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Linda L. Reiten

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DIFFERENCES IN EXPERIENCES: A STUDY OF
HANDICAPPED AND NONHANDICAPPED YOUNG
CHILDREN IN A MAINSTREAMED PRESCHOOL

by
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Bachelor of Science in Education, University of North Dakota, 1972
Master of Science, University of North Dakota, 1979

A Dissertation

Submitted to the Graduate Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

Grand Forks, North Dakota

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1982

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This dissertation submitted by Linda L. Reiten in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota is hereby approved by the Faculty Advisory Committee under whom the work has been done.

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Title Differences in Experiences: A Study of Handicapped and Nonhandicapped Young Children in a Mainstreamed Preschool

Department Center for Teaching and Learning

Degree Doctor of Philosophy

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Date July 1, 1982

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Dedication

Dedicated to the four subjects
of this study, P., J., B., and A.

Thank you.

ABSTRACT

Purpose

The first purpose of this study was to determine the differences in classroom experiences of four mainstreamed preschool children, two handicapped and two nonhandicapped. To determine these differences, three questions were asked:

1. Do teachers and peers interact differently with handicapped than with nonhandicapped children?
2. Is the use of physical space in the classroom different for handicapped than for nonhandicapped?
3. What are some of the qualitative differences in the classroom experiences of the handicapped and non-handicapped children?

The second purpose of this study was to draw out the themes that constituted the differences in experiences. The third purpose of this study was to raise issues from the themes for teachers to consider when they contemplate mainstreaming preschool handicapped children.

Method

This study utilized both quantitative and qualitative data collection procedures. The quantitative data was collected to answer the questions on social interactions and the use of physical space. The data on social interactions was collected using a coding system devised by the investigator and the data on the use of physical space was collected using a mapping procedure.

The data on qualitative differences was collected in a running narrative account of the classroom experiences of each of the subjects.

The subjects were observed on a rotating basis.

Results

The investigator concluded from an analysis of the quantitative and qualitative data that the handicapped subjects had different classroom experiences than the nonhandicapped subjects. The more specific results of the quantitative data are:

1. Adults dominated the time of the handicapped subjects.
2. Peers had more interactions with the nonhandicapped subjects than with the handicapped subjects.
3. The most common initiations of interactions and the most common responses to initiations are verbal.
4. The nonhandicapped subjects had more moves per observed session than the handicapped subjects.
5. The handicapped subjects spent more time in each move.
6. The more open spaces were used more than small, defined areas.

The themes that were drawn out from the qualitative data are:

1. Adult responses to initiations of interaction.
2. Determination of Activity.
3. Play and Peer Interactions.
4. Play as social maturity.
5. Room arrangement.
6. Teacher-child density.

CHAPTER 1

INTRODUCTION

In recent years, the role of special education in public schools has changed to meet the demands of a changing society. During the 1960's and early 1970's most special education classes were segregated, that is, classrooms only attended by handicapped students. It was thought that if teachers had fewer students and more specialized training, the disadvantaged and handicapped students would soon catch up to their normal peers and be returned to the regular classroom. This notion sounded ideal on paper but in actuality it has failed to help the exceptional child return to the regular classroom. Once children were labeled as mentally retarded, emotionally disturbed, or any of the other categories of exceptionalities, they tended to remain in special education classes throughout their school years (Gearheart and Weishahn 1980).

In 1975, the Education for All Handicapped Children Act, Public Law 94-142 (herein referred to as PL 94-142), was enacted. PL 94-142 was mandated to meet the educational needs of exceptional children aged three to twenty-one (Cohen, Semmes, and Guralnick 1979). A major point in PL 94-142 was that handicapped children must be provided an education in the least restrictive environment or in other words, the school placement best suited for the child. This best placement may mean a placement in a classroom of only special students, or placement in a classroom for nonhandicapped children, or any of the various

possibilities that fall between these two. This changed the entire perspective of special education in the United States. Handicapped children now had the right to an education that had possibilities other than placement in a separate classroom. They could receive their education in the same manner as their nonhandicapped peers were receiving their education - in the same classroom, with the same materials, and with the same opportunities.

The enactment of PL 94-142 also made it possible for preschool age children with handicapping conditions to receive educational services. Although children aged three to five were excluded from receiving services in states where it was contradictory to existing state laws, PL 94-142 did provide sources of funding as incentives to providing services for preschool handicapped children (Cohen et al 1979). Thus, many school districts have added or will be adding classes for preschool handicapped children when funding is available. In cases of low incidence, e.g., rural areas, schools may look to Head Start Programs and existing nursery schools and day care facilities to provide services to handicapped preschool children.

Existing preschool programs can be well suited to provide the least restrictive environment to handicapped preschool children with only minor alterations. In these programs, handicapped-preschool children can be placed in classes which enroll predominantly nonhandicapped children. Thus, preschool handicapped children will have become mainstreamed. By law, the handicapped child is considered mainstreamed when he is enrolled in any program that contains nonhandicapped

children. Enrolling the handicapped preschooler in an existing preschool program, however, is only the first hurdle that the preschool handicapped child faces on his way to receiving an education in the mainstream. The important question is whether the handicapped preschooler is receiving an equal education by simply being present in the same classroom as his nonhandicapped peers. Hoben (1980) summarizes this problem when she writes that,

The purpose of educating handicapped students in the mainstream is more than having them merely present in regular classes. The intent is that they will become integral parts of their classes, acknowledged and incorporated. (p. 100)

Within this statement lies the heart of the mainstreaming issue. The purpose of the least restrictive environment is to provide handicapped children with experiences, both socially and cognitively, that allow them to become integral members of the class and ultimately of the school, as opposed to being merely enrolled. Becoming totally integrated is as important for preschool handicapped children as it is for older handicapped children.

Purpose of the Study

This study has three major purposes. The first is to examine the classroom experiences of four preschool children, two handicapped and two nonhandicapped. It is hypothesized that the handicapped children in a mainstreamed preschool program have different experiences than their nonhandicapped classmates. The following questions will be used to examine the classroom experiences of four children in a mainstreamed preschool classroom.

1. Do teachers and peers interact differently with handicapped than with nonhandicapped children?
2. Is the use of physical space in the classroom different for handicapped than for nonhandicapped?
3. What are some of the qualitative differences in the classroom experiences of the handicapped and nonhandicapped children?

The second purpose of this study is to discover the themes that run through the experiences of the children in the classroom. These themes will evolve from an analysis of the questions on social interactions and physical use of space and also from an analysis of a running account of the school day of each of the four children involved in this study.

The third purpose of this study, directly related to the first two, is to offer suggestions for successfully mainstreaming preschool handicapped children and to raise issues that teachers might consider when developing programs for handicapped preschoolers in mainstreamed programs.

Methodology

The basic procedure of this study was a detailed observation of four children, two handicapped and two nonhandicapped, in a mainstreamed preschool program. It makes use of both quantitative and qualitative methodologies to determine the differences that exist in the preschool experiences of handicapped and nonhandicapped children in a mainstreamed preschool located on the campus of a midwestern university.

The quantitative portion of the data was used to answer questions 1 (social interactions) and question 2 (physical use of space by the subjects). To answer research question 1 (social interactions) a system of coding social interactions between the subjects and their peers and between the subjects and the adults in the program was developed. The system was used to record the type of interaction and the persons involved in the interactions. The coding system also facilitated note taking and tabulation of results. The collected interaction data was put on sheets divided into grids to determine the range of interpersonal contacts with the subjects and by the subjects throughout each session.

To answer research question 2 (use of physical space), a mapping procedure was adapted from the work of Carini (1975). The movement of each subject was charted on a map of the preschool. The location was noted with a number and a corresponding number and the time was noted in a running account of the subjects classroom experiences.

The reliability of the procedures described above was checked by independent observations done by a trained observer for 30 minutes each session. A comparison of coding and notes was utilized to check inter-observer reliability for a correlation of agreement.

The qualitative portion of the data was collected in a running account of the children's experiences during the day. This narration of the day contained the coding for the social interactions and the mapping of use of space. The narrative portion of the data was then

analyzed in order to discover the consistent themes running through the school experiences, both within and between children. These themes were used to make suggestions for teaching in mainstreamed situations and to raise general issues about mainstreaming preschool handicapped children.

Limitations

This study was limited to comparing the preschool experiences of handicapped children and nonhandicapped children in a mainstreamed preschool rather than to evaluate different approaches to preschool programs. For this reason day care facilities which only serve non-handicapped children and public school programs which only serve handicapped children were not considered.

In order to evaluate the preschool experiences occurring in a mainstreamed setting, the investigator decided to follow the classroom experiences of four children. Because of the low incidence of handicapped children in the preschool, one blind child and one physically handicapped child were chosen to be the representatives of the population of handicapped children. There was only one other handicap represented in the classroom during the course of the study and that person did not fit the other criterion for selection in the study (first year of attendance in the preschool).

Much of what occurs in a mainstreamed classroom can be considered as suitable criteria for evaluating mainstreaming, i.e., mode of instruction, materials selected for use in the classroom, structure of the schedule. While these criteria are meaningful, for

purposes of manageability and direct relevance to preschool education of handicapped children, this study will focus on social interactions and use of physical space.

Although it is impossible to make broad generalizations from the experiences of four children, experiences potentially common to all children can be observed, described and explained. The importance of these observations and generalizations is that if they are occurring in one setting, they may be occurring in other similar settings (Eisner 1979). These generalizations will be raised with the intent of discussing issues that teachers should consider when planning for mainstreamed preschool programs.

Definitions of Terms

Inherent in any study are a number of definitions that may be confused with similar uses of the terms in other research and professional literature. For this study the following definitions have been used.

The term exceptional child is used in this study to describe any child with a handicapping condition. The definition by Prehm and McDonald (1979) was used as a conceptual model for this term:

"children and youth who have motor, self-help, cognitive, or personal-social skills that deviate significantly from the skill levels of their same age, cultural or ethnic group peers" (p. 502).

The term handicapped child is used interchangeably with exceptional child in most of the literature and therefore in this study. It is generally used to denote deficiency in abilities,

thereby excluding gifted children.

In this study any child who does not exhibit a physical disability, emotional disturbance, developmental delay, or sensory impairment is considered a nonhandicapped child.

In this study, the term mainstreaming refers to the placement of a handicapped child into a classroom of nonhandicapped children. Thus, a 5 year old blind child attending a public school kindergarten with 25 sighted children is considered mainstreamed.

Although integration and mainstreaming are often used interchangeably, the intent of this study is to differentiate between these two terms. For this study, therefore, integration is defined as an ongoing process of interaction between handicapped and nonhandicapped children in the same school setting (Hoben 1980).

Preschool is used in two different ways in this study. One, it is a noun to denote the classroom facility attended by 2 to 5 year old children, and two, it is used as an adjective to denote the age group of 2 to 5 year old children.

CHAPTER II

REVIEW OF LITERATURE

Of prime significance to the topic of mainstreaming preschool handicapped children is the enactment of the Education for All Handicapped Children Act (PL 94-142) in 1975 (Karnes and Lee 1979). By providing funding for preschool handicapped programs, PL 94-142 insured that many preschool children with handicapping conditions would now be served.

The important aspect of PL 94-142 which relates directly to this study is the concept of least restrictive environment. This term is generally referred to as mainstreaming. Although there is no single definition of mainstreaming, one that is frequently cited is the definition by Kaufman, Gottlieb, Agard, and Kubic (1975).

Mainstreaming refers to the temporal, instructional, and social integration of eligible exceptional children with normal peers based on an ongoing individually determined, educational planning and programming process and requires clarification of responsibility among regular and special education administrative, instructional and supportive personnel. (p. 30)

The aforementioned definition is precise while the definition of others, such as Allen (1980) lend themselves to greater practical use for teachers. Allen (1980) describes mainstreaming as "giving handicapped individuals the opportunity to participate in every activity that is available to everyone else" (p. 40).

This chapter will discuss the literature on mainstreaming preschoolers. Particular attention will be directed to children's social interactions and the environmental considerations in a classroom.

Importance of Social Interactions

Social interactions contribute to the development of all persons. Quality interactions within the environment are essential for healthy social and emotional growth (Hartup 1978; 1980). Quality social interactions are as important to handicapped children as they are for nonhandicapped children (Ableson 1978). These quality social interactions must come during the critical first years of life (Clark 1978) and they are equally as important for handicapped children as for nonhandicapped children. In order for social interactions to occur, there must be physical proximity, social interactive behavior, social assimilation, and social acceptance (Kaufman et al 1975).

The Role of Peer Interactions

Hartup (1978) says "children have difficulty learning effective communication skills, modulating aggressive feelings, accommodating social demands for appropriate sexual behavior, and forming a coherent set of moral values" (p. 28) without adequate peer contact. Hartup (1978) emphasizes that "adequate peer relations contribute to the acquisition of basic social and communicative skills in a manner that interactions with adults either cannot or will not produce" (p. 31).

Holmberg (1980) finds that as children become more verbally proficient, the range of their interactions increase and that as children increase their peer initiations, initiations with adults decrease. This seems fairly obvious in light of Castle and Richard's (1979) findings that children become less egocentric as they engage in more verbal interactions. As Smith (1982) states "according to

Piaget, conflict with peers contributes to diminishing egocentric thinking" (p. 160).

Hartup (1978) states that as children develop they come in contact with peer groups that provide reinforcement for social interactions. Bricker (1978) and Lougee (1979) argue that it is logical for children to be in mixed-aged groups and thus be challenged by more advanced peers. Placing a handicapped child in "a more demanding environment" of socially adept peers forces the child to develop a wider "behavioral repertoire" (Bricker 1978, p. 19).

In light of social development according to Piaget and Kohlberg, when children come into a conflict with another idea or child, disequilibrium arises; for self-preservation equilibrium must be restored. Within the child's thinking he tries to assimilate the problem into previous thinking patterns (Hersh, Paolitto, and Reiner 1979). The new conflict does not always fit these thinking patterns and must be resolved by the child, accommodating his thinking to deal with the new conflict (Hersh et al 1979).

Modeling and imitation are part of how less advanced children learn from more advanced peers. Karnes and Lee (1979) state that children acquire new responses from observing and modeling the behavior of others. Hartup (1980) says that children moderate their interaction skills from observing peers. Nonhandicapped children are able to demonstrate appropriate intellectual and linguistic behaviors to handicapped children (Kaplan-Sanoff 1979). This points to the need for all children to have adequate models. Rosenthal (1979) states that

watching a model illustrate how to solve problems is likely more vivid and attention-compelling than a lecture, especially for young children.

The Importance of Play in Social Interactions

Play is the child's natural medium of self-expression (Axline 1947). This statement conveys the basic mode of learning that occurs in preschool classrooms. Play is a means for children to develop physically, cognitively, socially, and emotionally (Chance 1979). It is difficult to separate play from all that occurs in preschool classrooms. The child practices in play what he observes and experiences in the world.

Children's Social Play. In her landmark study, Parten (1932) developed six categories of social play. The categories are as follows.

Unoccupied behavior - The child apparently is not playing, but occupies himself with watching anything that happens to be of momentary interest.

Onlooker - The child spends most of his time watching the other children play. He often talks to the children he is observing, asks questions, or gives suggestions, but does not overtly enter into the play himself.

Solitary independent play - The child plays alone and independently with toys that are different from those used by the children within speaking distance and makes no effort to get close to other children.

Parallel activity - The child plays independently, but the activity he chooses brings him among other children. He plays with toys that are like those which the children around him are using, but he plays with the toy as he sees fit, and does not try to influence or modify the activity of the children near him. He plays beside rather than with other children.

Associative play - The child plays with the other children. The conversation concerns the common activity; there is a borrowing and loaning of play material....All the members engage in similar if not identical activity.... The children do not subordinate their individual interests to that of the group.

Cooperative or organized supplementary play - The child plays in a group that is organized for the purpose of making some material product, or of striving to attain some competitive goal, or of dramatizing situations of adult and group life, or of playing formal games. There is a marked sense of belonging or not belonging to the group. (Parten 1932, p. 249-251)

In a study of peer play based on these categories, Parten (1933) concluded:

1. Preschool children most frequently play in groups of two.
2. The size of play groups increases with age.
3. Two-thirds of the two-child groups were unisexual.
4. The majority of the child's favorite playmates are of the same sex.
5. I.Q. has little influence on the preschool child's friendships.
6. Age and home environment influence friendships.
7. Siblings showed a marked preference for each other's society.
8. Playing house is the most social type of play engaged by nursery school children.
9. Sand play and constructive work with clay, paper, beads and paints are characteristically parallel play activities.
10. Younger and older children differ in the manner in which they play with toys, and hence, in the social value the toy has for them. (Parten 1933, p. 141)

The Parten levels of play lead one to conclude that the acquisition of play skills is somewhat developmental in nature in as

far as it measures a growth in social development. Parten (1932) relates that younger children engage in less socially interactive play than do older children.

Fifty years later these levels of social play are still useful in assessing the play and interactive skills of preschool children. Lougee (1979) in a review of the social interactions of young children, cites research that concludes that the Parten categories for analyzing play are still current and effective. Rubin, Maioni, and Horning (1976) find that Parten's categories and their effect on play behaviors of lower- and middle-class children closely parallel Parten's original findings.

Tremblay, Hendrickson, Strain and Shores (1980) divide types of activity into non-interactive and interactive groups. The types of activities closely follow Parten's (1932), but are not synonymous. They are: noninteractive: observer, isolate, parallel; interactive: game, cooperative and fantasy (Tremblay et al 1980). Their (Tremblay et al 1980) results suggest that older children engaged in more interactive behaviors than did the younger children.

