Alikes	6.82		.54	.58
	Finding Letters & Numbers	2.02		.17	.84
	How Words Sound	38.29		2.68	.08
	Listen to the Story	6.87		.69	.50
INTERACTION	Quantitative Concepts	20.86	4	1.94	.12
	Look Alikes	8.36		.66	.62
	Finding Letters & Numbers	12.96		1.01	.37
	How Words Sound	14.06		.98	.42
	Auditory Discrimination	17.17		1.72	.16
ERROR	Quantitative Concepts	10.77	36		
	Look Alikes	12.71			
	Finding Letters & Numbers	11.78			
	How Words Sound	14.29			
	Auditory Discrimination	9.98			

for total test scores reported in Table 5.1. For groups there were significant differences for two of the five subtests. The two subtests that showed significant differences at the .05 alpha level were subtest one, Quantitative Concepts, and subtest five, Auditory Discrimination.

Both of these tests were significant at the .05 level. Thus, the researcher would expect differences that large or larger by chance only five times in one hundred.

Although the researcher found differences in total test scores, in Table 5.1, supplementary analysis revealed that the differences were not in each of the five subtests, but rather, the two subtests cited above.

Table 5.4 reveals the mean gain scores for subtest one and five. All three groups' mean gain subtest scores are reported. In order to determine specifically where the significant differences were, the Scheffe' post-hoc analysis was used once again. For subtest one, Quantitative Concepts the critical score level was 3.09.

$$\sqrt{2 \text{ X } 3.16} \qquad \sqrt{10.77\ (1/15 + 1/15)} = 3.09$$

For subtest five, the critical score level was 2.96.

$$\sqrt{2 \text{ X } 3.16} \qquad \sqrt{9.98\ (1/15 + 1/15)} = 2.96$$

Group one, in subtest one, was significantly greater than group two, but not significantly greater than group

Table 5.4--Group means for the pre-post gain scores on Quantitative Concepts and Auditory Discrimination subtests of the CIRCUS tests for Title I, Day Care and Homebound groups.

SUBTEST	GROUP	NUMBER	MEAN PRE	MEAN POST	MEAN GAIN
1	1	15	18.2	24.8	6.6
	2	15	29.5	33.0	3.5
	3	15	22.6	26.3	3.7
5	1	15	11.3	14.1	2.8
	2	15	17.3	21.0	3.7
	3	15	16.5	17.0	.5

three. Thus, the Title I group made significantly greater gains than the day care-nursery group on Quantitative Concepts.

In subtest five, Auditory Discrimination, the day care-nursery group scored significantly higher than the homebound group at the 2.96 critical score level. The Title I group did not score significantly higher than the day care-nursery group. Title I scored significantly higher than day care for the subtest on Quantitative Concepts. The only groups having significant differences were pre-school groups two and three, day care-nursery and homebound respectively.

The Title I Head Start mean gain score for the pre and posttest period was 16.8. Contrasted with the Title I group, the day care-nursery and homebound children made mean gain scores of 13.9 and 6.4 respectively. Thus, with an alpha level of .05, the Title I Head Start group did make significantly greater gains than did the homebound group. There were no significant differences in the tester effects at the .05 level.

It is interesting to note that the Title I children did make more pronounced gains and nearly scored at the national norm levels. This is particularly noteworthy since these students were accepted into the preprimary programs because of their pre-school skill deficiencies.

Once the researcher discovered that there were significant differences between the three groups, further investigation was conducted to determine if all of the CIRCUS subtests were significantly different or just some of the subtests.

It was discovered that two of the five CIRCUS subtests were significantly different. The two significant subtests were Quantitative Concepts and Auditory Discrimination. The Scheffé post hoc analysis determined the critical score levels so that the significant differences could be determined between group subtest mean gain scores. Title I made significantly greater gains than the day care-nursery groups in Quantitative Concepts. There were no other significant differences between the three group's mean gain scores for subtest one. On the other hand, subtest five, Auditory Discrimination, had significant differences between the day care-nursery and homebound groups. A plausable explanation for the three group differences in the above subtests will be explained in Chapter VI.