Play and Handicapped Children. For the handicapped child, play is as important as it is for the nonhandicapped child. Through play handicapped children have an enjoyable method of interacting with peers and learning about their environment. Strain, Cooke, and Apolloni (1976) show findings that developmentally delayed children increased their language, motor, cognitive and social skills through the development of play skills. Saltz (1977) in her study of fantasy

play among disadvantaged preschoolers, correlates increases in play ability with increases in scores on various intelligence tests, story interpretation tests and sequential memory tests. Rogow (1976) states in the results of her study that play is related to concept development, language and speech, orientation mobility, and social development in blind, retarded children. From this discussion it can be seen that social development is one of the most consistently mentioned benefits of play.

The acquisition of play skills in handicapped children generally follow in a developmental sequence similar to that of nonhandicapped persons (Wehman 1977). Wehman (1977) characterizes four levels of play for handicapped children: exploratory play, toy play, social play, and simple game play. Three of these four levels of play can be broken down into the following substages. (Simple Game Play is not included in this breakdown as it is not relevant to this study.)

1. Exploratory Play

Orientalional Responses - responding to changes in the environment.

Locomotor Exploration - sensory feedback from exploring the surroundings.

Perceptual Investigation and Manipulation - discovering information about the object and then acting upon it.

Searching Behavior - looking for new stimuli.

2. Toy Play

Repetitive Manual Manipulations and Oral Contacts - repeats one action with the toy for long periods of time or puts the object in his mouth.

Pounding, Throwing, Pushing and Pulling - exploratory in

nature but acting upon toys in a more advanced manner.

Personalized Toy Use - more purposeful interaction with the play thing.

Manipulation of Moveable Parts and Separation of Moveable Parts - appropriate actions with the plaything (spin wheels on truck, remove doll's clothing).

Combinational Uses of Toys - using various toys to complete a play sequence.

3. Social Play Skills

Autistic Play - minimal interaction with the environment

Unoccupied Play - shows interest in the environment, but does not interact with it.

Independent - isolated play.

Observing - attends to play of others.

Attempted Interactions - makes attempt to join peers.

Associative Play - requires mutual participation.

Cooperative Play - mutual participation and peer interactions. (Wehman 1977, p. 82-84)

These play skills as described by Wehman do not follow in an exact sequence between categories, but they are sequential within the categories. It is possible for skills from various categories to develop simultaneously.

With the development of appropriate play skills, handicapped children engage in much less inappropriate play (Knapczyk and Yoppi 1975; Hopper and Wambold 1978). Wehman (1977) added that children who are able to play require less supervision.

The ability of handicapped children to play appropriately is essential for promoting healthy interactions with nonhandicapped peers.

Play is the means by which children judge each other (Reiten 1979). Wehman (1977) and Aloia (1978) also report that children are more often included in play if they are able to play appropriately. Reiten (1979) postulates that handicapped children who play appropriately are more acceptable as playmates to nonhandicapped peers.

Social Benefits of Mainstreaming

One of the most promising methods of providing quality experiences for preschool handicapped children is to enroll the child in a mainstreamed preschool classroom. Although "school success itself has not been the primary support for preschool mainstreaming, ... support generally comes from the social, emotional gains that have been shown to occur" (Blacher-Dixon 1979, p. 5). These social benefits of mainstreaming are: to observe realistic social interactions and consequences (Guralnick 1980); improved behavior (Kaplan-Sanoff 1979); direct benefit of more advanced peers (Guralnick 1980; Karnes and Lee 1979); increased verbal and communication skills (Guralnick 1980; Hartup 1980).

The preschool years seem to be an ideal time for implementing a mainstreamed program. According to Barros (1979) there are a number of factors that make it easier for integration to happen in a preschool program. These factors are:

1. Young children are less perturbed by individual differences.
2. Early childhood programs are more apt to have groups of mixed ages and sizes.
3. Early childhood programs are more oriented toward individualized handling than regular school systems. (p. 8)

Some other characteristics of a preschool program that make mainstreaming possible are:

1. An open setting which includes both opportunities to work alone and with groups in both teacher-directed and self-initiated activities;
2. Planned sequences of activities within that environment designed to meet specific goals identified...as appropriate for individuals and/or small groups...;
3. Adult/staff ratio which enables teachers to structure learning experiences for individuals within the environment by modifying goals and/or materials as each child participates in an activity. (Soppit-Lesure and DeStephano n.d., p. 12)

Dunlap, Stoneman, and Cantrell (1980) find that over time, handicapped and nonhandicapped children in a mainstreamed program became more homogeneous in the make-up of their play groups. This leads one to infer that with familiarity there does not seem to be a preference of the nonhandicapped child to choose only handicapped children as playmates. Edwards and Montemurro (1979) state that the behavior of handicapped preschoolers is more like their peers than unlike it in terms of social behavior.

Classroom Environment

The creation of the physical environment is important to the preschool experience for all children.

Children need space in which to learn through their own actions, space in which they can move, build, sort, create, spread out, construct, experiment, pretend, work with friends, store belongings, display their work, work by themselves and in small and large groups. (Hohmann, Banet, and Weikart 1979, p. 35)

Physical Use of Space

Attention must be given to architectural considerations

(Prescott and David n.d.) as well as to arranging the classroom space to promote learning and interactions. The physical arrangement of the classroom is directly related to the integration of handicapped children in the preschool. The accessibility of all areas of the preschool classroom is essential for a more integrative experience in the classroom.

Gardner and Loving (1968) state that a good learning environment is one that is aesthetically pleasing, balanced for color, light, and space. Also, the space should be organized in such a manner that supervision of activities is possible without disruption of the activities.

The relationships or interactions of the kindergarten are the most significant environmental considerations. A learning environment with good functional relationships should enhance good interaction among the children, should encourage the children to reach maximum achievement, should allow the children and the staff to respond immediately to needs and situations, and should ensure that space creates a comfortable, stimulating and pleasing atmosphere. (Gardner and Loving 1968, p. 55)

Cormack (1979) lists a number of factors that must be considered to make integration feasible for preschool physically handicapped children. These areas of concern are:

1. Adaptation of the learning environment to make everything physically and cognitively accessible to everyone.
2. Provision of multisensory learning stimuli and experiences to offer various choices of materials and alternative routes to learning.
3. Curriculum focus on individual assets and differences as well as peer tolerance and/or acceptance of all children to promote normal peer social interactions.

4. Curriculum focus on equality and the sameness of basic needs of all children, despite superficial inequities and differing superficial needs.
5. Focus on everyone's need for a functional mobility for independence and exploration. (Cormack 1979, p. 6-7)

Olds (1979) states that the need for optimal classrooms for the developmentally disabled. To her the "environment is the curriculum" (p. 91). "Development is a process of adaptation whereby children... effect changes in their environment and...adapt to the demands that the environment places upon them" (p. 91). Three conditions must be met in order to provide optimal experiences for special children: to move, to feel comfortable, and to feel successful (Olds 1979). These three needs are important to all children but even more important for the handicapped child. Souweine, Crimmins, and Mazel (1981) stress the flexibility of the classroom to meet the changing needs of handicapped children.

The Role of Teacher-Child Interactions

The teacher has a vital role in the growth and development of the preschool child. The teacher is generally the one individual with whom the child interacts more than any other person in the preschool classroom. Often times children are very dependent on adult interactions. Brown and Peters (1979) find that children respond to adult attempts at social interactions more than they initiate the social interactions.

Through the manipulation of the classroom social and physical environments, the teacher can effect better integration of handicapped

children within the group of normal children. In Raver's (1979) list of pertinent considerations for effective mainstreaming, the attitude of the teacher heads the list. All of the points in the list are directed to the importance of the teacher in fostering integration in the preschool handicapped classroom.

1. Adult attitudes - Adult attitudes are probably the single most important predictor of successful integration....Teachers need to establish an attitude that includes handicapped children in all activities, and yet, does not include them to the point of over-protection.
2. Honesty - A teacher should be direct, use basic language and be alert not to not unconsciously create a negative or uncertain disposition toward differences.
3. Learning by doing - Allow natural consequences when it is safe and could be constructive....An alert teacher should use (an) event to discuss how and why the particular consequence occurred.
4. Realistic goals...
5. Spontaneous friendships - Reinforce friendships between all children. Adults should praise and structure, if needed, situations that promote play and friendship liaisons. (Raver 1979, p. 24-26)

In a review of current literature on mainstreaming, State of the Art: Literature Review on the Mainstreaming of Handicapped Children and Youth (Applied Management Systems 1976), Vallettuti is quoted as stating that the attitude of the teacher insures the success of a mainstreamed experience. In discussing mainstreaming preschoolers, Ashton-Lilo (1981) suggests that teachers need to identify their goals for effective implementation and successful mainstreaming of handicapped preschoolers. The teacher must ask herself a number of questions to help

clarify the goals and framework for the classroom. Ashton-Lilo (1981) also gives the following points for helping teachers "derive conclusions, goals, and objectives" (p. 43).

1. Developmental patterns and sequences can be useful as guides in planning for many children, both normal and atypical.
2. Often behavioral problems are demonstrated by children who are not motivated or who are over or under challenged. They can be set off by environmental cues and affected by how an adult responds to the situation.
3. Children must be participants within an activity to remain motivated and to learn.
4. Individualization does not necessarily imply one-to-one tutoring. While this may be appropriate, an effort should be made to incorporate individual needs into the daily activities and routines of the preschool classroom.
5. Appropriate planning and physical setup are done to help the teacher and child know what is expected and thus help to eliminate potential problems.
6. Problems and successes are anticipated, with plans and activities adapted accordingly.
7. Individual differences in the quality and rate of learning are expected, and plans are developed to encourage maximum participation.
8. Preschool should include a variety of activities that encourage social and self-help skills as well as preacademics.
9. For children to change and develop, teachers must be good observers and have the flexibility to adapt and modify the classrooms as dictated by new emerging behaviors seen in the children.
10. Preschool should be enjoyable to all. If it is not, set goals for changes. (Ashton-Lilo 1981, p. 43)

Summary

All of the above mentioned characteristics can be benefits of mainstreaming preschool handicapped children, but as Peterson and Haralick (1977) say, "there is little empirical evidence, however, to either support or refute the assumption that physical integration ensures social integration" (p. 235). The purpose of this study is to take a deeper look at the factors of social integration and the use of the physical space of the classroom as determiners of integration.

Chapter III

METHODOLOGY

The intent of this study was to examine the experiences of four children, two handicapped and two nonhandicapped, in a mainstreamed classroom. The study focused on four preschool-aged children in a mainstreamed preschool program, a preschool serving handicapped and nonhandicapped preschool children, 2½ to 5 years of age. There were 16 children enrolled in the preschool during the semester that this investigation took place. Of these 16 children, 11 were nonhandicapped and five were handicapped. All five handicapped children were boys.

Subjects

One of the major difficulties with the study was the selection of children to serve as subjects. It was desirable to have children who paralleled each other in age, sex, and school experiences. The investigator decided that the children in this study should be enrolled in the preschool for the first time, to eliminate the effects of past experiences with the teachers. Of the 16 children enrolled in the preschool, nine were attending for the first year. The study was piloted during the first semester with the selection of children for the pilot study being on a random basis (chosen from the nine children enrolled for the first year). During the piloting of the study, the investigator was able to observe the other children and be more selective of the ones chosen to be the subjects in the current study.

The selection of matched subjects was extremely difficult. Of

the five boys who were attending the preschool for the first year. two had definable handicaps and the other three had some problem that excluded them from the group of nonhandicapped children (one had a severe speech problem, one seemed to demand an excessive amount of attention, and the other was frequently absent). Therefore, only girls remained to be considered as the nonhandicapped subjects.

The two children observed for the pilot study were included in the current study and two other children were added. The subjects included in the study were the youngest handicapped child and the youngest girl, the oldest handicapped boy and the oldest girl enrolled for the first year.

Table 1 is a brief description of each of the four children who served as subjects in this study.

Table 1
Description of Subjects

Subject	Sex	Age	Category and Handicapping Condition
P	girl	56 m.	Nonhandicapped
J	girl	44 m.	Nonhandicapped
B	boy	55 m.	Handicapped: Visually Impaired Developmental Delay
A	boy	30 m.	Handicapped: Cerebral Palsy/ Delayed Language and Speech

Note. The initials of the subjects have been changed to protect the identity of the subjects.

Detailed Description of the Subjects

In this section, the investigator will give a brief description of each of the children who served as the subjects of this study. The descriptions are impressions of the children that the investigator gathered in the course of the study. These descriptions are by no means statistical, but it is hoped that the children will become real to the reader and thus add life to the themes and the data.

Subject P. P. often arrived at the preschool before the other children. She would walk with her father from student family housing. He would drop P. off at the preschool on the way to one of his classes in a nearby building. P.'s most memorable feature was her friendly, open, inquisitive personality. Because she often arrived before the other children, P. spent a good portion of her early arrival following a teacher around the room asking thousands of questions or telling the teacher about something that had happened to her in the time since the last preschool meeting. When the other children arrived, P. seemed genuinely pleased to see them and she would call out to them from any part of the room.

P. was very comfortable with the schedule of the day. She was self-directed during free play time after she spent a few moments with a teacher planning her activities. P. often did the things that she planned on doing but by no means did this planning limit her activities during free play time. If there was something interesting going on during free play that she had not anticipated during planning time, P. did not mind dropping what she was doing to engage in the new play

activity.

The teacher directed activities of small and large group times seemed to be P.'s favorite time of the day. It was almost as if this part of the day said to P., "This is what school is all about." Most tasks appropriate for preschoolers were well within the capabilities of P. She had no problems with any cognitive or motor activities.

P. had many friends in the preschool. Her social development seemed very normal and appropriate for a 4 year old girl. She was neither aggressive nor passive, but often took the leadership role when in a group situation with her agetates.

At the end of the school day, P.'s mother would pick her up at the school and P. would go skipping along home with her mother telling her about the highlights of the day at school.

Subject J. The first impression of J. was a cute, chubby toddler. J. usually arrived at the preschool with her mother and younger sister. J. was involved in the piloting of this study and initially she had had a separation problem. By the time this study was begun, J. was more confident about being left alone at the preschool, but she still needed her mother with her when she entered the preschool. After J. was involved in some activity it was all right if mother left. J. generally attached herself to one teacher and followed her throughout the day. This seemed to offer her some security. She would often move away from the teacher to engage in some activity but periodically J. would look up just to check to see if the teacher was still in the room.

J.'s favorite part of the classroom was the art area. She was constantly making or doing something at the art table. She also liked manipulative toys which fit with her interest in experimenting with materials at the art table.

Group activities seemed more difficult for J. She often had a difficult time concentrating on the task at hand. Large group activities were extremely difficult for her. Often times she would leave the large group activity and go to another area of the room. There was a general policy at the preschool to insist that all children take part in the large group activity. J. would often rebel at being required to take part in the large group activity. Generally it was agreed upon that it would be acceptable if J. sat quietly with the group during large group activities even though she did not actively participate.

As mentioned at the onset of this description, the first impression of J. was that of a cuddly, chubby toddler. Observations of J. during snack time clarified that impression. Snack time was by far J.'s favorite time of the day. Most children will sometimes say that they do not like this food or that food, but in all the observations of J. this was never heard. At one time, J. selected one of the boys to be her special friend because he frequently brought a child's lunch box with crackers in it. J. was usually the last one to finish with snack and that usually coincided with the last of the food.

J. was very proficient at self-help skills. She could dress herself in all of her winter gear and be waiting when her mother came to get her.

Subject B. B. was a 4 year old student at the State School for the Blind. The school was located adjacent to the campus. B. and another preschool aged boy were brought to the preschool by either their teacher at the school for the blind or by another school employee. B. was blinded at birth by the administration of too much oxygen (retrolental fibroplasia). B.'s speech was often repetitions of something that he had heard before. His speech was delayed. B. recognized the voices of the preschool teachers and he would say their names when they greeted him.

One of the major goals for B. was toilet training. While he was in the bathroom he would sing "Little Sir Echo" over and over again. Sometimes he would vary it with "Are You Sleeping?" By the end of the study B. could sing very well, but he still was not toilet trained.

B. generally had one teacher assigned to him for the day. The teacher would greet him at the door and attend to him for most of the session. This teacher would guide B. throughout the day. It was the teacher's duty to prevent self-stimulating behaviors and non-directive behaviors.

There were many toys in the preschool that made sounds and these were the toys that B. gravitated toward. Some of these noise making toys were various musical toys and an old cash register that rang a bell when it was opened. If there was no noise in the classroom, B. often went over to the fish tank to listen to the gurgling sound of the air pump.

Group activities which required sitting in one spot were

difficult for B. This was especially true if the main task of the group was visual in nature. The teachers tried to accommodate for B.'s handicap, but even so it was difficult for him to envision the task. In large group activities where the planned activities were geared for large motor activities and music, B. could be assisted by the teachers and get some stimulation from the activity.

B. was picked up promptly at 11:45 by an employee of the school for the blind. When B. was guided minimally, he could get his cap and jacket on in preparation to going back to the School for the Blind.

Subject A. A. had the most beautiful brown eyes that lit up his whole face when he smiled. He was the youngest child in the preschool and he was mothered by all of the little girls in the room.

A. was brought to the preschool in a travel chair, often used for children with walking difficulties. One day of the week his father would bring him and the other day his mother would bring him. A. seemed to have less difficulty separating from his mother than his father. The teacher generally took A. into the room and put him in an area. A. had severe cerebral palsy and could not speak or move very much. Once when he was placed on the floor he was observed to roll over and reach for a toy. Sometimes the teacher sat A. in a bean bag chair or in a corner chair. He was closer to the floor in these positions and could get more of a child's perspective of the classroom than from the height of his traveling chair. The corner chair was also used to train A. to hold up his head and have more neck control.

A large portion of free time was spent with a speech therapist.

For approximately 20 minutes each session the therapist would put A. in his travel chair and attempt to elicit some meaningful language. A. smiled, cooed and cried in response to the cajoling of the therapist. Often times A. would say "ahh" or yawn. The yawn may have been an attempt at emitting sounds in response to the therapist's insistence.

Group activities were difficult for A. He needed a teacher with him constantly to manipulate the materials. During small group time, A. cried a great deal and was taken to other parts of the building so as not to disturb the other children. If the teacher and A. were sitting on a bench in the hallways and a man passed them, A. would stop crying. If the man talked to him, he would grin and babble in pleasure. If a woman passed them, he would not respond.

Feeding was extremely difficult for A. Because of a bite reflex, A. had difficulty getting food into his mouth. As soon as anything touched his teeth, he would clamp down on the object. It was obvious that at times A. was truly hungry, but was frustrated by the deprivation of satisfaction at snack time. Consequently, most of snack time A. spent crying. This was a very frustrating time for all of the persons involved, particularly A. and the teacher.

During the course of this study, A. developed more control over his arm movements. With the aid of Bristle Blocks he was able to put things together and pull them apart. A. liked to have stories read to him and often moved his hands up to the page as if to turn the page.

When A. was left unattended, he often watched what the other children and the teachers were doing. It is the investigator's

impression that although his physical handicaps were severe, A. had a very active and absorbing mind.

When his mother or father came to get A. at the end of the day, he would light up at the sight of them. He seemed to sigh in relief at the prospect of going home when they left for their car.

Site

The physical setting of the preschool, located in a college of education building, (see Appendix A) consisted of a principal classroom area, an adjacent smaller classroom, and an observation room. Various faculty offices in the building were also utilized as small group sites or for individual instruction, such as speech therapy and remediation sessions.

The principal classroom was roughly divided into five main areas (see Appendix A, Map 1): quiet area, make-believe area, art area, block area, and science area (see Appendix B for a more detailed description of the areas and materials used within these areas). Midway through the semester some modifications were made in the arrangement of the room (see Appendix A, Map 2). The block area was moved to the adjacent classroom (310), the make-believe area was expanded and the sand and water table was removed.

Much of the scheduling and programming was drawn from the Cognitively Oriented Curriculum of the High/Scope Educational Foundation (Hohmann, Banet, and Weikart 1979). The teachers in the preschool used many teaching techniques that were consistent with the High/Scope Curriculum. There was an emphasis on the children participating in

active learning to the extent that it was possible. The arrangement of learning tasks was open ended so that children could achieve an end result that was consistent with their level of functioning. This orientation is also reflected in the schedule of the program (see Appendix C for a detailed description).

This schedule was adhered to consistently, except when adjusted for special events such as field trips, parties, and picnics (see Figure 1).

Figure 1

Preschool Schedule

9:15 - 9:30	Arrival and Planning
9:30 - 10:00	Free Play
10:00 - 10:10	Clean Up
10:10 - 10:45	Recall and Small Group
10:45 - 11:00	Snack
11:00 - 11:45	Large Group and Outside Time

The staff of the preschool consisted of faculty members from the departments of early childhood education and special education, graduate students in preschool handicapped education, graduate students in communication disorders, and undergraduate students from various special education and early childhood education classes.

Data Collection

The collection of data for this study was carried out through a combination of quantitative and qualitative research methods. The major portion of the data was collected as a running narrative of the experiences of the subjects. This running account of the classroom

life of the subjects was patterned after the model used by Jackson in Life in Classrooms (1968). This is an account of the daily happenings in a classroom. The investigator records as much of the daily occurrences of the classroom as he can in this method of collecting data. Within this narration the coding systems, devised by the investigator, were incorporated.

The quantitative data was used to answer the first two research questions:

1. Do teachers and peers interact differently with handicapped than with nonhandicapped children?
2. Is the use of physical space in the classroom different for handicapped than for nonhandicapped children?

The qualitative data was used to answer the third research question:

3. What are some of the qualitative differences in the classroom experiences of handicapped and nonhandicapped children?

The data for this study was collected at the preschool during the second semester of the year during the Tuesday and Thursday sessions of the preschool. The preschool also met on Friday, but the schedule was much different than that of the other days. More time was devoted to direct teaching on those days and there were less opportunities for the children to interact with each other in a free play time that was present in the Tuesday and Thursday sessions of the preschool. The investigator observed one subject per session. The subjects were observed on alternate days so that each child was

observed once every two weeks on alternating Tuesdays and Thursdays.

The following is an example of the schedule:

Figure 2

Observation Schedule

	<u>Tuesday</u>	<u>Thursday</u>
Week 1	J	A
Week 2	P	B
Week 3	A	J
Week 4	B	P
Week 5	J	A
Week 6	P	B

The observations were validated by using a trained second observer who was recruited from an undergraduate course in early childhood education. The student observed beside the investigator during the first two weeks of the study. The data was analyzed by both the observer and the principal investigator for concurrence in quantity and quality of data collection. After these training sessions, the observer recorded her observations independently for 30 minutes each session. The correlation of the observer with the investigator was .86 using Pearson's correlation coefficient.

The investigator followed the subjects in their movements around the room and attempted to remain as unobtrusive as possible. It was necessary to remain as close to the subject as possible in order to record the interactions with the other persons in the classroom and the use of space. It was also necessary to be as close to the subjects as possible to record events as they happened. During the piloting of the study it was discovered that if the investigator remained in the

observation room, much of the richness of data was lost. The observation room is equipped with microphones and two-way mirrors, but many of the movements of the subjects were lost due to blind spots from the mirrors and when other persons were between the investigator and the subject. The microphones picked up all of the sounds in the room and did not focus on just the child in question. Much of the quality of the language interactions, therefore, was lost. For these reasons, the investigator determined that the most accurate method of collecting the data was to follow the subject as close as possible without being in the way of the subject, any of the teachers, or other children.

The investigator observed the subjects' interactions with adults and peers, mapped the children's movements within the classroom, and recorded as much of the life of the child within the classroom as could possibly be recorded.

Qualitative Data Collection

The qualitative data was collected in a running account of the classroom experiences of the subjects. This narrative portion of the data was collected by writing down all of the experiences of the child as observed by the investigator. The investigator had experienced similar events before and attempted to describe them in terms that were understandable to persons who had either experienced or observed similar events (Carini 1979). In a discussion of the validity of observation as a method of inquiry, Carini (1975) states that, "the function of observing in phenomenological inquiry is to constitute the

multiple meanings of the phenomenon, while the function of recording the phenomenon is to reflect those meanings for the contemplation of the observer." (p. 12) In another writing, Carini (1979) states the case for disciplined observations in the following manner,

disciplined observation requires immersion in the object of observation through time, and through the variations of perspective provided by changing of setting. The observer's record of the recurrence and variations of gesture through time and across settings permits patterns in the interplay of gesture to become visible and open to reflection and thought. (p. 41)

In a like manner she discusses that by recording and observing a child's actions and play we can be a part of his thinking or operationalizing of his actions. More directly Carini (1979) states that, "I have as direct an access to the other's inner experience as it is stated in his projects in the world as I have to my own inner experiences as it is stated in my projects in the world" (p. 29).

Within this narrative portion of the data the investigator embedded the coding systems used to collect the qualitative portion of the data. The codings helped to collect a larger portion of data and also to free the investigator to collect more of the behaviors that were not tied to the coding systems.

Quantitative Data Collection

Social Interactions. The code for analyzing interactions among the subjects and adults and the subjects and peers was created by the investigator. Previously devised codings, i.e., Arnold, Glaser, and Ernst (1971), did not lend themselves to the coding of interactions among preschoolers. In this light the investigator

devised a coding that reflected the intent of the study and the types of interactive socializations that preschool children engage in with others. Letters and numbers were assigned to different functions of the interactions. Table 2 contains the coding system for the recording of interactional analysis.

Table 2
Coding System

A = subject initiated
B = other initiated (both adult and peer)
1 = verbal initiation or response
2 = physical initiation or response
3 = smiling, laughing, or other pleasurable initiation or response
4 = looking at another
5 = crying
6 = no response (obvious that the person was ignored or was not heard)

The coding was embedded in the narrative account of the classroom experiences of the subjects. The person initiating or responding to an interaction with the subjects was denoted in the narrative along with the type of initiation, the responses and the continuation of the interaction. It was not necessary to code the target subject of the day. If one of the subjects, J. for example, approached one of the teachers and asked the teacher to read a book, the actual sequence may have happened in the following order: J. asked Lucy (teacher) to read

her a book, L. said something to J., whereas J. gave the book to L. L. smiled at J., J. said something to L. and L. responded with a verbalization and they progressed to read the book in the quietest area.

The coding in the narrative portion of the data would look like: Lucy-A1-1-2-4-1-1 (reading a book in the Quiet Area). Technically the data reads as -- subject verbal initiation with Lucy (Lucy-A1), verbal response by teacher (1), physical response by subject (2), looking response by teacher (4), verbal response by subject (1), verbal response by teacher (1). If the teacher was reading a book to the child, the actual reading of the book would not be recorded, but if the child made a comment to the teacher and the teacher responded, then these interactions would be recorded as initiations and responses.

The coding system was designed to record sustained conversations and interactions as well as initiations and first responses. A sample of the coding as it appears in the narrative is included in Appendix E.

Use of Space in the Classroom. The use of space in the classroom was recorded using an adaptation of a mapping of movements procedure developed by Carini (1975). The movement of the subject was noted on a map of the classroom with a number (see Appendix A, Map of Classroom). This number and the time of the movement was also coded in the margin of the narrative portion of the data. As the child moved from one area to another in the room, the moves were plotted on the map to show how the child had used the preschool during the session. The number and time co-recorded in the narrative assisted in coordinating the

moves with the experiences in the area.

Analysis of Data

The analysis of the data was done in two parts. The quantitative data was analyzed according to the first two questions of the study, social interactions and physical use of space. The qualitative portion of the data was analyzed to gain insight into the differences of experiences in the classroom.

The analysis of the data for questions 1 (social interactions) and 2 (physical use of space) were analyzed using occurrences as the main statistical procedures. Totals, averages, and ranges yielded numbers that were analyzable for the intent of the data. Chapter IV discusses this analysis. The data for question 3 (qualitative differences) was drawn from thorough analysis of the narrative portion of the data. The themes that became evident in the analysis of the narrative data are presented in Chapter V. The effect of the first two questions, social interactions and physical use of space, on the differences experienced in the classroom by the subjects will also be discussed in Chapter V.

Chapter IV

ANALYSIS OF QUANTITATIVE DATA

In this chapter the data is analyzed in terms of social interactions and physical use of space. The grid sheets used to record the social interaction codings from the running narrative of school life are in Appendix D. The maps of the classroom are in Appendix A. A sample of the running narrative of the study is located in Appendix E.

Social Interactions

Question 1 asks, "Do teachers and peers interact differently with handicapped than with nonhandicapped children?" The investigator formulated a coding system that recorded social interactions in the classroom. This code is fully described in Chapter III. The code was designed to assist in recording initiations of social interactions and responses to the initiation. Each initiation and each response (and repetitions of such to create a continuous stream of interaction) was interpreted as a unit of interaction. Each square of the grid sheet (see Appendix D) used to record the social interactions represented one unit of interaction. The names of the teachers and the names of the children in the preschool were located on the left margin of the grid, with the teachers' names listed first, followed by the children's names. From these grid sheets the investigator was able to view the flow of interactions of the subjects between adults and peers. The use of the grid sheets also facilitated the tabulation of social interaction data (see Figure 2).

Mean Length of Interaction Sequences

Table 3 shows the mean length of the interaction sequence as measured in units of interaction (see above) and the range of the length of these interactions per subject. As noted in the range of length of interactions, a 1 (one) indicates that one person did not respond to the initiation.

Table 3
Mean Unit of Length of Interaction Sequence As
Measured in Units

	<u>Adult Interactions</u>		<u>Peer Interactions</u>	
	<u>Mean</u>	<u>Range</u>	<u>Mean</u>	<u>Range</u>
Nonhandicapped Subject P. (N=6)	3.6	1-24	2.9	1-13
Nonhandicapped Subject J. (N=6)	3.2	1-21	2.6	1-11
Handicapped Subject B. (N=6)	5.4	1-100	2.7	1-8
Handicapped Subject A. (N=5)	5.9	1-95	2.1	1-8

Note. N refers to the number of observation sessions.

The range of interaction sequences with adults was 1-24 and 1-21 for the nonhandicapped children, and 1-100 and 1-95 for the handicapped children. The range of interaction sequences with peers for the nonhandicapped children was 1-13 and 1-11, while the ranges of interaction sequences with peers was 1-8 and 1-8 for the handicapped children. The differences in the range of interaction sequences with

adults for the handicapped and the nonhandicapped was quite large. The differences in the range of interaction sequences with peers was not large and probably means that children do not differentiate in the length of interactions with their peers. The differences between the ranges of adult interaction sequences suggests that adults differentiate in the length of their interactions with handicapped and nonhandicapped children as evidenced by the extremes of the upper limits of the individual lengths of the interactions.

The mean length of interaction sequences as measured in units of interaction for the nonhandicapped subjects was 3.6 and 3.2. The mean length of interaction sequences for the handicapped subjects was 5.4 and 5.9. These differences are similar to those as shown in the discussion of the range of interactions. The mean length of interaction sequences with peers are 2.9 and 2.6 for the nonhandicapped children and 2.7 and 2.1 for the handicapped children. The differences in these lengths of interaction sequences are minimal. The ranges of interactions is also minimal. This leads one to conclude that children do not differentiate in the length or range of social interaction with handicapped and nonhandicapped peers.

Average Initiations per Session with Adults

Table 4 records the average initiations per session with adults and by adults. The average number of adult initiations with the nonhandicapped children were 33.8 and 55.8. The average number of adult initiations with the handicapped children were 69.8 and 59.8. There does not seem to be a difference in the number of initiations with

J., A., and B. (55.8, 59.8, and 69.8 respectively), but there does seem to be a difference in the amount of adult initiations with P. (33.8). This can possibly be explained by the fact that P. is older and more mature than the other subjects and was able to act more independent of adult initiations.

Table 4

Average Initiations per Session with Adults

	<u>Adult Initiated</u>	<u>Subject Initiated</u>
Nonhandicapped Subject P. (N=6)	33.8	69.5
Nonhandicapped Subject J. (N=6)	55.8	41.7
Handicapped Subject B. (N=6)	69.8	15.0
Handicapped Subject A. (N=5)	59.8	2.4

Note. N refers to the number of observation sessions.

When analyzing the initiations of the subjects with adults (Table 4), the nonhandicapped subjects had considerably more initiations (69.5 and 41.7) per session with adults than the handicapped subjects (15.0 and 2.4). P. is the only one of the subjects that initiated more interactions with adults than they initiated interactions with her. These differences could be largely due to the language abilities and the physical disabilities of the handicapped subjects. B.'s language skills were not very generative and his visual handicap probably kept him from seeking out adults for

initiations. A. had no intelligible speech and could not move out of his travel chair unaided. The nonhandicapped subjects were normally developing children and could seek out teachers to make their needs known. Thus, the handicapped subjects were more dependent upon the teachers initiating interactions with them than were the nonhandicapped subjects.

Average Initiations per Session with Peers

The average initiations per session with peers is closely related to the initiations with adults. Table 5 is a presentation of the table Average Initiations per Session with Peers.

Table 5

Average Initiations per Session with Peers

	<u>Peer Initiated</u>	<u>Subject Initiated</u>
Nonhandicapped Subject P. (N=6)	19.7	24.2
Nonhandicapped Subject J. (N=6)	12.0	19.0
Handicapped Subject B. (N=6)	3.2	2.8
Handicapped Subject A. (N=5)	9.0	.2

Note. N refers to the number of observation sessions.

Handicapped subject B. experienced the fewest amount of interactions from peers, followed by A., J., and P. Other than B., there does not seem to be a great difference in the amount of interactions initiated with the subjects by their peers. Of the initiations with peers by

the subjects, P. initiated more with peers, followed by J., B., and A.

The nonhandicapped subjects initiated more interactions with their peers than the peers initiated interactions with them. Peers initiated more social interactions with the handicapped than the handicapped subjects initiated interactions with their peers.

The differences in the interaction patterns between the handicapped and nonhandicapped subjects may be explained by the disabilities of the handicapped subjects as stated in the discussion of Table 4 on page 45. A reason explaining A.'s amount of initiations from his peers could be that many of the girls in the preschool referred to A. as "the baby" and were very protective of him.

Interactions with Adults

The major categories of initiations of interactions for both subject initiated and other initiated interactions were verbal initiations and physical initiations. These two categories of initiation made up 86% (eighty-six percent) of all initiations. The remaining 14% (fourteen percent) was largely made up of combinations of verbal and physical initiations of interactions. The preceding Tables 3, 4 and 5, have described the amount of initiations. Tables 6, 7, 8, and 9 describe the immediate responses made to the initiation of and interaction. The number in parenthesis represents the total number of the specific type of response to the verbal or physical initiations. The other number (not in parenthesis) represents the average number of specific immediate responses per observed session per child.

Subject Initiated Interactions with Adults--Verbal Initiations.

Table 6, Interactions with Adults--Verbal Initiations, describes verbal initiations between adults in the classroom and the subjects and the immediate responses to the initiation. When the subjects initiated verbally with the adults in the classroom, an immediate verbal response by the adult was the most frequent immediate response. No response was the next most common response, followed in order by a physical response, a look or regard, and a smile or laugh. The nonhandicapped subjects were more successful in eliciting a verbal response from the adults. The handicapped subjects had only 52 and 2 (total) verbal responses from the adults, as compared to 304 and 114 (total) verbal responses for the nonhandicapped subjects. In all of the responses to verbal initiations by the subjects, there is a descending number and average across subjects as determined by the subjects' abilities. It is interesting that J. was the only subject to elicit a smile or a laugh from the adults during the data collection. It is also interesting to note that A. had only four (4) verbal initiations with adults. The nonhandicapped subjects were more often ignored when they initiated an interactions with adults than were the handicapped subjects.