The researcher anticipated significantly greater gain scores on all of the five CIRCUS subtests for Title I Head Start and day care-nursery as compared to the gain scores for the homebound group. This assumption is based on the fact that the former two groups had formal preschool instruction aimed at improving cognitive gain scores of preschool pupils using certified instructional personnel during the course of the pre and posttesting period. Both

of the preschool programs emphasized curriculum exposure in numerical concepts and language enrichment. However, an unanticipated outcome occurred when the Title I Head Start group made significantly greater gains than did the day care-nursery group for the same subtest as compared with the homebound group. (The latter group had no formal preprimary training.) Based on the fact that the day care-nursery group had a formal preschool instructional program and the homebound subjects did not, it was anticipated that the former group would have significantly greater cognitive gains on subtest one and five as compared with the homebound group.

Comparing the subtests, the researcher found that none of the subtests showed Title I Head Start making significantly greater gains than the homebound group. What the researcher did find, however, was that on one of the subtests, Quantitative Concepts, Title I made significantly greater gains than did day care-nursery. For subtest five, Auditory Discrimination, the researcher found that the day care-nursery group did significantly better than the homebound group. In fact, Table 5.4 revealed that the homebound group made almost no improvement in subtest five over an eight month period.

Table 5.2 showed that overall, the five CIRCUS subtests had the two preschool experimental groups, Head Start and day care-nursery, making greater gains than the homebound

group. These gains were significant for the Title I Head Start group, but were not significantly different for the day care-nursery group as compared to homebound.

Summary

The analysis of research indicated that there were significant group differences between the mean gain scores of the three groups tested. The Title I group did make significantly greater test gain scores over the homebound group during the eight month pre and posttest period. These were the only two groups that had significant test scores between them. Table 5.1 revealed that there were no significant differential effects for testers and groups.

Supplementary research was conducted to determine if the data that were found on the total test scores occurred in all cognitive areas that were measured by the test or just in specific areas. Supplementary analysis revealed that there were two subtests that were significantly different and that the three other subtests were not significantly different. The researcher was somewhat surprised by the fact that the Title I Head Start group made significantly greater gains on the subtest entitled Quantitative Concepts than did the day care-nursery. For subtest five, Auditory Discrimination, the researcher found that the day care-nursery group made significantly greater cognitive gains over the homebound group. Why the significant differences

did not occur between the same two groups for both subtests was an unexpected result; but, some rationale for the differences will be given in the concluding chapter.

CHAPTER VI

SUMMARY, CONCLUSIONS, IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

In Chapter VI, the researcher has summarized the results of this study, derived conclusions regarding the viability of preprimary programs in the public school sector, suggested implications of the research project and provided recommendations for further research into preprimary educational programs.

Summary of Results

In Chapter V, the researcher was not able to support the first of two null hypotheses: the first null hypothesis stated that there would be no significant differences among the three group mean gain scores. Using a two-way analysis of variance revealed that there were significant differences between the three groups. The Title I Head Start group made significantly greater cognitive gains than did the homebound group of children. The second null hypothesis stated that there would be no significant differences in the gain scores as measured by the three testers. The latter null hypothesis was supported. Using analysis of variance,

the researcher found that the interaction of tester by group revealed no significant differential effects of testers and groups.

In addition to the above, the researcher once again conducted an analysis of variance to determine if there were significant cognitive gain scores for each of the five CIRCUS subtests or only some of them. The analysis of variance revealed that only two of the subtests, Quantitative Concepts and Auditory Discrimination were significantly different. The Title I Head Start group had significantly greater gain scores than did the day care-nursery in Quantitative Concepts (subtest one). This was a different outcome than for subtest five, Auditory Discrimination. The day care-nursery had significantly greater cognitive gain scores for subtest five than did the homebound group of children.

Conclusion

Both the Title I Head Start Program, as well as the day care-nursery, made cognitive group gain scores equal to or greater than those of the homebound children. However, since random assignment of the subjects was not possible, the researcher could not make any causal statements about the variables which might explain the gain scores. Certainly, however, in terms of pre and post cognitive gain scores, the day care-nursery results were encouraging. The

Haslett Child Developmental Center did not have a negative impact on the cognitive growth of the children enrolled in the program.