Adult Initiated Interactions with Subjects--Verbal Initiations.

When adults initiated verbally with the subjects, a verbal response was the most frequent response to the adults followed in order by a physical response, no response, a look or regard, a smile or laugh, and a cry.

The specific patterns of responses to adults' verbal initiations

Table 6

Interactions with Adults--Verbal Initiations

Totals and Averages per Session

Subject Verbal Initiation	Response of Adult	Nonhandicapped		Handicapped	
		P(N=6)	J(N=6)	B(N=6)	A(N=5)
	Verbal	(304) 50.7	(164) 27.3	(52) 8.7	(2) .4
	Physical	(13) 2.2	(11) 1.8	(5) .8	(2) .4
	Smile or Laugh	(0) 0	(1) .2	(0) 0	(0) 0
	Look or Regard	(13) 2.2	(3) .5	(1) .2	(0) 0
	Cry	(0) 0	(0) 0	(0) 0	(0) 0
	No Response	(77) 12.8	(63) 10.5	(9) 1.5	(0) 0
Adult Verbal Initiation	Response of Subject				
	Verbal	(103) 17.2	(112) 18.7	(89) 14.8	(21) 4.2
	Physical	(47) 7.8	(97) 16.2	(132) 22.0	(37) 7.4
	Smile or Laugh	(7) 1.2	(13) 2.2	(10) 1.7	(24) 4.8
	Look or Regard	(12) 2.0	(28) 4.7	(5) .8	(50) 10
	Cry	(0) 0	(1) .2	(1) .2	(17) 3.4
	No Response	(25) 4.2	(59) 9.83	(132) 22.0	(67) 13.4

Note. N refers to the number of observations.

appear to be more varied than the responses by adults to the subjects' verbal initiations. As noted in Table 6, subject P. initiated more with adults than they initiated with her. The other subjects had more initiations from adults than they initiated with adults. A verbal response by the subjects to a verbal initiation by adults was the most common response for the nonhandicapped subjects. The handicapped subjects were somewhat less inclined to respond verbally to a verbal initiation by adults.

The nonhandicapped subjects varied together in their responses to adult verbal initiations. The actual totals for subject J. were slightly higher for all of the categories of responses than for subject P. This is due to P. initiating more interactions with adults than they initiated interactions with her.

The most common response of the handicapped subjects to a verbal initiation by adults was no response. Beyond the prevalence of no response, the immediate responses of the handicapped subjects varied. For subject B., a physical response was as common as no response, followed by a verbal response, a smile or laugh, a look or regard, a verbal response, and a cry. Subject A.'s second most frequent immediate response was a look or regard, followed by a physical response, a smile or laugh, a verbal response, and a cry. A. cried more as a response than did all of the other subjects. This may be due to a frustration at snack time due to a severe bite reflex and also to tiredness from the length of individual teaching sessions.

Subject Initiated Interactions with Adults--Physical Initiations.

Table 7 describes interactions with adults based on physical initiations. The numbers in parenthesis are the totals for all sessions combined, the other number is the average per session. When the subjects physically initiated interactions with adults, the most frequent response of the adults to a subject was a verbal response, followed by no response, a physical response, and a look or regard. The adults had no immediate response in the smile or laugh category or the cry category. In a comparison of Table 7 and Table 6, it is interesting to note that there were relatively few subject initiated physical interactions in comparison to subject initiated verbal interactions. Of the subject initiated physical interactions, most of them were from the handicapped subjects.

Adult Initiated Interactions with Subjects--Physical Interactions.

When the adults physically initiated interactions with the subjects, the subjects most frequently did not respond to the adults. The second most common response of the subjects to a physical initiation was another physical response, followed by a verbal response, a smile or laugh, a look or regard, and a cry. The physical initiations by adults to subjects varied from subject to subject. The nonhandicapped subjects had 9 and 25 (total) physical interaction initiations for adults. The handicapped subjects had 50 and 83 physical initiations for adults. The handicapped subjects received the majority of the physical interaction initiations by adults. Other than no response, a physical response was the most frequent response to a physical initiation by an adult for the handicapped children. For A., a smile or laugh, a look

Table 7

Interactions with Adults--Physical Initiations

Totals and Averages per Session

Subject Physical Initiation	Response of Adult	Nonhandicapped		Handicapped	
		P(N=6)	J(N=6)	B(N=6)	A(N=5)
	Verbal	(5) .8	(2) .3	(10) 1.7	(6) 1.2
	Physical	(1) .2	(0) 0	(4) .7	(1) .2
	Smile or Laugh	(0) 0	(0) 0	(0) 0	(0) 0
	Look or Regard	(2) .3	(1) .2	(0) 0	(0) 0
	Cry	(0) 0	(0) 0	(0) 0	(0) 0
	No Response	(2) .3	(5) .8	(9) 1.5	(1) .2
Adult Physical Initiation	Response of Subject				
	Verbal	(5) .8	(6) 1.0	(5) .8	(5) 1.0
	Physical	(3) .5	(8) 1.3	(20) 3.3	(16) 3.2
	Smile or Laugh	(0) 0	(1) .2	(3) .5	(11) 2.2
	Look or Regard	(1) .2	(0) 0	(2) .3	(11) 2.2
	Cry	(0) 0	(0) 0	(1) .2	(11) 2.2
	No Response	(0) 0	(10) 1.7	(19) 3.2	(29) 5.8

Note. N refers to the number of observations.

or regard, or a cry were equally prevalent responses. For B., a physical response was the most common response, the next most common response was verbal, followed by a smile or regard, and a cry.

Interactions with Peers

Subject Initiated Interactions with Peers--Verbal Initiations.

Table 8 is a compilation of verbal initiation interactions with peers. When the subjects initiated verbally with their peers an immediate verbal response was the most frequent response. This verbal response was next followed in frequency by no response, a physical response, a look or regard, a smile or laugh, and a cry.

In further analysis of Table 8 Interactions with Peers--Verbal Initiations, it is revealed that the handicapped subjects rarely initiated verbally with their peers. B. initiated verbally with peers 6 times (six total initiations), and A. initiated verbally with his peers 1 (one) time. The nonhandicapped subjects had relatively high amounts of verbal initiations with peers and the responses they received varied together.

Peer Initiated Interactions with Subjects--Verbal Initiations.

The analysis of peer verbal initiations, Table 8 shows a pattern similar to the subjects' verbal initiations. The handicapped children had only 3 and 7 peer verbal initiations. When the nonhandicapped subjects received a verbal initiation, they more often responded verbally. The other immediate responses by the subjects were no response, a physical response, a look or regard, and a smile or laugh. The non-handicapped subjects did not respond to their peers by crying.

Table 8

Interactions with Peers--Verbal Initiations

Totals and Averages per Session

Subject Verbal Initiation	Response of Peer	Nonhandicapped		Handicapped	
		P(N=6)	J(N=6)	B(N=6)	A(N=5)
	Verbal	(82) 13.7	(50) 8.3	(1) .2	(0) 0
	Physical	(6) 1	(13) 2.2	(0) 0	(0) 0
	Smile or Laugh	(1) .2	(3) .5	(0) 0	(0) 0
	Look or Regard	(4) .7	(2) .3	(0) 0	(0) 0
	Cry	(0) 0	(1) .2	(0) 0	(0) 0
	No Response	(39) 6.5	(31) 5.2	(5) .8	(1) .2
Peer Verbal Initiation	Response of Subject				
	Verbal	(54) 9.0	(20) 3.3	(0) 0	(0) 0
	Physical	(13) 2.2	(6) 1.0	(2) .3	(4) .8
	Smile or Laugh	(2) .3	(9) 1.5	(0) 0	(0) 0
	Look or Regard	(13) 2.2	(5) .8	(0) 0	(0) 0
	Cry	(0) 0	(0) 0	(0) 0	(2) .4
	No Response	(20) 3.3	(8) 13.	(1) .2	(1) .2

Note. N refers to the number of observations.

When the other children verbally initiated an interaction with the subjects, an immediate verbal response by the subjects was the most common response. The other responses in the order of their frequency were no response, a physical response, a look or regard, a smile or laugh, and a cry.

Subject Initiated Interactions with Peers--Physical Interactions.

Table 9 describes interactions with peers and physical initiations. No response was the most common immediate response by peers to a physical initiation by a subject. This was followed by a physical response, a verbal response, a smile or laugh, and a look or regard. There were no crying responses. Further analysis of Table 8 reveals that subject initiated physical interactions were approximately the same for all subjects other than subject A. Subject A. did not initiate physically with his peers.

Peer Initiated Interactions with subjects--Physical Initiation.

When peers initiated physically with the subjects, the most common immediate response was no response. This was followed by a physical response, a verbal response, a look or regard, a smile or a laugh, and a cry. When peers initiated with the nonhandicapped subjects, a verbal response was the most frequent response, followed by a physical response and no response, a look or regard, and a smile or a laugh. The nonhandicapped children did not respond with a cry. When the handicapped subject received a physical initiation from their peers, no response was the most common response. This was followed by a physical response, a look or regard, a smile or laugh, a verbal response, or cry.

Table 9

Interactions with Peers--Physical Initiations
Totals and Averages per Session

Subject Physical Initiations	Response of Peer	Nonhandicapped		Handicapped	
		P(N=6)	J(N=6)	B(N=6)	A(N=5)
	Verbal	(2) .3	(4) .7	(1) .2	(0) 0
	Physical	(5) .8	(3) .5	(2) .3	(0) 0
	Smile or Laugh	(0) 0	(1) .2	(1) .2	(0) 0
	Look or Regard	(0) 0	(2) .3	(0) 0	(0) 0
	Cry	(0) 0	(0) 0	(0) 0	(0) 0
	No Response	(6) 1.0	(4) .7	(7) 1.2	(0) 0
Peer Physical Initiations	Response of Subject				
	Verbal	(4) .7	(8) 1.3	(1) .2	(2) .4
	Physical	(2) .3	(9) 1.5	(5) .83	(6) 1.2
	Smile or Laugh	(0) 0	(2) .3	(0) 0	(4) .8
	Look or Regard	(2) .3	(2) .3	(0) 0	(7) 1.4
	Cry	(0) 0	(0) 0	(0) 0	(1) .2
	No Response	(8) 1.3	(3) .5	(10) 1.7	(18) 3.6

Note. N refers to the number of observations.

Physical Use of Space

Research question 2 asks, "Do handicapped children use the physical space of the classroom differently than nonhandicapped children?" The investigator recorded the positions of the movements of the subjects on a map of the classroom (see Appendix A). The position was noted with a number to mark the order in which the subject made the various moves in the classroom. This number was recorded on the margins of the narrative portion of the data (see Appendix E) along with the time that the subject first entered the space.

Use of Physical Space as Measured in Moves

Table 10, Use of Physical Space as Measured in Moves, shows the use of space in the classroom as measured in total number of moves during the study, the average number of moves per observed session, and the average amount of time in each move.

Table 10

Use of Physical Space as Measured in Moves

	Total Number Moves	Average Number Moves	Average Time in Minutes
Nonhandicapped P (N=6)	204	34.0	4.9
Nonhandicapped J (N=6)	224	37.3	4.4
Handicapped B (N=6)	90	15.0	8.2
Handicapped A (N=5)	64	12.8	8.7

Note. N refers to the number of observations.

The nonhandicapped subjects had more total moves and average moves than did the handicapped subjects. The handicapped subjects spent more time in each move than did the nonhandicapped subjects.

Obviously the more moves the subject had in the classroom per session, the shorter the time spent in each move. Factors determining the length of time in each move for the handicapped children included the fact that they were often involved with one adult in a tutoring session or they were limited in their mobility by their handicapping conditions.

Use of Classroom Space

Table 11 is a composite of the moves in each defined area of the classroom for each of the subjects. The use of each area of the preschool will be described separately in succeeding tables. The layout of each area is described in Appendix B.

An analysis of Table 11 enables one to observe how each of the subjects used the areas of the preschool. For B., the most used areas of the preschool in order of frequency of use were the adjacent classroom, the art area, the science area, other areas, the quiet area, the sand/water table, the block area, the bathroom, and the hall. The order of frequency of use for the specific preschool areas for J. were the art area, the science area, the make-believe area, the block area, the other areas, the adjacent classroom, the sand/water table, the bathroom, the quiet area, and the hall. The science area was the most used area of the preschool for B. This was followed in use by the bathroom, the art area, the adjacent classroom, the quiet area, the

Table 11
Use of Space

	Nonhandicapped						Handicapped					
	Total Moves	P(N=6) Total Time	Percent of Time	Total Moves	J(N=6) Total Time	Percent of Time	Total Moves	B(N=6) Total Time	Percent of Time	Total Moves	A(N=5) Total Time	Percent of Time
Quiet Area	25	72	7.2	14	30	3.0	11	88	11.9	8	99	17.8
Make Believe	17	53	5.3	23	102	10.3	11	42	5.7	0	0	0
Art Area	49	223	22.4	67	369	37.2	15	128	17.3	9	65	11.7
Science Area	34	140	14.0	34	210	21.1	14	150	20.2	4	69	12.4
Sand/Water Table	12	47	4.7	9	39	3.9	4	41	5.5	0	0	0
Block Area	14	32	3.2	16	65	6.5	1	25	3.4	2	24	4.3
Adjacent Classroom	18	276	27.7	3	53	5.3	6	95	12.8	9	134	24.1
Bathroom	8	29	2.9	5	34	3.4	11	137	18.5	4	17	3.1
Hall	12	28	2.8	17	30	3.0	8	28	3.8	10	35	6.3
Other	<u>9</u>	<u>97</u>	<u>9.7</u>	<u>29</u>	<u>61</u>	<u>6.1</u>	<u>1</u>	<u>7</u>	<u>.9</u>	<u>13</u>	<u>112</u>	<u>20.2</u>
Totals	204	997	99.9 ^a	224	993	99.8 ^a	90	741	100.0	64	555	99.9 ^a

^aDue to rounding of figures

make-believe area, the sand/water table, the hall, the block area and other areas. A. frequented the adjacent classroom more than the other areas of the preschool. This was followed by other areas of the building, the quiet area, the science area, the art area, the hall, the block area, and the bathroom. A. had no moves in the make-believe area or at the sand/water table.

Use of the Quiet Area. Table 12 describes the use of the quiet area for the subjects.

Table 12

Use of the Quiet Area

	Total Moves in Area	Total Time in Area	Percent of Time in Area	Range of Time in Area
Nonhandicapped Subject P(N=6)	25	72	7.2	1-13
Nonhandicapped Subject J(N=6)	14	30	3.0	1-5
Handicapped Subject B(N=6)	11	88	11.9	1-35
Handicapped Subject A(N=5)	8	99	17.8	1-63

Note. N refers to the number of observations.

The nonhandicapped subjects had more moves in the quiet area than did the handicapped subjects. The handicapped subjects had more time in the quiet area than did the nonhandicapped subjects. When this amount of time is looked at in relation to the total amount of time spent in the classroom, A. spent a larger portion of his day (17.8 percent) in

the quiet area than did the other subjects. The handicapped subjects spent a larger portion of their day in the quiet area than did the non-handicapped subjects. The ranges of time spent in the quiet area for the handicapped children was greater than the ranges of time spent in the quiet area for the nonhandicapped subjects.

Use of the Make-Believe Area. Table 13 describes the use of the make-believe area for all the subjects.

Table 13

Use of the Make-Believe Area

	Total Moves in Area	Total Time in Area	Percent of Time in Area	Range of Time in Area
Nonhandicapped Subject P (N=6)	17	53	5.3	1-20
Nonhandicapped Subject J (N=6)	23	102	10.3	1-16
Handicapped Subject B (N=6)	11	42	5.7	1-9
Handicapped Subject A (N=6)	0	0	0	0

Note. N refers to the number of observations.

One handicapped subject (A.) did not use the make-believe area. The nonhandicapped subjects used the make-believe area with greater frequency than did the handicapped subjects. J. spent considerably more time in the make-believe area than did the other subjects. The percent of time J. spent in the make-believe area is greater than the percent of time spent in the make-believe area by the other subjects.

The amount of time and the percentages of time spent in the make-believe area by P. and B. are approximately the same. The ranges of time in the make-believe area for the nonhandicapped subjects is greater than the handicapped subjects.

Use of the Art Area. The art area was used more by the nonhandicapped subjects than by the handicapped subjects as shown in Table 14. The nonhandicapped subjects had more total moves in the art area, more total time in the art area and larger percentage of time in the art area than did the handicapped subjects. There does not seem to be a difference in the ranges of time for all subjects.

Table 14

Use of the Art Area

	Total Moves in Area	Total Time in Area	Percent of Time in Area	Range of Time in Area
Nonhandicapped Subject P(N=6)	49	223	22.4	1-41
Nonhandicapped Subject J(N=6)	67	369	37.2	1-23
Handicapped Subject B(N=6)	15	128	17.3	1-40
Handicapped Subject A(N=5)	9	65	11.7	1-20

Note. N refers to the number of observations.

Use of the Science Area. An analysis of the use of the science area (Table 15) leads to no distinct conclusions as to the use of the science area by handicapped versus nonhandicapped subjects. Subject P.

had the most total moves in the area, the most total time in the area and the greatest percentage of time in the area. The other nonhandicapped subject had the least amount of moves, the smallest total time in the area, and the smallest percentage of time in the area. Handicapped subject A., who was the most physically handicapped of the subjects, used the science area with the second highest frequency. Handicapped subject B. had the third highest use of the area and nonhandicapped subject J. used the area the least. Although there did not seem to be any distinction in the use of the science area between handicapped and nonhandicapped children, the range of time spent in the area was curiously similar.