In the review of the literature cited in Chapter III, there were some opposition to preprimary programs. Some of this opposition was critical of preprimary programs and their cognitive impact on children. In this research there were significant differences in cognitive skill gains as measured by the CIRCUS Test. Significant differences were found between the Title I and homebound group that had no pre-school experience. There were no significant group gain differences between the Title I and day care or the day care and homebound groups. The differences between group one and group three were not very significant in any one of the subtests; but, if all of the subtests are examined collectively, there were enough differences to be significant. The subtest score differences between groups one and two were not enough to have significant overall cognitive gain score differences between the two groups.

Implications of the Study

In this study the children enrolled in the formal preprimary programs did make cognitive gain scores. In the absence of random selection of subjects, the gain scores cannot be directly attributable to the treatment programs. However, the treatment programs did not adversely effect cognitive growth of the groups. This suggests that more

research should be conducted to determine what variables are related to increasing childrens' cognitive gain scores in preprimary programs.

Since there were no statistically significant cognitive differences between the day care and homebound groups, parents may feel neutral about having their children attend a preprimary school program as opposed to staying home during the preschool years. In spite of the current decline in enrollment, data have been provided which indicate a growing demand for quality preschool programs (op. cit., USBE:132). Day care-nursery establishments are flourishing throughout the country. Their impact, or lack of it, upon children's cognitive and social development, needs to be understood in order to provide meaningful growth experiences. The public school sector is just beginning to become involved in this educational endeavor.

Suggestions for Further Research

This research was conducted to determine if cognitive growth can be accomplished for preschool children in a public school setting. A great deal of historical research has revealed that Title I programs can have a positive influence on children's cognitive growth. Findings from longitudinal studies generally have not been favorable regarding former Title I pupils retaining cognitive gains over a period of time. There is little research available on the cognitive impact upon children of preprimary programs

other than Title I. More research should be conducted on preschool instruction for the vast majority of pupils who enroll in preschool programs, which are not affiliated in any way with Title I.

In addition to further research on alternative preprimary programs, comparative analyses of various preprimary programs also should be made. The rationale for suggesting that this comparative research ought to be conducted is the importance of determining whether certain types of preprimary programs provide more cognitive gains for children than do others. For the research to be most effective in comparing experimental preschool groups, randomization of subjects will be necessary to better identify causal relationships, if any. The researcher was not able to identify any existing research projects that made comparable analyses of preprimary programs on a purely random basis of sampling.

Finally, the researcher recommends that individual gain scores be analyzed as well as group gain scores. The purpose of this approach would be to determine if certain types of programs are more beneficial for some children than others. With this type of empirical data, children could be enrolled in certain preschool programs on the basis of their assessed needs. There is still a need for supportive data to validate formal preschool programs. If preprimary programs continue to grow, educators need to have more empirical data to assess their impact on children.

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APPENDICES

APPENDIX A

HASLETT CHILD DEVELOPMENT CENTER'S

POLICIES AND GUIDELINES BOOKLET

APPENDIX A

HASLETT CHILD DEVELOPMENT CENTER'S

POLICIES AND GUIDELINES BOOKLET

HASLETT CHILD DEVELOPMENT CENTER . . .

. . . is a non-profit organization.

. . . is licensed by the State of Michigan Department of Social Services and meets federal interagency requirements.

. . . is open to all children between the ages of 2½ and 8.

. . . operates twelve months a year--Monday through Friday--7:30 a.m. to 5:30 p.m. (7-7:30 and 5:30-6 by special arrangement).

. . . provides a warm atmosphere in which each child can experience growth in his or her social, emotional, physical and intellectual development.

BOARD OF DIRECTORS

Chairperson . . . . . .Joe Farr
Vice Chairperson . . . . . .Leo Mullen
Treasurer . . . . . .Sharon Bandlow
Staff Representative . . . . . .Linda Peet

STAFF

Director . . . . . .Linda Peet
Teacher, Preschool Program . . . . . Kris Clausius
Teacher, After Kindergarten Program . . . . . Kathy Koerner
Aide . . . . . .Lu Ann VanAtta
Aide . . . . . Douglas Ott
Aide . . . . . Kim Judge
Aide . . . . . .Joan Wells

HASLETT CHILD DEVELOPMENT CENTER
5655 School Street
Haslett, Michigan 48840
Phone - 339-8420

APPENDIX B

HASLETT CHILD DEVELOPMENT CENTER'S BYLAWS

APPENDIX B

HASLETT CHILD DEVELOPMENT

CENTER'S BYLAWS

ARTICLE I - GENERAL GUIDELINES

Section 1 - Name. The name of this organization shall be Haslett Child Development Center (Center). It is a non-profit corporation chartered under the laws of the State of Michigan. It is located at 5655 School Street, Haslett, Michigan 48840.