Table 15
Use of the Science Area

	Total Moves in Area	Total Time in Area	Percent of Time in Area	Range of Time in Area
Nonhandicapped Subject P(N=6)	18	276	27.7	1-37
Nonhandicapped Subject J(N=6)	3	53	5.3	1-50
Handicapped Subject B(N=6)	6	95	12.8	1-43
Handicapped Subject A(N=5)	9	134	24.1	1-51

Note. N refers to the number of observations.

Use of Sand/Water Table. The handicapped subjects had more moves in the vicinity of the sand/water table and at the sand/water

table than did the handicapped subjects (Table 16). One handicapped subject had no moves in the area. The total amount of time in the area was approximately the same for the three subjects who had moves in the area. The percent of total time for the three subjects was also very similar. The ranges of time in the area for the three subjects was very similar.

Table 16
Use of Sand/Water Table

	Total Moves in Area	Total Time in Area	Percent of Time in Area	Range of Time in Area
Nonhandicapped Subject P(N=6)	12	47	4.7	1-17
Nonhandicapped Subject J(N=6)	9	39	3.9	1-16
Handicapped Subject B(N=6)	4	41	5.5	3-16
Handicapped Subject A(N=5)	0	0	0.0	0

Note. N refers to the number of observations.

Use of the Block Area. The nonhandicapped subjects had considerably more moves in the block area than did the handicapped subjects (Table 17). The nonhandicapped subjects also had more total time in the area. The percentage of time for all subjects in the area did not seem to vary to any great extent. The largest variations of the data for this table can be found in the category range of time in the area.

Table 17
Use of Block Area

	Total Moves in Area	Total Time in Area	Percent of Time in Area	Range of Time in Area
Nonhandicapped Subject P(N=6)	14	32	3.2	1-10
Nonhandicapped Subject J(N=6)	16	65	6.5	1-43
Handicapped Subject B(N=6)	1	25	3.4	25
Handicapped Subject A(N=5)	2	24	4.3	5-19

Note. N refers to the number of observations.

Use of the Adjacent Classroom. Table 18 shows the use of the adjacent classroom. An analysis of the use of the adjacent classroom shows that there is no distinct pattern to the use of this area. The most mature nonhandicapped subject and the most physically disabled handicapped subject used the area the most. P. had the most moves in the area, the largest total time in the area and the largest percentage of time in the area. Handicapped subject A. had the second most frequent usage of the area followed by handicapped subject B. and finally by nonhandicapped subject J. The ranges of time in the area remained about the same.

Use of Bathroom. The use of the bathroom as a move in the use of space is described in Table 19. This was added as a major move because one of the subjects was being toilet trained and spent con-

Table 18

Use of Adjacent Classroom (Room 310)

	Total Moves in Area	Total Time in Area	Percent of Time in Area	Range of Time in Area
Nonhandicapped Subject P(N=6)	18	276	27.7	1-37
Nonhandicapped Subject J(N=6)	3	53	5.3	1-50
Handicapped Subject B(N=6)	6	95	12.8	1-43
Handicapped Subject A(N=5)	9	134	24.1	1-51

Note. N refers to the number of observations.

Table 19

Use of Bathroom

	Total Moves in Area	Total Time in Area	Percent of Time in Area	Range of Time in Area
Nonhandicapped Subject P(N=6)	8	29	2.9	1-7
Nonhandicapped Subject J(N=6)	5	34	3.4	1-5
Handicapped Subject B(N=6)	11	137	18.5	5-24
Handicapped Subject A(N=6)	4	17	3.1	3-34

Note. N refers to the number of observations.

siderable time in the area. As suspected, the use of the bathroom was fairly evenly distributed among three of the subjects. Handicapped subject B. was in the process of being toilet trained and spent considerably more time in the bathroom than did the other subjects in all categories of measurement.

Use of the Hall. Table 20 describes the use of the hall as a movement area and part of the preschool. Not only was the hall a location of arriving and leaving, it also was used as an integral part of the program. For one of the handicapped subjects, the hall was used as an area to be away from the stimulation of the preschool

Table 20

Use of Hall

	Total Moves in Area	Total Time in Area	Percent of Time in Area	Range of Time in Area
Nonhandicapped Subject P(N=6)	12	28	2.8	1-7
Nonhandicapped Subject J(N=6)	17	30	3.0	1-5
Handicapped Subject B(N=6)	8	28	3.8	1-5
Handicapped Subject A(N=5)	10	35	6.3	1-5

Note. N refers to the numbers of observations.

and when he began to cry he was taken to the hall so he would not bother the other children and teachers while they were engaged in

activities. The use of the hall was fairly evenly distributed in the total moves, the total time in the area, the percent of time in the area, and the range of time in the area.

Use of Other areas. Table 21 describes the use of other areas in the building as integral parts of the movements in the preschool experiences of the subjects. The nonhandicapped subjects used other areas more than the handicapped subjects used other areas. When averaged, the nonhandicapped subjects spent more total time in other areas than did the handicapped subjects, although one handicapped subject had the most total time in other areas of the building. There was great variability in the percentage of time spent in other areas of the building. Handicapped subject A. had the largest percentage of time in other parts of the building, followed by the nonhandicapped subjects

Table 21

Use of Other Areas

	Total Moves in Area	Total Time in Area	Percent of Time in Area	Range of Time in Area
Nonhandicapped Subject P(N=6)	9	97	9.7	1-47
Nonhandicapped Subject J(N=6)	29	61	6.1	1-16
Handicapped Subject B(N=6)	1	1	.9	7
Handicapped Subject A(N=5)	13	112	20.2	1-30

Note. N refers to the numbers of observations.

and finally by the other handicapped subject. The range of time spent in other areas of the building were as variable as the other categories. There did not seem to be any pattern to the data.

Summary

From the discussion of social interactions the author concludes that teachers and peers interact differently with handicapped than with nonhandicapped. Some of these differences are: adults dominated the classroom time of the handicapped subjects, peers interacted more with the nonhandicapped subjects than the handicapped subjects, and the most common response to an interaction and the most common form of initiation were verbal in nature.

From the discussion of physical use of space, the author concludes that the handicapped subjects and the nonhandicapped subjects used the physical space of the classroom differently. Some of these differences are: the nonhandicapped subjects had more moves in the classroom, the handicapped subjects had more time in each move and the larger, more open areas of the preschool were the most frequently used areas.

Chapter V

THEMES

The themes that resulted from the analysis of the qualitative data are closely tied to the quantitative questions, social interactions and physical use of space. The themes of classroom experience will be specific to the subjects of this study, but it is possible that these themes have occurred in similar settings and should be considered by the teacher contemplating mainstreaming (Eisner 1979).

From the discussions of the results of the data on social interactions and the physical use of space in Chapter IV, the author concludes that the handicapped subjects had different experiences in the preschool classroom than did the nonhandicapped subjects. What then are some of the differences? What are some issues that need to be considered when mainstreaming handicapped children into the preschool?

Social Interactions

Social interactions play a major role in a preschool classroom. The teachers and children interact with each other in a variety of ways. This section discusses four of them: adult responses to interactions, determination of activity, play and peer interactions, and play as social maturity.

Adult Responses to Interactions

On the surface, a response by the teacher to an interactive initiation of a child does not seem to be of utmost concern and consideration for most preschool teachers. Generally, teachers assume that when a child speaks to them they will

answer. In the detailed observation of this study, it became apparent that the manner in which teachers respond to children varies depending on whether or not the child is handicapped.

The persistence of the nonhandicapped subjects was very evident in the narrative data. When the nonhandicapped subjects approached an adult and made some request or comment, if the adult was occupied with some other task, the nonhandicapped subject was ignored. The nonhandicapped subjects would repeat over and over what they said to the teacher until the teacher was compelled to respond. The nonhandicapped subject needed to be quite persistent in order to be noticed by the teacher (see Appendix F, Summary of the Classroom Experiences of J.: January 15, 1981, 10:15; January 15, 1981, 11:13; February 24, 1981, 8:55. Appendix F, Summary of the Classroom Experiences of P.: January 22, 1981, 9:11).

This was seldom the case with the handicapped subjects. They were more apt to be responded to immediately than were the nonhandicapped subjects. If the teacher failed to respond to the handicapped subject, there was no follow-up interaction on the part of the handicapped subject.

Teachers need to consider the impact of immediate reinforcement for handicapped children. On one hand it appears that there can be a learning experience from being forced to persist for attention from an adult, but on the other hand, if the child fails to persist, it is important for the teacher to respond. It may be beneficial for the teacher to pause and consider the immediate reinforcement of all

interactions with handicapped children. If the teacher pauses slightly and waits for the child to respond, a second attempt at the interaction may occur and then the teacher should respond. If the initiation is not repeated, the teacher can appropriately respond to the handicapped child.

Nonhandicapped children seem to know that if they persist, they will be responded to by another person. Handicapped children can possibly learn some independent living skills by not being responded to immediately.

Determination of Activity

The teacher who was assigned to be a case manager for a handicapped child spent most of the session with that child. In the preschool of this study, teachers were assigned as case managers for specific children. The case managers were responsible for evaluating the children and for reporting on them at weekly staff meetings. The case manager for the nonhandicapped child rarely spent a large portion of the morning with the child she was assigned to unless it was for testing purposes, small group activity or incidental in a free play situation. Except for small group activities or during specialized tutoring, the case manager spent a large portion of the morning with their handicapped subjects. It is evident from reading the Summaries of Classroom Experiences for Subject A. and Subject B. (Appendix F) that a majority of their classroom time was spent with one teacher, teacher (P.) for Subject A. and teacher (S.) for Subject B. During these times the teacher directed the activities

and interactions the handicapped subjects had with the classroom environment and peers.

The involvement of the nonhandicapped subjects with the environment was much more self-determined than the involvement of the handicapped subjects. The nonhandicapped subjects were free to interact with materials during free time and the teachers provided active learning for them in their small and large group activities.

The differences lie in the freedom to interact with the environment, including materials. Both J. and P., the nonhandicapped subjects, could determine each day during planning time the things they wanted to be involved with for free time (see Appendix F, Summaries of Classroom Experiences). They then went to the area or toy and interacted with it in a manner that they saw fit. They were not bound by any convention, although they often used the materials and areas in very traditional ways. The nonhandicapped subjects could also switch and go to another area that had a more exciting play with a seemingly more exciting group of players. The handicapped subjects were more bound to a specific area and moved only when the teachers moved them.

For the nonhandicapped subjects, the teachers need to provide a variety of options each day. The teachers need to facilitate expansion of new means of interactions. The handicapped children need a slightly different approach.

When handicapped children come to school, teachers can give them a variety of objects from which to choose one or more. If the child is

unable to freely choose from all of the materials in the classroom, he is at least able to choose something independently. The self-determination of activities during free play may be a step to achieving independence.

Play and Peer Interactions

Play is an important and integral part of a child's existence. It is the means by which he gains knowledge of his world and understands his place in the world. Play is active participation in life on the part of the child. It is the means by which children practice what they have learned and learn from participation in their interactions with the environment.

Play involves other children, although by no means is play only limited to play with other children. During play, friendships grow and occur.

The handicapped subjects did not form as many friendships as the nonhandicapped subjects. First, the handicapped subjects initiated few social interactions with peers. Second, the handicapped subjects had very limited language skills. B. did not search out other persons except that he would react to the other boy who came with him to the preschool from the School for the Blind. The investigator refers to this as recognition rather than friendship, because B. did not attempt to socialize with him other than to call his name and pull on him. B. often ignored the initiations of social interactions from the other children in the preschool. Soon they would move on when they got no response from B.

A. was more fortunate in his interactions with peers. As

mentioned earlier, A. watched the children in the preschool when they caught his attention. A. also received a lot of attention, possibly because he was the smallest child in the preschool. The children often fought over who got to roll his travel chair to the elevator when they were going outside.

Teachers can encourage mixed groups of children to foster friendships in the classroom. For those friendships that did develop, the growth of friendships among the handicapped and nonhandicapped was the most successful aspect of mainstreaming during this study. Each child was made to feel special. To the author, this attitude of the teachers did more for the development of friendships than any enforced friendship could have accomplished.

Friendship also requires that a child initiate interactions with peers and that there be an active response from the other child. How a child approaches and enters a play group is important.

Children approach play groups in various ways depending on their maturity. P. was one of the older children in the preschool. She was very verbal and could easily enter into social interactions with peers. When P. wanted to join an established play group, she would directly ask the members if she could join in or at times she did not even bother to ask but simply moved in on the play.

J. was one of the younger children in the preschool and it seemed that she had more difficulty entering into social interactions with her peers. A direct example from the narrative will illustrate this approach to entrance into the interaction:

Near the end of free play J. was observed to be looking on as two girls were playing in the water at the sand/water table. She had on a smock in preparation for the play. At this time she looked at a teacher and said, "They don't even know I'm playing" to which nothing was said, so again J. said to the teacher, "They don't even know I've got one of these on" (referring to the smock). J. had a pained look on her face and appeared as though she would begin to cry but she did not. After a short while one of the girls talked to J. but she did not respond. Shortly thereafter the girls left the water table and J. started to play with the toys in the water (February 12, 1981, 9:56).

J. spent a lot of time watching other children playing. After watching for a while she would enter into the play somewhat more timidly than would the older nonhandicapped children.

The handicapped children did not engage in many social interactions with their peers. One solution that could have been beneficial for A., incorporated his interest in other people is:

A. was often seen observing or watching play of other children in the preschool. He would take notice of events as they occurred. If a child passed the spot where A. was sitting, he would follow them with his eyes, and try to twist to see the children (see Appendix F, Summary of Classroom Experiences, January 13, 1981, 9:20).

The investigator never observed A. on the floor in a position to

interact with peers. By this it is meant that although A. could not sit, he could have been allowed to lie on the floor and observe things around him. It is conceivable that if A. had been allowed to lie on the floor and seek out the other children, he may have learned to roll to objects or persons with which he wanted to interact.

It also appears that children need to develop a certain amount of confidence in themselves to be able to enter play groups. P. had more confidence than other children and had less problems entering the play group. Teachers might want to watch children playing on the edges of a play group. That child might be on the verge of entering the group. The teacher needs to find a group that is playing at a level the child can easily understand and fit. Teacher directed activities can be cooperative, giving children a chance to get used to working (and playing) with other children.

Play as Social Maturity

The levels of play developed by Parten (1932) are useful for examining children's social play. The play levels can be viewed as developmental and also as interactive. The six levels of play are: unoccupied, onlooker, solitary play, parallel play, associative play, and cooperative play (see Chapter II for a detailed description). By no means is this developmental sequence static. Children move between levels, but generally they mature to the next level.

Handicapped subject A. spend a good portion of his day unoccupied, merely attending to what was of momentary interest to him. If someone passed him, he would watch them until he could not look at them, but if

a competing interaction occurred he would attend to it until something else happened. Handicapped subject B. spent a large amount of time in unoccupied behavior. He would rub his eyes and engage in large amounts of self-stimulatory behavior.

The nonhandicapped subjects were often seen following a teacher around the room. For P. this behavior occurred early in the morning, before the teacher took the time to sit down and plan out the activities for P. for the day. J. spent more of her free time following the teachers than P. did. If teachers want to avoid a lot of unoccupied behavior, it might be worth the time to spend some time planning with the child soon after the child arrives in the preschool. This should be done for all children who are capable of planning or denoting their preference of activity. The more severely handicapped children ought to be given a variety of appropriate materials from which they might choose one or more activities. This relates back to the section on the determination of activities.

As soon as possible the teacher should attend to the unoccupied child, whether the child is doing nothing, following the teacher around the room, or in the case of the handicapped children, engaging in stereotypic behaviors. The sensitivity of the teacher to what is occurring in the classroom is critical in order to prevent a substantial amount of unoccupied behavior.

Onlooking activity occurs when a child watches the play of other children but does not actually enter into the play. The child may ask questions or comment on the play but he does not enter the play.

J. and A. engaged in more onlooker behavior than did P. and B. At times A. would sit and gaze at the play of a group of children. It was often very evident that he was watching the activity in which the other children were engaged. A. had no intelligible speech but he would watch them intently and if something pleased him or caught his interest, his eyes would "light up".

J. engaged in a great amount of onlooking. She often watched what the other children were doing. This onlooking occurred in large and small group activities as well as during free play (see Appendix F, Summary of Classroom Experiences, January 15, 1981, 10:03, 10:16, 10:30; February 12, 1981, 9:25, 9:52, 9:56; February 24, 1981, 9:15). If the play or the activity involved a great deal of interaction, she would stand back and resist entering but watch what was happening intently. If she were in the art area and an interesting fantasy play was occurring in the make-believe area (adjacent to the art area, see Appendix A), she would stop to watch and occasionally ask a question or comment about the play, but she would not enter into the play.

P. also engaged in some onlooker behavior, but it was not as prevalent as with J. and A. P. seemed to be more of a leader and therefore spent only a small amount of time surveying the play situation before actively entering into the play. B., who was visually impaired, obviously spent almost no time involved in onlooking behavior. He did his onlooking by cocking his head to one side and listening to what was happening.

This onlooking activity can be a very important part of the learning process for children. From the onlooking the children are able to see how other children play and to observe things that they might not otherwise consider. Many times children will watch an activity from the sidelines because they are not sure what is happening and how it will effect their bodies and senses. Many times J. was observed in play activities that she had previously seen other children engaged in. She would go off by herself and practice the play that she had seen. It was almost as if she were testing it out to see how it felt to her before she would enter into the play of the other children doing the same thing.

For A. onlooking was an important learning medium. From the viewing of other children's activities and play, he was able to vicariously take part in the play.

Teachers should not discourage onlooking in children since it is a valuable type of activity. Sometimes we as teachers are so busy making sure that the entire day is filled with some activity that we forget that there is value in learning from observation. While teachers should not discourage the onlooking and observation, they need to also provide the children with opportunities to practice the play or task that they have observed.

In solitary play, the child is playing in proximity to other children but his toys and materials are distinctly different from those used by the other children. The child does not make an attempt to become involved with other children (Parten 1932).

J. spent more of her time in solitary play than did P. In the art area, J. would experiment with whatever materials suited her fancy. She would watch the play of other children in the art area or any other area and after they had finished she would engage in the same play as she had previously observed but all by herself. J. also would go to the make-believe area when no one else was there and play with the dolls and play house (see Appendix F, Summary of Classroom Experiences for J.: January 15, 1981; February 12, 1981, 9:24).

B. spent a great portion of time in solitary play. A majority of his time was spent with an adult, but when he was not involved in an activity with an adults, he spent his time in solitary play, mainly with a toy that made some sort of sound (see Appendix F, Summary of Classroom Experiences for B.: March 24, 1981, 9:55).

P. and A. also spent some time in solitary play. It is not unusual for preschool children to engage in solitary play for part of their preschool time. In Parten's study (1932) she found that all children engaged in solitary play to some degree regardless of age. The children need to practice new skills and work out their conceptions of the world. The teacher of a preschool class should not be concerned if a child spends some time in solitary play, but if a child spends most or all of his time playing alone, the teacher should be more concerned. The teacher can co-play with the child (play alongside the child in a similar manner) and gradually involve children in a play sequence alongside the isolated child, thus creating a more social situation and lead the child into parallel play, the next level of play.

Parallel play brings the child into closer contact with peers because they are using the same kinds of materials (Parten 1932). The child is still playing beside other children rather than with them.

Much of the play around the art table during free time was parallel play. The subjects were allowed to choose their own art materials and make whatever they wanted. J. spent 37.2 percent of her time in the art area, much of it in parallel play. Block play and play with small manipulative toys as well as art materials lend themselves to parallel play.

The handicapped subjects did not engage in a lot of parallel play. When they did play parallel to other children, it was because the teacher was providing the materials for the handicapped children to manipulate. The handicapped children did not seek out the materials on their own.

The most sophisticated levels of play of the Parten (1932) levels are associative play and cooperative play. In both levels, the child is actively participating in play with other children. The difference in the play lies in the amount of control the group exerts on the members of the play group. A group of children playing with trucks and cars in a sandbox is typical of associative play. The interaction is essential for the play but it is not governed by any rules. A group of children playing house is an example of cooperative play. The members of the group are assigned roles and a member of the group directs the play.

Both of the nonhandicapped subjects were seen in both associative play and cooperative play, and the maturity of the subject was evident in these types of social play. P., who was older and more mature than J., engaged in social play to a greater extent than did J. This is possibly a reflection of the amount of interactions the nonhandicapped subjects had with peers. Probably the areas that were the most conducive to these higher forms of social play were the block area and the make-believe area. These areas were not used as frequently as would be expected. The make-believe area was used most by J. (of the subjects). She was seldom seen using the make-believe area for play other than her solitary fantasy play.

When the play of children becomes more social, one can infer that the child is growing in social maturity. Handicapped children are able to follow the same patterns of growth as normal children. Teachers of preschool handicapped children need to analyze how a child plays and from that analysis of play skills devise a play program. Teachers of the more severely handicapped may have to teach the skills that form the basis for the play of the child, but once the child is responding to the environment, the role of the teacher needs to shift from that of an instructor to the role of facilitator of play.

Physical Use of Space

The physical environment of the preschool is important in determining the goals of the preschool. The arrangement of the furniture and articles in the room determine how the room is used. The number of persons in the room also determine the use of the physical

space.

Room Arrangement

Teachers need to consider their basic philosophy and the goals of the preschool when they arrange the preschool classroom. Do they want closed spaces with defined goals or do they want open spaces that change to meet the needs of the children on any given day?

One of the environmental restrictions to the number of moves in the preschool were the physical barriers in the original layout of the classroom that obstructed the movement of the handicapped subjects. The preschool facility was divided into many small interest centers set around the perimeter of the room (see Appendix A). The sand/water table was set in the center of the room. The largest open space was the area referred to as the science area. The areas were divided by low shelves and other pieces of furniture. Some of the areas became quite small and when there were a few children in any area and possibly a teacher or two, things got quite crowded. The amount of furniture around the classroom obstructed B. in his movements around the classroom. He would start out in a direct line to the sound he wanted but would run into a piece of furniture and then get disoriented and not move. This was partially due to B.'s failure to trail along walls and objects, and also partially due to the amount of furniture in the middle of the room. It is interesting to note that A. had no movements in the area of the classroom that seemed most restrictive to the investigator. The make-believe area was bound on two sides by the permanent walls of the classrooms and on the other two sides by a shelf

unit and the housekeeping furniture (play stove, refrigerator and sink). There were also many other items in the area giving it an appearance of being full. The most open areas of the preschool, the art area, the adjacent classroom and the science area, had higher percentages of time in the areas.

When the preschool classroom area was rearranged midway through the semester, (see Appendix A, Maps 1 and 2) there were larger interest centers (accommodating more children) and less obstruction in the center of the room. Areas were more open and more accessible, but they were still divided by shelves and other pieces of furniture.

It seems that if the arrangement of the classroom is more open and more barrier-free, then the total classroom would be more accessible to the handicapped. The larger interest areas would be as beneficial to the nonhandicapped children as to the handicapped children. With more space, the children would be able to form larger spontaneous play groups and thus move toward more complex play. Teachers might consider the arrangement of preschool classrooms in terms of larger more open spaces rather than small enclosed spaces. It is possible that children could desire smaller more enclosed, quieter areas at times, but with the manipulation of blocks, various pieces of moveable furniture, etc., the child could create his own quiet spot.

Some children may need to have the areas of the room designated for a specific purpose. Teachers may put tape on the floor to establish boundaries or they may use rugs or other means of defining the area. The preschool of this study defined the art area by taping a

large sheet of plastic to the floor. Paints and other activities that could soil the carpet were confined to the area that was covered by plastic. By having these subtle designations of space, rooms can be more open.

Teachers need to consider how they intend to use the classroom areas and the types of students to be enrolled in the preschool. They also need to consider the goals of the curriculum. It is the opinion of the author that a broader, more open classroom arrangement will facilitate the use of the total preschool by all the children involved. It is also assumed by the author that large multipurpose areas will lend themselves to creative uses by the children to meet their needs for self-expression rather than space dictated by the teacher.

Teacher-Child Density

Architectural constrictions, such as the size of the room and any built in features, restrict the number of persons that can safely be in a preschool classroom. Many states have laws that control the density of persons in a preschool on a space-per-person ratio. There may also be a restriction on the ratio of teachers to pupils, younger children requiring a lower adult-child ratio than older children and more severely handicapped have yet a lower teacher-pupil ratio.

But what is the optimal ratio in a mainstreamed classroom? Is it something that can be fixed or determined by a state standard? Is it possible that there can be too many teachers in the room?

When there are too many teachers in the room, they may restrict the free movements of the children, particularly the handicapped

children. A teacher was assigned daily to each of the handicapped subjects of this study. The teachers stayed with the handicapped children all day, rarely leaving them for a minute. This probably restricted the amount of interactions the handicapped subjects had with their peers.

The nonhandicapped children were not followed constantly by a teacher and had more peer interactions. Had there been fewer teachers in the preschool, they all would have been too busy for any one teacher to spend all morning with one child except in an emergency.

Do too many teachers restrict the movements of the children? Do they also tend to separate and isolate the handicapped children from the others? It could be possible that if the teachers were "just too busy" to make a lot of special considerations for the handicapped, the handicapped children would need to gain some social skills on their own to be part of the classroom. The nonhandicapped children may also take over the role of involving the child in social play with them.

Teachers need to accommodate for the handicapped in their planning, but the author feels that they do not need to plan out and supervise every minute of the child's day. If there are fewer adults in the room, then this constant attention will be difficult to achieve and in the author's view an improvement in mainstreamed integration will occur.

Summary

The classroom experiences for the handicapped children were different from the experiences of the nonhandicapped children.

Teachers need to become sensitive to the ways in which they interact with children, both handicapped and nonhandicapped. As well as being sensitive to the interactions within the classroom, the teachers need to also consider the needs of the children when designing the physical space of the classroom.

Chapter VI
SUMMARY AND SUGGESTIONS
FOR FURTHER RESEARCH

This study was an analysis of the classroom experiences of four preschool-aged children, two handicapped and two nonhandicapped. The study focused on three research questions:

1. Do teacher and peers interact differently with handicapped children than with nonhandicapped children?
2. Is the use of physical space different for handicapped than for nonhandicapped?
3. What are some of the qualitative differences in the classroom experiences of the handicapped and nonhandicapped children?

The first two research questions (social interactions and use of physical space) were investigated using quantitative research methods. The third question (qualitative differences) was analyzed and derived from running narrative accounts of the preschool experiences of the four subjects.

Results

Quantitative Results

The data for the questions on social interactions and use of physical space were collected using quantitative methods. Data about social interactions were gathered by using a coding system developed by the investigator (see Chapter III). The collection of data for the physical use of space utilized a mapping procedure adapted from the work of Carini (1979).

Social interactions. Results from the data on social interactions lead to the following conclusions:

- (1) Teachers spent more time with the handicapped subjects than with nonhandicapped subjects based upon the mean length of interaction sequences.
- (2) Three of the four subjects initiated fewer social interactions with adults than adults initiated social interactions with them.
- (3) Peers initiated more social interactions with the nonhandicapped subjects than with the handicapped subjects.
- (4) The most common response to any social interaction was a verbal response.

Physical use of space. The following are the results of the analysis of the physical use of space:

- (1) The nonhandicapped subjects had more moves per session than did the handicapped subjects.
- (2) The handicapped subjects spent more time in each move than did the nonhandicapped subjects.
- (3) The larger, more open areas of the classroom were used more by all subjects than were the smaller, more enclosed areas of the classroom.

Qualitative Results

The results from the analysis of the running narrative account yielded support for the quantitative results and accentuated the differences in the experiences of the handicapped and nonhandicapped subjects. The following are some of the issues raised by the themes:

- (1) Adults respond differently to interactions from handicapped children than from nonhandicapped children.
- (2) The determination of activity within the classroom is different for handicapped children than for nonhandicapped children.

- (3) Play and peer interactions are different for handicapped than for nonhandicapped children.
- (4) The social maturity level of the children may be determined from the levels of play.
- (5) The room arrangement determines the movements and use of space in the preschool classroom.
- (6) The density of teachers and children in the preschool determine the freedom of movement within the classroom.

Suggestions for Future Research

During the course of conducting this study, a number of questions and considerations became evident to the investigator. Many of the questions were dealt with in the themes of Chapter V, but many were outside the scope of this study. Those questions that deal with future research are included in this section. This section will also consider some broad aspects of conducting research that is both quantitative and qualitative.

Methodological Concerns

First, the scope of this study was much too broad. It could have been researched just as effectively by narrowing the topic to the first two research questions or to the third research question. Trying to answer two quantitative questions and a qualitative question at the same time was too cumbersome. The collection of the qualitative data often was sacrificed for the quantitative data.

Second, mixing quantitative and qualitative research methods causes many problems. This combinational research is ideal, gathering data on observations and supporting themes by examples that show the nature of social phenomena. The investigator feels that too much data

is lost using both qualitative and quantitative collection methods during the same session. This type of research might be more adequately completed using a team of researchers, rather than one person.

Third, two subjects may be as effective in collecting this type of data as are four subjects. In the piloting of this study the investigator closely followed two of the subjects. The investigator feels that these two children were extremely well known to the investigator. In the actual study two more children were added. Sometimes it was almost three weeks between observations of a specific child. For preschool children this is a long time as they grow and mature significantly in that time. When there were only two subjects, they were observed every week and there were less gaps in the data.

If four subjects are used it might be better to do a time sampling procedure with all four subjects during each session. This cuts out the possibility for collecting qualitative data, but it has more continuity.

Fourth, it is possible that data collected only during free play may have been as valid as collecting data for a whole preschool session. Most of the social interactions occurred at this time and it may have given a more realistic view of peer and adult social interactions with the subjects.

Future Research Questions

1. What are the antecedent behaviors that cause teachers to respond to handicapped children in a manner that seemed intuitive?

During the course of this study, it became evident to the investigator that the teachers were meeting the needs of the handicapped subjects appropriately before the subject initiated an interaction. This appeared to be similar to the mother who anticipates correctly the needs of her infant. The question asks if there is an intuitive essence built up between the teacher and the child or does the handicapped child initiate interactions so subtly that it takes a slow motion picture to catch the initiation?

2. What is the optimal arrangement of the classroom?

The arrangement of the preschool classroom is dependent upon such a large quantity of factors that it is sometimes impossible to account for all of them. The question still remains, however, as to the feasibility that open, undefined areas better promote the optimal learning of the children than defined areas do.

3. At what level of development should handicapped children be mainstreamed?

If integration and mainstreaming are synonymous, then how do we insure integration in the preschool? Is mainstreaming the best alternative for preschool handicapped children? If not, then what should be the criteria for enrolling a preschool handicapped child in a nursery school, preschool, or Head Start program?

4. What are some strategies for integrating handicapped and nonhandicapped preschool children?

Much has been written on this topic, but what are the qualities that make mainstreaming integration and how can teachers accomplish integration? This study explored only two of the possibilities.

There are many others. Is it the personality and attitudes of the teachers, the developmental stage of the children, or the curriculum that is used?

5. What is the optimal method of instruction for handicapped and nonhandicapped preschoolers in the same preschool?

What is the best way to insure integration? Should the handicapped preschoolers be given catch-up instruction rather than allowing them to develop naturally? Should the handicapped children be assessed and then provided with extra stimulation at the critical periods? Should instruction be more structured or open?

Some researchers have begun to answer these questions, but none has come to a definitive answer.

Summary

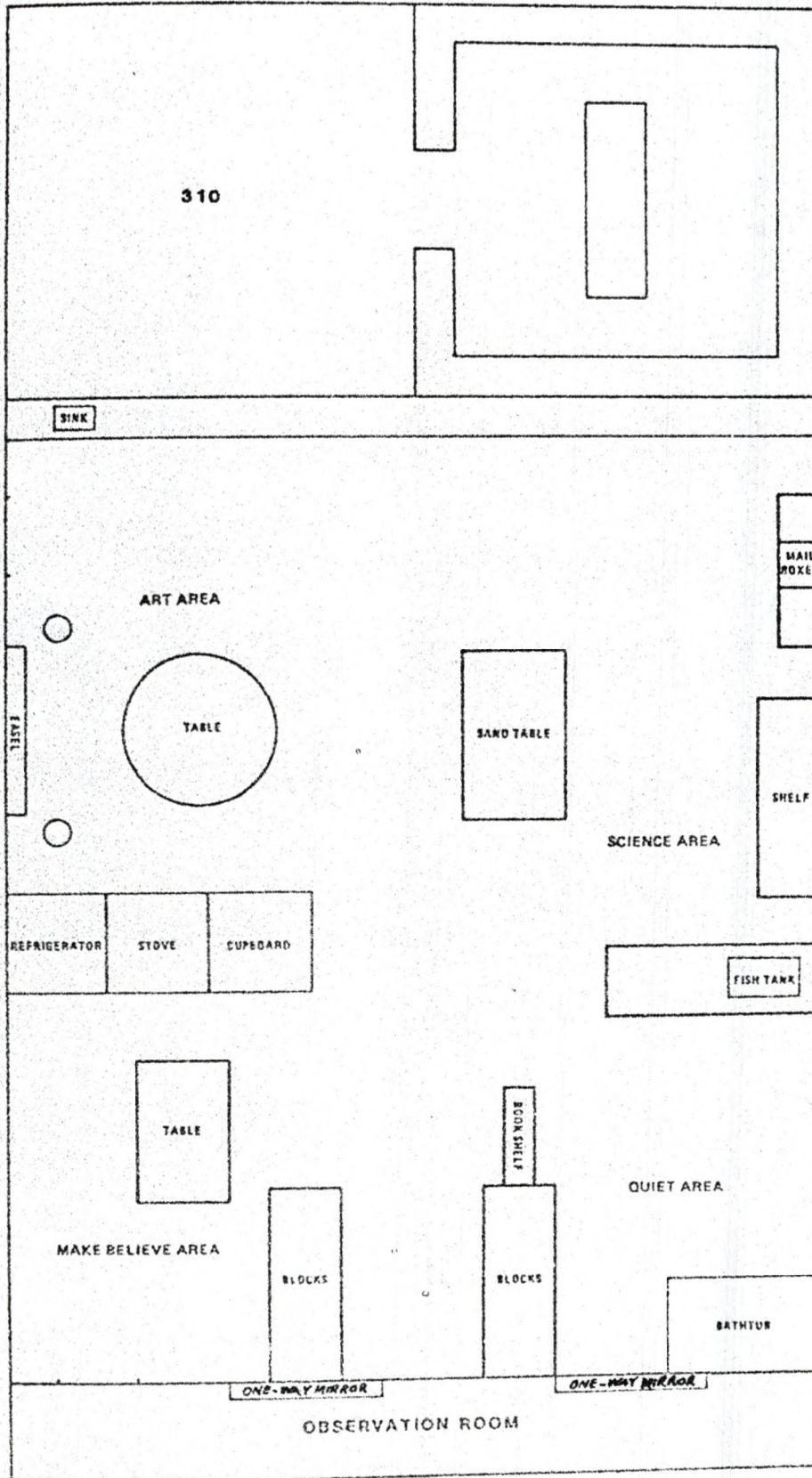
In summary, the optimal mainstreamed classroom for preschool handicapped children is one where the handicapped child is able to utilize all of the classroom. This means that in utilizing all of the classroom, the child has access to the total physical facility of the preschool, access to peer interaction, and opportunity for interaction with the environmental components of the classroom. When the handicapped preschoolers are in this optimal mainstreamed classroom, they will be integral parts of the classroom, accepted and acknowledged (Hoben 1980).