Section 2 - Purpose. The Center shall provide a preschool program to the surrounding area with the primary purpose of promoting the social, physical, emotional and intellectual development of the pre-school child. The Center shall use its resources to provide support in parental education for the families of children in the Center.

Section 3 - Enrollment and Tuition. Enrollment shall be open to children regardless of race, religion, national origin or sex. An applicant shall be considered for enrollment upon receipt of completed pre-registration forms and registration fee with the exception of children whose payment is made by the Department of Social Services. The Center reserves the right to require withdrawal of any paying enrollee following discussion by the Director with the parent or guardian of the child and the Board of Directors (Board). Tuition shall be payable weekly in advance. Tuition and fees shall be established by the Board as well as other entrance requirements. However, these requirements shall not violate State, Federal or local law and shall otherwise be in compliance with these bylaws and the rules and regulations of any state or federal agency having jurisdiction over the licensing of the Center.

Section 4 - License. The Center shall be licensed by the Department of Social Services of the State of Michigan and meet the federal interagency requirements. The Center will therefore comply with the regulations set forth by both of these agencies.

ARTICLE II - BOARD MEMBERS

Section 1 - Function. The Board shall act in an executive capacity. This Board shall have administrative and supervisory authority and responsibility. As such, it shall have authority to determine all policies of the Center. Its responsibilities shall include the following:

a. Participate in the selection of personnel;
b. Advise on the recruitment of staff, volunteers and children;
c. Initiate suggestions for program improvement;
d. Serve as a channel for hearing complaints and grievances;
e. Organize activities for parents;
f. Review and evaluate program quality;
g. Assist in the development of proposals and review applications for funding;
h. Establish policies and procedures as to the admission of students;
i. Standing Committees shall be appointed as needed.

Section 2 - Property. The authority and power to acquire and hold both real or personal property for effecting the purposes of the organization is vested in the Board.

Section 3 - Number and Term of Board Members. The Board shall be composed of not less than 7 nor more than 13 members. Names shall be submitted prior to the December meeting at which time the Board shall select new members. Each member shall hold office for a term of two years and until his or her successor is elected and qualified. A member may serve two consecutive terms only.

Section 4 - Appointment and Vacancies. The first Board shall be appointed by the Corporation. Thereafter, the Board shall select and appoint a new member; such selection shall be made at the December meeting of the Board. Any member so appointed may be removed by the Corporation. Vacancies in the Board shall be filled by appointment made by the remaining members.

Section 5 - Composition. The Board shall reflect the proportionate enrollment of children in the Center. Its composition shall also include Haslett and other area parents, the director of the Center, a Haslett school representative and one of the incorporators. The Director of the Center shall be the staff representative on the Board.

Section 6 - Voting. Each member of the Board shall have one vote.

ARTICLE III - MEETING OF BOARD MEMBERS

Section 1 - Place of Meeting. Any or all meetings of the Board of this organization shall be held at 5655 School Street, Haslett, Michigan 48840, unless otherwise provided by resolution adopted by the Board.

Section 2 - Regular Meetings of Board. Regular meetings of the Board shall be held no less than once in every other month at such time and place as the Board shall from time to time determine. No notice of regular meetings of the Board shall be required.

Section 3 - Special Meeting of the Board. Special meetings of the Board may be called by the Chairperson at anytime. Written notice by mail of the time, place and purpose thereof to each member as the Chairperson, in his/her discretion, shall deem sufficient, but action taken at any such meeting shall not be invalidated for want of notice if such notice shall be waived as hereafter provided.

Section 4 - Notices and Mailing. All notices of special meetings required to be given by any provision of these bylaws shall state the authority pursuant to which they are issued (as "by order of the Chairperson" or "by order to the Board," as the case may be). Every notice shall be deemed duly served when the same has been deposited in the United States mail, with postage full prepaid, plainly addressed to the addressee at his/her last address appearing upon the books of the Center.

Section 5 - Waiver of Notice. Notice of the time, place and purpose of any special meeting of the Board may be waived by telegram, radiogram, cablegram or other writing, either before or after such meeting has been held.