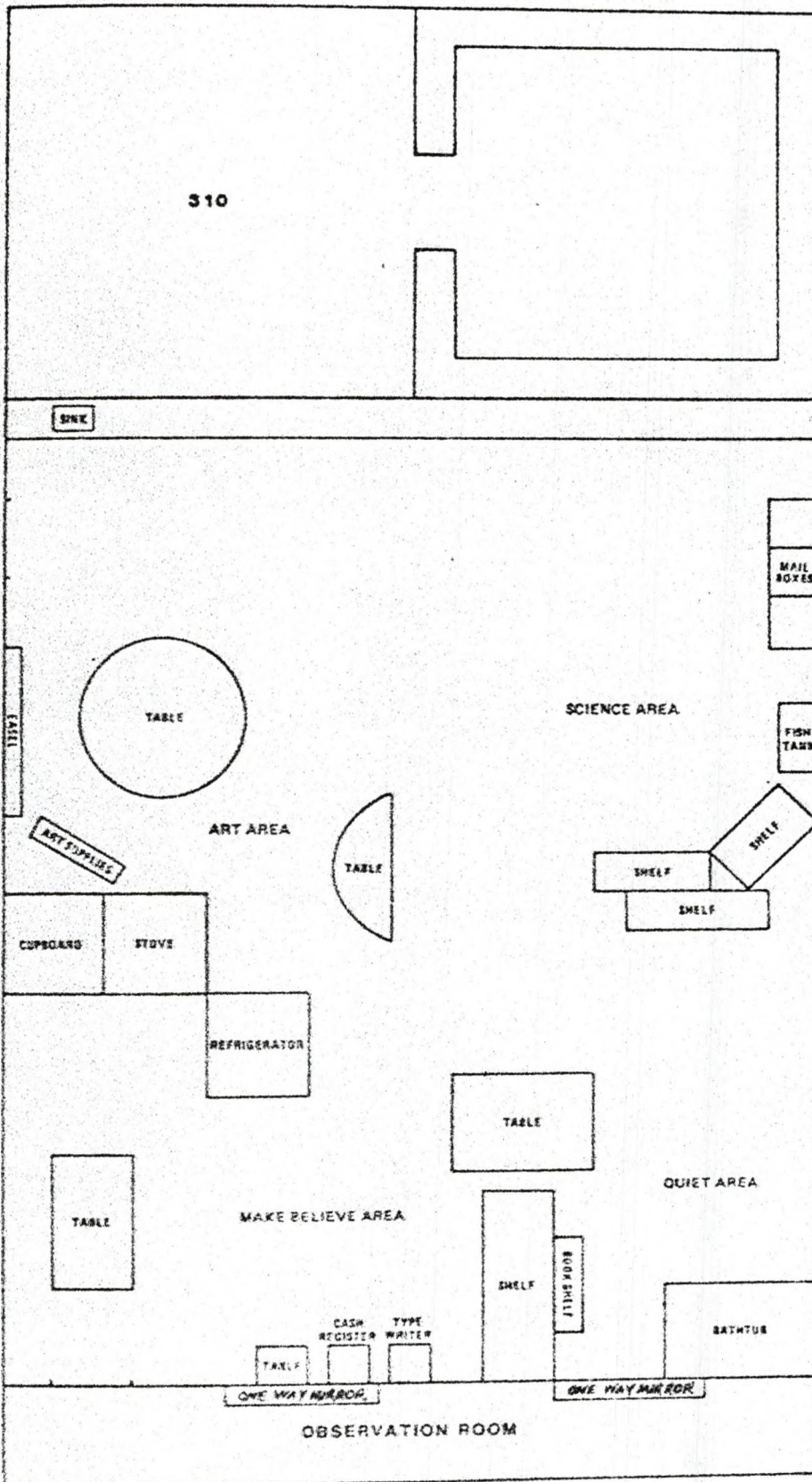
The teachers in this optimal classroom will be facilitators of interactive experiences rather than directors of the handicapped children's time. The teacher will arrange the environment to promote interactions rather than to stifle interactions.

APPENDICES

Appendix A

Maps of the Classroom





Appendix B

Description of Areas of the Classroom

Appendix B

The following is a brief description of the functions and of some of the materials found in the areas of the classroom. The descriptions will start to the right of the door and continue around the room (see Appendix A, Map 1).

Art Area. The Art Area was located immediately to right as the children entered the classroom. The sink was located directly to the left of the door. There was a large round table and chairs, easel, and storage unit located in the area. The art area was also used for one small group and snack time for that group.

Make-Believe Area. The Make-Believe Area was located to the right of the Art Area. This area held the housekeeping materials and various props for fantasy play. The Make-Believe Area contained a wooden play kitchen set (stove, refrigerator, sink), a child size table and chairs, doll beds, and various dress-up clothes. When the room was rearranged and expanded, a typewriter, a cash register and a mailbox were added to the area.

Block Area. The Block Area was located next to the Make-Believe Area. This area was quite small at the beginning of the semester. Midway through the semester it was moved to the adjacent classroom (310). The materials in the Block Area promoted constructive play. Some of the materials in the area included various types of blocks, a doll house, a train, and an assortment of trucks.

Quiet Area. The Quiet Area was located next to the windows. It was generally reserved for beading, fine motor activities, perceptual skill

development and simple board games. The Quiet Area had two bean bag chairs, a book rack, a storage unit for puzzles and small manipulatives, a tape recorder and an old bathtub that had been padded to be used as a quiet space.

Science Area. The Science Area was located along the far wall of the classroom. This area also held the largest open area in the classroom and was used for large group activities. The Science Area held materials that encouraged discovery and manipulation. The area held a fish tank and fish, plants, rocks, magnets and other materials of this kind.

Appendix C
Preschool Schedule

Appendix C

CTL PRESCHOOL

SCHEDULE for TUESDAY/THURSDAY, _____
 (date)

Time Activities and Staff Assignments

9:15 - ARRIVAL

9:30 Help children find their picture and their area of the room.

Quiet Area: Block Area: Science Area: Art Area:

Explain to them that we want them to plan what they are going to do during free play. Record what they are going to do by picture or writing down or both or have them draw the picture.

9:30 - FREE PLAY

10:00

10:00 - CLEAN UP

10:10 Help the children put away what they took out.

10:10 - RECALL AND SMALL GROUP

10:45

Have each child tell or show what they did during free play. As soon as you're done go quietly to your small group area.

SMALL GROUP

10:45 - SNACK

11:00

11:00 - LARGE GROUP AND OUTSIDE TIME

11:45

Appendix C

Description of Preschool Schedule

Arrival of Students. Children arrived and were assisted with coats as needed. At this time the children found their picture on a schedule board and went to that area to plan their free play activities with a teacher. The schedule board was a fabric covered board divided into four sections with logos denoting the area in the room where the children were to go for their planning time. This board was located at the entrance to the main room of the preschool (see Appendix A, Map of Classroom).

Free Play. This time was a free choice time for the children. During the planning period, the children chose activities they wished to pursue for the Free Play period. The children were allowed to choose activities in one or more areas of the classrooms. The children were not limited to the activities they chose during planning time. The teachers were available at this time to assist the children with carrying out their plans and facilitating active learning situations.

Clean-up Time. The children were encouraged to help with cleaning-up the classroom and putting the play materials away.

Recall of Free Play Activities. The children returned to the area and teacher where they had done their planning. They recounted or drew pictures of their activities during free time. From this point they divided into small groups.

Small Group Activity. In small group activities the teacher prepared and presented an activity to the group. Generally there were two or

three small groups. The make-up of the groups varied per session. At times the groups were quite homogeneous (grouped according to age or ability) and at other times they were quite heterogeneous. Some of the planned activities were story development, preparing the daily snack, and art activities.

Snack. The children had their snack in the same area that they had their small group. The snack was either prepared by the children or furnished by a parent.

Large Group. Large group was a time when all of the children came together for an activity planned and directed by a teacher. The activities at this time were ~~either~~ music (instruments, dancing, and singing) or story time. The alternative was Outside Time.

Outside Time. When the weather was clement, the children generally went outdoors. In North Dakota, winter can limit this time severely. It was generally agreed that the children should have at least a few minutes outside if the weather permitted.

Dismissal. The parents or adult would pick the child up either outside the classroom or in front of the Education Building which housed the preschool.

Appendix D

Grid for

Analyzing Social Interactions



Appendix E

Examples of Running Narrative Data

Sample of Narrative Data for Subject A.

1-13-81

- (1) 9:15 Arrived at preschool with mother
 D. B1-2
 P. B1-2
 P. assists with cap B2-5
 cries
 Mother takes off coat
 Smiles at mother B1-3
 Cries when coat removed
 taken out of chair and hung over
 her arm
 Laughing at mother as she takes off his
 boots and snowpants
 P. B1-3
 Laughing and vocalizing to mother as she
 puts on shoes
 P. B1-4
 P. pushes chair back and forth
 Go into classroom
 Stop to talk to G.
- (2) 9:20 Left alone holding picture
 looks behind him to other
 kids
 Chair turned around so he is
 facing the others
- (3) 9:24 Moved so he can see blocks
 P. leaves
 comes back with snap beads
 B2, 1-2
 Puts both hands on beads
 pulls apart
 Looking at P. B1, 2-1, 2-1-2-2, 1-4
 B2, 1-4, 2-2-
 drops
 P. 2, 1-4-1
 P. leaves
 D. B2-2-2-2
 Smiles and laughs
 Looks at P. as she
 pulls apart beads
 Drops on floor
 looks at P. A4-1
 P. gives beads B2-2-4
 Looks at H. when she is talking
 Looks at P.
 Mouths toy

K. comes over and nuzzles
 Forces hand around blocks
 Drops by throwing in the
 air

looking at ceiling

P. retrieves dropped toy

C. looks at P.

Follows P. as she goes out

Looks at P.

Trying to vocalize

Yawns

P. B2, 1-0

K. B2-0-

P. B2-3-2, 1-3, 1

Yawns

B2-1, 3-2-3-2, 1-3, 1-2, 1-3-2, 1

Looking K. snap ring necklace

Chair moved

P. B2-0-A2-1-

Mouths the

holds out and shakes

P. moves to in front of C.

P. 2-4-2-0

Brings hands together to

P. 2-2-1, 2-4, 2-1-1-1-2

P. 2, 1-1-1-4, 2-

P. demonstrates

mouths beads

(4) 9:43

unoccupied

P. by chair - talking to K.

Watching

P. B2

Demonstrates

(5) 9:45

in beanbag - still with snap beads

K. 2-0

P. talks to K.

B1-2, 3-

Adjusts C. - 4

Almost in upright position

P. still in front but talks to K.

P. 1-2-

Holds snap bead ring over head

Yawns

P. 1-4

Yawns

Looks at P.

P. 2, 1-3-2, 1-

opens mouth as if to talk

P. 1, 2-0 K. pulls string of beads

P. 1, 2-2

Yawns

Sample of Narrative Data for Subject J.

1-15-81

- (1) 9:00 A1, 3-1-S.
Hangs up coat
Talks to mother about hanging up coat
Looks at K. as he comes
MAB1-2-turns away
Stamps feet
MAB1
R. A1-1
- (2) 9:04 Stands at door
Moves into the room
- (3) to stand by Mom
Looks at Art Area
MA A1-1-1-
Mom 1-1-
R. - listens to him talk
Looking at R. with hands in pocket
MA-A1-1-1
MA-A1-1-1-1-1
Mom talks to her
follows Mom out into hall
- (4) 9:08 Stands at table and talks to
R.
- (5) 9:08 M. asks to come over to help her
Goes to put picture on the board
talks to Mother
Stands by Mother
"Mom, don't go"
follows Mother around
R. follows her
S. B1-1(no)
R. B1-1, 2-1-1
R. closes B1-1
opens -
J. has two purses doll and bottle
watches D., K. and H.
Still with bottle
R B1-0
Watching
Moves over
Watching D. etc.
Smiles when kids get it right
Takes doll coat out of purse
Shakes it and lays it opened
puts it around doll

Looks at H.
 puts doll's arms in coat
 watching H. and K.
 Smiling
 Laughs when
 R. here D. Al-0
 Al-0
 talks to herself
 Buttons up the coat
 sets out and arranges coat
 turns up the collar
 touches the corners of the collar to doll's eyes
 R. Bl-1-1-2
 takes off and puts on shoes
 Gets bottle
 "here's your bottle, honey"
 looks at R.
 Looks at R.
 Smiling at D. etc.
 Looking at group (D., K. and H.)
 tossing bottle up and down
 Shakes bottle
 (6) 9:10 goes to blocks
 (7) runs back to Mother
 and M.
 P. 2-0
 Goes put up picture
 runs back "Mom don't go"
 (8) 9:12 R. Al-1 I'll show you
 J. and R. busy with the cash register
 (9) Back to Mom
 (10) Back to cash register
 (11) 9:14 Has bottle shakes it
 Looks toward Mother
 By doll and bed in A.
 Looks over to R. and D.
 Watching as D.
 Mom comes over
 "Mom, I don't want ----"
 (12) 9:16 follows Mom to the door
 (13) Back to cash register
 Watches R.
 Al-1-2-1-1, 3-1
 Getting something out of cash register
 Al-1-
 R. opens door
 Al-1
 Shakes bottle
 (14) back to doll and bed

- Stands up and looks around
twirling and shaking bottle
Back to purse and doll
Holds onto doll
- (15) 9:20 Back to cash register
A1-1-1, 2-2-2-
Puts something in till
Tries to
Puts bottle in arm
Puts bottle in purse
Looks at C.
Looks back to D.
twirls clasp of purse
Looks toward science area
Opens other purse and gets out a book
flips through the pages
Gets other book out of purse, puts 1st away
Opens and begins reading the book
Leaves books, gets up goes over to cupboard
- (16) 9:32 Gets items out of pail (small food items)
opening and closing boxes
As she opens up the boxes she puts them to the side
Shakes one
- (17) 9:36 D. A1-0-1-0-1
R. here you know so you better not fight
Gets up close to R.
R. B2, 1-2
A1-1-1, 2, 1-1, 2
R. B1, 2-2, 1-2-2
lines up play money
Goes to put money in purse but stops to watch
R. B1-1-2-1-
R. A1-0-1
just fingering money
Looks at P. singing to C.
Talks to noone
H. B1-1 "Can I play"
"yes"
A1-1-2
Puts money on thing
Looking
Puts money away
"this goes in here"
Talking to herself
Goes over to books and purse
puts book in purse
H. B1-1
Goes to get doll and bottle
Singing to herself

- "I want to take my baby over there" MA A1-1-1-1
 Throws dress in purse
 MA B1-2
 folds up coat
 MA A1-1-
 Puts doll in coat MA A1-1-1
 Busy with coat
 MA B1-2-1-0 J. busy with doll and
 MA A1-1-1-1-1-1-1-1-1-1 purse
 1, 2-1-1 talks about clean
 (21) 10:03 Gets up and goes to ST up a mess
 stands beside R.
 R. A1-1 Lights out
 Watching R. and teachers (R.)
 pouring sod
 Holds on to funnel
 R. B2, 1-0-2
 (22) 10:05 Looks at painting
 Goes to table to get scissors
 Shakes scissors around
 A. A1-1-2
 B1, 2-2
 B1-2
 Gets paper, adjust chair, sits
 looks at K. and A.
 Turns around to talk at B.
 A. B1-2, 1-1, 2-1-1-1-1-1
 Looking at K.
 A. B1-2
 draws circle
 A. A1-0-1-0 Can you help me
 tries to cut
 Seems to be having trouble with
 gripper scissors
 A. A1-1-0-0-1 Lights out
 Goes to purses and
 dolls - picks up
 A. B1-0

Appendix F

Summary of Qualitative Data

Summary of Qualitative Data

The qualitative data was collected in a running narrative account of the classroom experiences of the subjects of this study. This section will present a summary of the preschool experiences of each of the subjects in this study. Experiences that are repetitions or similar, will not be repeated.

Summary of Classroom Experiences of Subject A. (Handicapped)

January 13, 1981

9:15 - A. arrives at the preschool with his mother. He is immediately greeted at the door by a teacher (P.). When the teacher goes to take off his cap he cries. He smiles at his mother when she talks to him, but cries when she takes off his coat. She removes him from the travel chair and drapes him over her arm to remove his snow pants and boots. At this he laughs. The teacher (P.) talks to A. and he laughs. He laughs and vocalizes to his mother as she puts on his shoes. The teacher (P.) puts A. back into the travel chair and wheels him into the classroom while mother leaves. On the way into the room they stop to talk to B.

9:20 - A. is wheeled to the block area of the room. (see Appendix A,

Note: The letter in parenthesis after the phrases "a teacher," and "the teacher," is to denote the initial of the teacher so the reader will be able to see that the same teacher interacts consistently with the subject.

Map 1). He is given a picture to look at. A. twists around to look at the children behind him. The teacher (P.) turns his travel chair around so he is facing the other children.

9:24 - A. is moved to a slightly different spot so he can see the blocks. The teacher (P.) leaves and comes back with snap beads. She talks to A. while she helps A. The teacher (P.) puts A.'s hands on the beads and helps him pull the beads apart. A. looks at the teacher (P.). A. smiles and tries to pull beads apart while the teacher (P.) talks to him.

The teacher (P.) leaves and a small girl (D.) comes over to A. She pulls apart the beads and A. responds. A. smiles and laughs at the girl. The teacher (P.) comes back and A. looks at her. A. pulls apart the beads and drops them on the floor. The teacher gives the beads back to A. He looks at a girl (H.) while she is talking. He looks at the teacher.