Section 6 - Attendance. A member who misses two consecutive meetings without sufficient cause shall be advised in writing that upon missing the third consecutive meeting he or she shall be replaced.

Section 7 - Quorum of Members. A majority of members then serving on the Board shall constitute a quorum for any meeting.

ARTICLE IV - EXECUTIVE COMMITTEE

Section 1 - Members. The Board shall elect annually from among their voting members a Chairperson, Vice Chairperson and Secretary-Treasurer. This shall constitute the

Executive Committee. All officers shall be elected for a term of two years and may serve one additional term in that office.

Section 2 - Powers and Responsibilities. The Executive Committee shall carry out the general and active management of the Center and all other duties which it may be directed to do by the Board from time to time.

Section 3 - Officers.

a. Chairperson - The Chairperson shall call and preside at all meetings of the Board of Directors and the Executive Committee. The Chairperson shall serve as an exofficio member of all standing committees and shall keep effective communication lines open with and between all Board members. The Chairperson shall sign checks, contracts, etc. and have the power to determine questions arising from emergencies not provided for in the by-laws until such time as they may be acted upon so long as this does not conflict with the intent of section 501 (c) (3) of the Internal Revenue Code.

b. Vice Chairperson - The Vice Chairperson shall assume the duties of the Chairperson in his or her absence and shall serve as a liaison between the Board and any supporting agencies unless otherwise delegated. The Vice Chairperson shall assist the Chairperson when requested.

c. Secretary-Treasurer - The Secretary-Treasurer shall notify Board members of meetings. He or she shall record and preserve the minutes of all meetings of the Board, shall keep attendance records of all meetings and shall handle all correspondence for the Board. The Secretary-Treasurer shall have the responsibility of keeping the Board informed of the Center's financial status on quarterly basis or more frequently as needed.

ARTICLE V - AMENDMENT OF BYLAWS

The Board may make and alter these bylaws provided that the Board shall not make or alter any bylaws fixing their numbers, qualifications, classifications or term of office or otherwise extend their responsibilities beyond those delegated by the Corporation.

APPENDIX C

THE CIRCUS TEST

NATIONAL DATA SAMPLE

Table D

Summary Data for CIRCUS Measures[1]

Measures and Subscales	Maximum Raw Score[2]	Nursery School N	Mean	SD	Alpha reliability	Kindergarten N	Mean	SD	Alpha reliability
1. What Words Mean	40	946	27.8	6.7	.86	1930	30.1	5.9	.83
a. Nouns	20		14.5	3.4	.73		15.3	3.0	.70
b. Verbs	12		8.0	2.5	.71		8.8	2.2	.66
c. Modifiers	8		5.2	2.0	.66		6.0	1.6	.55
2. How Much and How Many	40	934	28.1	7.1	.87	1883	30.5	6.2	.86
a. Counting	12		8.3	2.9	.78		9.2	2.7	.80
b. Relational Terms	14		11.2	2.7	.76		12.0	2.1	.71
c. Numerical Concepts	14		8.6	2.7	.61		9.3	2.5	.60
3. Look-alikes	26	250	19.1	4.9	.84	563	20.7	4.4	.84
Complex Matching	13		7.9	3.2	.76		9.0	3.1	.78
Reversals	11		2.0	1.5	.39		1.6	1.6	.52
4. Copy What You See	15	272	31.1	8.2	.90	578	33.9	5.8	.87
5. Finding Letters & Numbers	20	290	15.5	4.2	.86	546	14.2	4.6	.86
a. Capital	9		7.4	2.1	.79		6.8	2.4	.80
b. Lower-case	6		4.7	1.6	.71		4.2	1.7	.69
c. Numbers	5		3.4	1.2	.42		3.2	1.2	.44
6. Noises	24	286	19.0	3.4	.81	563	19.2	3.1	.71
7. How Words Sound	44	300	37.4	7.0	.92	644	39.4	5.1	.87
8. How Words Work	26	252	20.4	3.8	.78	594	20.8	3.3	.71
a. Verb forms	8		6.7	1.5	.63		6.8	1.4	.57
b. Prepositions/Negations/Conjunctions	10		7.0	1.8	.54		7.1	1.5	.43
c. Syntax	8		6.7	1.6	.67		6.9	1.3	.51
9. Listen to the Story	25	269	18.0	4.2	.77	621	18.9	4.2	.79
a. Comprehension	15		11.3	2.6	.67		11.7	2.6	.68
b. Interpretation	10		6.8	2.1	.60		7.2	2.1	.61
10. Say and Tell									
I. Description	16	227	8.8	2.9	.72	541	8.9	2.2	.49
II. Functional Language	76[3]		49.5	13.0	.89		51.0	13.7	.90
a. Plurals	18		11.7	3.2	.69		11.4	3.7	.72
b. Verbs	18		12.9	3.9	.71		13.0	4.1	.71
c. Prepositions, Possessive, Subject-Verb	24		17.5	4.6	.70		18.1	4.5	.72
d. Comparisons	16		7.5	4.6	.81		8.5	4.6	.81
III. Narration (Quality)	12		4.1	2.3	.78		4.1	2.1	.78
11. Do You know...?	32	286	26.5	4.2	.79	591	28.2	3.5	.77
12. See and Remember	20	260	14.7	3.1	.68	568	15.3	3.2	.71
13. Think It Through	32	272	21.5	5.7	.82	600	22.2	5.4	.81
Classification	17		11.0	3.6	.76		11.3	3.5	.75
Solution Evaluation & Time Sequence	9		6.5	2.0	.63		6.8	1.9	.61
14. Make a Tree	---	248	---	---	---	245	---	---	---
Appropriateness	5 points		2.1	0.9	---		2.6	0.7	---
Unusualness	Scale		2.0	1.0	---		1.7	0.8	---
Difference			2.3	1.1	---		2.9	1.4	---
15. Activities Inventory	60[4]	238	---	---	---	463	---	---	---
I. Physical Motor	32		20.3	4.3	.80		20.1	5.1	.86
II. Academic	32		18.7	5.2	.89		18.6	6.3	.92
III. Role Playing/Fantasy	32		15.3	4.9	.86		15.3	5.7	.90
IV. Music, Art	24		15.7	4.0	.88		15.3	4.7	.90
V. Adult Help	60		24.2	6.9	.90		24.4	8.8	.94
VI. Peer Group Structure	60		36.7	8.2	.83		39.8	9.7	.88
16. CIRCUS Behavior Inventory	14[5]	873	---	---	---	1882	---	---	---
a. Following Procedures	30		24.8	4.4	.85		25.6	4.0	.84
b. Enjoyment	6		3.8	1.5	.86		3.6	1.4	.83
c. Talking	6		5.3	1.0	.71		5.5	0.9	.68

[1] This table presents summary data from Section D. of the CIRCUS Manual & Technical Report.

[2] Maximum Raw Score is number of items unless otherwise indicated.

[3] Indicates Maximum Score; therefore, number of items is one-half of that indicated.

[4] Each of the 60 items is rated on a 4-point scale; therefore, number of items in Scales I-VI is 1/4 of that indicated.

[5] Each of the 14 items is rated on a 3-point scale; therefore, number of items in Scales a-c is 1/3 of that indicated.

APPENDIX D

Raw Data

Group I - Title I

Group	Tester	Quantitative Concepts		Visual Discrimination		Letter-number Discrimination		Comprehension	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	1	15	21	17	20	9	9	40	36
1	1	19	22	13	17	7	12	36	39
1	1	11	23	13	9	5	11	29	34
1	1	21	33	17	15	8	13	38	43
1	1	19	26	14	17	10	13	41	43
1	2	15	17	12	11	7	6	33	38
1	2	15	27	8	10	7	9	40	39
1	2	18	30	12	13	5	17	34	41
1	2	28	35	17	23	19	19	41	44
1	2	16	21	8	11	5	6	34	38
1	3	16	18	12	9	6	10	43	42
1	3	16	19	13	19	6	10	41	41
1	3	25	24	16	14	7	8	34	32
1	3	18	26	10	23	7	16	41	41
1	3	21	30	13	14	9	15	43	42

Auditory Discrimination		T.P.T.	T.P.T.	T. Difference
Pre	Post			
10	17	91	103	12
11	13	86	103	17
8	9	66	86	20
10	17	94	121	27
12	17	96	116	20
12	12	79	84	5
10	14	80	99	19
8	9	77	111	33
15	20	120	141	21
6	16	69	92	23
12	11	89	90	1
14	15	90	103	13
18	19	100	97	-3
12	11	88	117	29
12	11	98	112	14

APPENDIX D

GROUP I PRETEST AND

POSTTEST GRAND MEAN SCORES

Group II - Day Care

Group	Tester	Quantitative Concepts		Visual Discrimination		Letter-number Discrimination		Comprehension	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post
2	1	37	38	23	26	18	20	44	45
2	1	28	31	17	21	16	18	42	42
2	1	28	31	16	18	12	17	42	42
2	1	31	34	15	20	7	18	44	44
2	1	34	38	22	26	18	19	41	43
2	2	38	39	25	24	20	20	44	44
2	2	25	31	14	19	19	18	25	40
2	2	33	38	15	21	17	16	42	42
2	2	30	34	19	23	12	11	44	44
2	2	23	32	18	22	2	10	39	43
2	3	21	20	20	18	19	19	40	43
2	3	33	37	19	25	19	19	43	44
2	3	33	35	23	23	7	11	29	43
2	3	19	28	23	23	18	18	43	43
2	3	29	28	12	13	17	19	42	43

Auditory Discrimination		T.P.T.	T.P.T.	T. Difference
Pre	Post			
15	16	137	143	6
15	19	118	131	13
21	20	119	128	29
14	21	111	137	26
23	24	138	150	12
21	23	148	150	2
9	20	92	128	36
16	23	123	140	17
17	18	122	130	8
18	19	100	126	26
18	19	118	119	1
12	23	126	148	22
19	24	121	136	15
25	25	128	137	9
16	21	116	124	8

Group III - Homebound (Control)

Group	Tester	Score Pretest 2	Score Posttest 2	Pretest 3	Posttest 3	Pretest 5
3	1	32	33	22	22	19
3	1	27	30	23	23	19
3	1	26	32	21	21	11
3	1	9	13	11	10	8
3	1	20	26	15	15	15
3	2	21	23	16	16	12
3	2	27	32	17	17	14
3	2	24	26	16	16	8
3	2	24	28	15	20	16
3	2	32	28	17	21	16
3	3	19	24	16	23	14
3	3	20	24	15	10	11
3	3	16	22	11	15	13
3	3	24	30	20	16	10
3	3	18	23	19	17	10

Posttest 5	Pretest 7	Posttest 7	Pretest 9	Posttest 9	T.P.T.	T.P.T.	T. DIF.
19	41	42	20	21	134	137	3
20	38	42	20	22	127	137	10
10	43	42	20	22	121	127	6
8	42	38	10	8	80	77	-3
16	42	36	18	14	110	107	-3
19	43	42	11	14	103	114	11
10	38	41	20	17	116	117	1
14	35	41	15	18	98	115	17
18	34	35	20	18	109	119	10
17	35	39	16	19	116	124	8
11	37	37	16	17	102	112	10
13	40	35	14	14	100	96	-4
16	33	36	15	16	88	105	17
14	37	37	14	16	105	113	8
14	40	38	18	19	105	111	6

HASLETT CHILD DEVELOPMENT CENTER

POLICIES AND PROCEDURES

Children are admitted and accorded equal treatment and access to services without regard to race, color, religion, national origin or sex.

The Center will be closed on all legal holidays (New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day) or if they fall on a weekend, we will be closed on the federally designated alternative.

ENROLLMENT PROCEDURES

1) Prior to attendance, parents must complete and return the registration form to the Center.

2) Prior to attendance, parents should set up an interview with the director.

3) Within one month of first attendance, parents must have the Children's Health Exam Record completed by a physician and returned to the Center.

4) A home visit before or shortly after attendance will be made by the teacher and/or the director.

FEE POLICIES

There are some rules regarding the payment of tuition and fees which you must observe in order to provide a stable income with which we can meet our obligation to support the staff members who are caring for your children here at the Center.

1) There is an initial $2.00 registration fee.

2) There is a $6.00 per day fee for each full day session.

3) There is a $3.00 per day fee for each half day session. (plus 50¢ for each lunch if they stay for lunch)

4) Effective January 5, 1976, there will be a 50¢ per day charge for transportation for the after kindergarten program.

5) Fees are to be paid one week in advance of attendance. A late charge of $5.00 will be assessed when tuition is

not paid in advance. This charge is due when payment is made.

6) Each child's fees will be assessed on the basis of his/her weekly schedule. Fees will be assessed in full regardless of a child's reason for absence. (This is referred to as dropping days*) The above policy will only be waived for the following reason: IF THE CHILD WILL BE ABSENT FOR A FULL WEEK OR MORE AND TWO WEEKS NOTICE IS GIVEN IN WRITING.

7) When parents are late in picking up their child from the Center, the following fees shall be added to the next fee payment: $2.50 - 1st half hour (or any part)
$5.00 - every hour (or any part) after the first half hour.
The fees will remain in effect even when a parent calls ahead to say that they will be late in picking up their child. The fees are necessary to cover the cost of paying staff overtime.

8) The Center is not open for six holidays each year. During these holidays the Center must pay its instructional staff, therefore, the regular daily fee will be charged on holidays.

* Dropping days shall be defined as days that a child is not in attendance during his/her regularly scheduled week.

HEALTH POLICY

1) Encourage your child to come if he can participate fully in the program and not infect or endanger the health of other children. We ask you to keep him or her home when sick in order to: a) get well, b) prevent spreading germs to others, and c) keep other germs away from him in his susceptible condition.

GUIDELINES WHEN DECIDING IF A CHILD IS WELL ENOUGH TO ATTEND SCHOOL:

A symptom of:	Keep child home until:
fever	fever registers below 100° and child is acting well.
running nose	thick yellow or green discharge clears up.
earache	a physician examines the ears and recommends the child return to school.

rash	a physician determines the cause and recommends the child return to school.
sore throat	a physician determines no strep infection exists and the throat is healed.
cough	coughing stops.
pale or flushed skin	color returns to normal.
red or watery eyes	eyes return to normal.
Upset stomach or diarrhea (18 or fewer hours before departure for school)	no further problem exists and the child is eating normally without causing upset.
draining sore	until draining stops.

2) Parents are expected to call the Center before the child's usual time of arrival if the child will be absent. 339-8420 - if no answer, 339-2749

3) Should your child become ill while at the Center, he will be isolated from the other children for his and their safety until you come for him. An emergency number where you or someone who can come for your child at all times must be on file with the Director.

4) No medication will be administered to your child while he is at the Center.

5) Children must be toilet-trained prior to enrollment.

6) An annual physical is required for all children. The forms are provided at the time of each child's acceptance into the program.

GENERAL POLICIES

1) The Haslett Child Development Center account and budget books will be open to the Center's board and will be audited annually by an accredited auditor.

2) Parents are requested to bring their children into the Center and to come inside to meet them. Children will not be allowed to leave with anyone but their parents or legal guardian without written notice, which must be given to the Director.

3) Individual conferences about particular concerns may be made by appointment with your child's teacher. Please call ahead for these appointments so that arrangements can be made to free this person at a particular time.

CLOTHING POLICIES

1) All of your child's clothing (boots, hats, mittens, coats, etc.) must be clearly marked with your child's first and last name. This applies as well, to any items or toys brought to the Center from home.

2) Please supply the Center with an additional, complete set of clothing for your child. (including underwear, shoes or slippers and socks) These too, should have your child's name clearly marked. It would be helpful to place these items in a shoebox with your child's name on the outside of the box.

3) Parents should supply the Center with a sheet and/or blanket labled with your child's name. Your child will use this for his nap.

4) It should be assumed by parents, that weather permitting, your child will spend a portion of his day outdoors. Please dress your child appropriately so that he or she may play outside.

DEPARTURE POLICY

We will allow the child to leave the Center with only the person that the parent has indicated on the registration form. We should know this person by sight. If, for some reason, the designated person cannot pick the child up. parents should send a written note with their child indicating to the Center, who will be picking the child up for that day. In special cases, a verbal permission by telephone will be acceptable. It is necessary that the Center be aware of who is responsible for taking the child home.

WITHDRAWAL POLICY

Parents must notify the Center in writing two weeks in advance of withdrawing their child in order to be considered for the refund of any fees for which they may be eligible. If notice is not given and change consists of dropping days,

parents will pay the original agreed weekly payments for two weeks after the change or until the child's place can be filled, whichever comes first.

PARENTS ARE WELCOME AND ENCOURAGED TO COME AND VISIT THE CENTER AND OBSERVE: PLEASE LET US KNOW IN ADVANCE.