A. mouths a toy which has been given to him by the teacher (P.). A boy (K.) comes over and nuzzles A. K. forces A.'s hand around the block. A. drops the block when he lifts it in the air. A. looks up at the ceiling. The teacher (P.) gives A. the toy he has dropped. A. looks at the teacher (P.). He follows her with his eyes as she goes. He tries to vocalize and then yawns. The teacher (P.) comes back but he does not repond to her. The boy (K.) imitates the teacher (P.) and A. does not respond. The teacher (P.) runs a tractor over A.'s arms and legs and he smiles and vocalizes. He looks at K. His chair is moved slightly. A.

mouths a toy, he holds it out and shakes it. The teacher (P.) has been sitting beside A., now she moves so she is sitting directly in front of him. The teacher (P.) brings A.'s hands together and talks to him while she does this. She is attempting to get A. to put the snap beads together. The teacher (P.) demonstrates again and A. puts the beads into his mouth.

9:43 - A. is moved to a slightly different spot in the room. He is unoccupied. The teacher (P.) is talking to another child and A. watches them. The teacher (P.) demonstrates the snap beads again.

9:45 - A. is moved to a bean bag chair. He still has the snap beads. A child (K.) comes to A. and A. does not respond. The teacher (P.) talks to K. and A. watches. The teacher adjusts A. in the bean bag chair until he is almost in an upright position. The teacher (P.) holds the beads above A.'s head. The teacher (P.) talks and A. responds by moving his arms. This exchange continues for a while. A. opens up his mouth as if to talk.

The teacher (P.) gets a book and reads to a small group of children. A. pulls apart the beads. As the teacher reads, A. waves his hand toward the page as if attempting to turn the page. A. looks around. He reaches out with his hand. The teacher (P.) looks at A. and directly asks him if he can see the book.

As the teacher (P.) reads the book, A. looks at her. She adjusts A. in his sitting position. A. appears to be looking at nothing in particular. One of the children in the group is nearly

sitting on A.'s feet. A. looks at another one of the children as the child talks. The child is moved a little ways away and A. seems to be looking back at him.

A. is again given the snap beads by the teacher (P.). He pulls them apart and brings them to his face. Then he mouths the beads. The teacher looks at him and he responds. A. looks around and then waves the beads. One of the girls comes to him and puts the beads on his lap. A. turns and looks around when someone talks.

The lights are turned off indicating free play time is over. A. is readjusted by the teacher (P.). The teacher (P.) talks and plays an infant type game (coochie-coo) with him and he smiles and vocalizes in response. A. mouths the snap beads. One of the girls comes to him and he does not respond.

10:15 - A. is moved to the block area (see Appendix A, Map 1) for recall time. A. does not respond to the prompts of one of the children. The teacher (P.) adjusts him and he cries. Now he is sitting upright. A. looks at one of the girls (H.). He looks at the teacher (P.) while she talks to the girl (H.) and looks toward the girl. A. continues to look at whomever is speaking. He watches one of the girls put the snap beads together.

10:20 - A. is carried to the adjacent classroom (Room 310) by the teacher (P.) for small group time. He does not seem to be part of the group. He is sitting back in the corner. The teacher (P.) points to him. The teacher (P.) puts A. in a corner chair and he

cries. She tries to talk and soothe him but he continues to cry. The teacher (P.) gives him a block and he seems to calm down. He looks at one of the children as she talks.

The teacher (P.) adjusts A. in the corner chair and A. cries. After he stops crying, he looks from one child to another child. The teacher (P.) gives him some toy animals. One of the children takes it from him. He reaches out and pushes the animals on the floor. The teacher (P.) retrieves them. He looks at another teacher (M.A.) as she talks.

The children are given paper to make a thank you note. A. is given paper just like the other children. The teacher (P.) helps him fold the paper and she helps him hold onto the crayon. He is given the crayon alone and he moves the crayon lightly over the paper. One of the children takes the crayon from him.

A. looks toward one of the children. He yawns. The teacher (P.) talks to him but he does not respond. He looks as another teacher comes into the room.

A. is left alone and he looks after the teacher (P.) as she leaves. He vocalizes but no one responds. The teacher (P.) comes back and A. cries. The teacher removes him from the corner chair.

10:45 - The teacher (P.) takes A. to the bathroom to have his diaper changed. All the while she changes him she talks, A. responds by looking at her.

10:50 - A. and the teacher (P.) go back to the main classroom area to

get his travel chair.

10:51 - A. is taken back to the adjacent room (Room 310) for snack time. He is given Box Blocks. He grimaces as it is put into his mouth. He feeds himself with his hands. Does not seem to cry at snack. A. is given juice and does not cry. While A. is eating, the teacher (P.) is talking to him and he responds to her in a variety of ways.

A male comes into the room and A. laughs and coos to everything that the man says.

11:15 - A. is taken to the science area of the main classroom for large activities. A. looks at another handicapped child. The children are doing a motion song and chant called "Going on a Bear Hunt." The teacher (P.) moves A. according to the motions of the chant. A. is independently trying to do the motions of the song.

11:30 - The teacher is putting A.'s snowsuit on him. The male student comes by and talks to A. He smiles and vocalizes to the man.

11:35 - They all go outside to play.

February 10, 1982

9:29 - No one in particular is interacting with A. A. looks toward the books, at a child, upward, and to all sides. A teacher (R.) talks to A., but he does not respond. He looks at the ceiling, yawns and tries to raise his head. The teacher (R.) moves his chair slightly, but he does not respond to her. He looks around.

The teacher (R.) gets a soft ball and gives it to A. He holds onto the ball. The teacher (R.) talks to A. and A. responds to her. Another teacher (P.) comes over to A. and talks to him and he vocalizes in return. The teacher (R.) leaves and teacher P. continues with A.

One of the boys in the preschool comes over to A. and takes the ball away from him. The teacher (P.) moves A.'s travel chair. The boy gives him back the ball and he drops it.

9:30 - A. is moved from the quiet area to near the block area. The teacher (P.) puts the tray on the travel chair and then bounces the ball on the tray. Then A. is given playdough. The teacher (P.) and A. interact both verbally and physically.

9:50 - The speech therapist comes to get A. They move his chair to a place near the windows.

The therapist models "Ah" and tries to get A. to say "Ah".

She asks:

How big?

Find the keys.

Where's the cup?

Find the toothbrush.

Find the ball.

10:04 - A teacher (P.) comes to get A. She gives him some Bristle Blocks. The teacher (P.) slightly moves A.'s traveling chair. She also gives A. a ball. She rolls this over his body. The teacher (P.) and A. talk to each other, later A. cries.

- 10:11 - Moves to block area. Another teacher (A.) talks to him - he cries. As the teacher (P.) goes by she tickles A. He sits in his chair watching other people pass by.
- 10:15 - A. is moved to the quiet area. A. is left alone and he cries. Some of the children came over to his chair. They talk to him and play with him.
- 10:23 - One of the girls in the preschool wheels A. in his chair to the adjacent classroom (Room 310). The girl (D.) talks and touches A. He responds by looking at her and touching her. She pushes his travel chair close to the table for free time. The girl (D.) gives A. a toy animal.
- 10:30 - The teacher (P.) puts A. in a corner chair. His head is bobbing up and down. The teacher (P.) talks to him and he looks at her. The teacher (P.) sits behind A. with her arms around A. She holds toy animals in front of A. He tries to take them from the teacher (P.). Soon he starts to cry. Everything that the teacher tries only produces more crying. Soon the teacher (P.) picks A. up and he stops crying. They sit down at the table again and he starts crying.
- 10:35 - A. is taken to the bathroom and his diaper is changed. After the diaper is changed they go to the stairwell and look out the windows. The teacher (P.) talks to A. continually, he looks, moves or laughs in response. They continue to go down the stairs and through the hall of the floor below the preschool. They go up the other stairs and sit on benches. A male teacher stops to

' talk to the teacher (P.) and A. A. smiles more and watches more when the man is talking.

A mother of one of the other children comes by the place where they are sitting. She talks briefly to the teacher (P.) and A. When the mother goes, A. cries and looks in the direction of her.

The teacher (P.) rocks him back and forth, dips him up and down and turns him upside down momentarily. These actions cause A. to smile and verbalize.

10:55 - The teacher (P.) returns with A. to the adjacent classroom for snack time. A. is returned to the travel chair and given a cracker. He starts to cry. The teacher (P.) tries a variety of methods of feeding and soothing A., but he continues to cry. Another teacher (A.) tries to feed him but he still cries. A. looks toward the teacher (P.) and cries. She takes him and he cries as she tries to feed him. Each time he is given something to eat or drink he cries as soon as it comes near his mouth. He also cries each time he is without food.

11:15 - Another teacher (A.) puts A. in a bean bag chair in the science area of the main classroom of the preschool. He sits and looks around at the preparations for large group activities. A. watches the large group leader. One of the teachers (R.) holds up A.'s hands while the group sings "Ten Little Valentines." The teacher (R.) moves and claps his hands to "This Away." She drops his hands and he claps unassisted. A. looks around at the teachers

or whoever is speaking.

11:53 - The teacher (P.) picks A. up and gets him ready to go home.

She puts his snowsuit on him and he cries.

February 26, 1981

Dad brings A. to preschool. A. cries when Dad leaves him.

March 17, 1981

10:20 - One of the little girls in the classroom pushes A. into the adjacent classroom. The teacher (P.) picks him up and puts him in the corner chair on the floor like the other children. She puts a pillow behind A.'s head so that he is sitting forward. The group is replanting shamrocks. The teacher (P.) puts paper in front of A. He reaches out for the paper. A. leans forward and rips a piece of paper. The teacher (P.) adjusts him into an upright position and helps him write his name on a paper cup. A. reaches for the cup and shakes it. A. turns the cup over and the rock drops out. Another teacher (R.) goes over to help A. He looks at the teacher (P.) and vocalizes to her and she responds.

A. looks at the door, reaches for a teacher's hand (R.), looks around and reaches for the teacher's (R.) hand again. The teacher (R.) helps him wash his hands after the planting. The small group session is ready to make pudding for snack time. The teacher (R.) helps A. shake his small jar of milk and pudding mix. While this is going on he continues to look at the other teacher (P.).

April 2, 1981

9:13 - A. is put in a bean bag chair. One of the little girls in the class approaches A. but he does not respond to her. The teacher (P.) gets a book to read to a small group. There are two girls in the group along with A. A. reaches for the book. The teacher (P.) helps him reach for the book and A. turns the pages. The teacher (P.) frequently looks at A. to see if he is lost or with the group. The book is finished and the girls leave. The teacher (P.) is still sitting with A. They are seated on the floor talking and interacting. They listen to music. Another handicapped (B.) child comes over. The teacher (P.) sings to A. and B. The teacher (P.) moves arms to movements of Loop-de-Loo. This seems to be a very pleasurable activity for A. The teacher (P.) shakes A.'s foot and he grimaces.

A teacher (A.) comes with a camera and A. immediately smiles. He follows her with his eyes as she leaves.

The teacher (P.) gets a toy drum for A. She holds the drum and A. attempts to hit the drum with a mallet. The teacher (P.) assists in beating out a pattern. A. looks at the teacher (P.) as she talks.

Two other teachers and two handicapped children come to sit in the same area as A. and the teacher (P.). All of them are singing and listening to the music. One of the other teachers (S.) talks to A. and he responds by smiling and laughing. A. watches one of the handicapped boys (B.) walk around to the music. The teacher (P.) moves his feet to the beat of running music.

slides side to side for skating music.

A. watches the speech therapist approach. She talks to him and he responds by looking at her. The speech therapist sits on the floor so that her face is on the same level as A.'s. The therapist repeats phrases and attempts to get A. to respond in the same manner. Some of the sequences she uses are:

"So big. How big is A.? So big. 1 - 2 - 3. How big is A.?"

She then raises A.'s hands to "So big". A.'s response is to smile or look at her. At times she prompts A. to raise his hands alone by saying "Up" and lightly raising hands and then she waits for A. to respond. The therapist praises A. when he responds.

"Touch your nose, your nose, nose." The therapist brings A.'s hand to his nose. She waits for him to respond. She then touches her own nose if A. makes the same sort of response.

A. follows the therapist with his eyes as she goes to find some objects to use in a teaching sequence. The therapist is testing object permanency. One of the girls in the class comes over to observe. The therapist presents a squeak toy. The girl wants the toy. She squeezes the toy in front of A.'s face. He does not respond. The therapist hides a small toy monkey under a cloth. The teacher pulls off the cloth and says, "Here's the monkey." A. grabs for the monkey.

The therapist gets out a rattle, she shakes it in front of A.'s face. He does not respond to the rattle but looks at the therapist. The therapist gets out a light with Big Bird on it. He

reaches for it. The Big Bird light is hidden under a cloth. The cloth is placed partially on his hand so he is able to grasp the object but not remove the light. He looks at the therapist's face rather than at the Big Bird light.

Summary of the Classroom Experiences of B. (Handicapped)

January 20, 1981

- 9:20 - B. arrives at the preschool with his teacher from the State School for the Blind. He removes his coat. A teacher (S.) from the preschool comes out to the hall to greet B. and his teacher. B. hugs the teacher (S.) and hugs his other teacher. He hangs up his coat.
- 9:23 - B. gets his picture. B. talks to another boy (K.).
- 9:25 - B. sits on the floor and shakes his hands. The teacher (S.) takes his hand and they go to the puzzles in the quiet area.
- 9:26 - B. is given large wooden beads to string. The teacher (S.) leaves B. alone. He strings them. One of the beads drops between his legs and B. searches for it. He does not find it so he gets another bead from the can. B. strings the bead successfully. B. talks to himself. He strings another bead. B. pulls on the beads on the string. He puts one in his mouth. B. gets another bead, puts it in his mouth and then puts it on the string. He slides the beads up and down on the string and shakes them. B. pulls the beads off the string and then puts them back on the string. It appears like he is listening to the teacher (S.) while she is talking to someone.

B. looks up when another teacher (P.) comes over to a girl in the same vicinity as B. The teacher (P.) talks to B. and he goes back to stringing beads. The teacher (S.) talks to him and he does not respond. When she talks again, he looks in her direction. He goes back to stringing the beads.

9:37 - B. is still in the same spot. The teacher (S.) talks to him and he does not respond. The teacher (S.) moves B. closer to her and they are counting. B. grabs the beads on the string from the teacher (S.) and then turns away from her. He takes the wooden beads off the string. B. and the teacher (S.) put away the beads and the blocks. B. is given the stacking rings. The teacher (S.) is talking to him and he responds by being involved with the stacking rings.

The teacher (S.) and B. put away the stacking rings and get a ball. They roll it back and forth to one another. B. gets up and moves. The teacher (S.) talks to B. but he does not respond. The teacher gets a ball and B. pushes it over to another boy (C.). Two teachers (S. and H.) are helping B. and C. roll the ball to one another. The other teacher (H.) moves C. until his feet touch B.'s feet.

When the teacher (S.) puts the ball in B.'s hand he pushes it. The other teacher (H.) and handicapped boy (C.) push the ball back and forth to B. and the teacher (S.).

B. is sitting slumped over the teacher's (S.) lap. She moves, B. goes over to the handicapped boy (C.) and slaps him.

The teacher (S.) moves him away, but B. wants to go back to C. He holds on to the teacher's (S.) hand and follows him around.

10:01 - The teacher (S.) puts a paint shirt on B. He resists this. He goes to the sink in the make-believe area. He sits down and the teacher (S.) gets him. They go over to the sand/water table.

10:02 - The teacher (S.) again puts the shirt on B. He is left to play in the water. The teacher (S.) talks to him, but he does not respond or else he responds by looking at her. B. is left to play by the water table. He looks at a girl, then back to the water. B. leans on the water table but he is not really involved. He turns around and just stands by the water table. The lights are turned off for clean-up time. The teacher (S.) talks to B. but he does not respond. He turns around in circles. The teacher (S.) helps him take off the shirt.

10:10 - The teacher (S.) leads B. to the puzzles. They get the magnetic fish lines (magnets tied to the end of a string that is attached to a dowel). B. puts the string in his mouth. He shakes the string of the magnet and puts it in his mouth.

10:11 - The teacher (S.) and B. go to the corner by the bath tub (see Appendix A, Map 1) for recall. B. is sitting in front. He lies down on the floor. The teacher (S.) picks him up but he does not respond to any of her threats and commands. B. attempts to find the handicapped boy (C.). The teacher (S.) holds him back. When planning is over, B. follows the teacher (S.).

10:17 - B. goes to the adjacent classroom (Room 310) for small group

time. The teacher (S.) puts him on a chair. She talks to him but he does not verbally respond. B. places his head on the table. The teacher (S.) tells him to put his head up. She helps him to sit up. Another teacher (P.) gives him a piece of paper. B. pushes the paper on the floor. The teacher (S.) picks up the paper and helps B. cut it. He does not respond but sits passively as the teacher manipulates his fingers and hands. B. reaches for the crayons. The teacher (S.) and a girl (R.) talk to B. He does not respond. B. pushes the paper around. He picks up the button. B. gets up and searches for the door.

10:35 - B. trails down the hall to the bathroom. He is put up on the table to have his diaper changed. The teacher (S.) talks to him and he responds. The teacher (S.) is saying the alphabet. B. either repeats the letter the teacher (S.) says or else gives the next in the sequence. B. smiles at this. He is told to pull up his own pants after his diaper is changed. He ignores the prompts but continues to say the alphabet. He puts on his sweater. He gives the teacher (S.) a hug. The teacher helps him put on his shoes. They talk while this is happening.

B. washes his hands, dries them and searches for the door. He follows the wall to go back to the adjacent classroom. He turns the door knob.

10:49 - B. goes into the adjacent classroom (Room 310). The teacher (S.) puts him on a chair. He is given juice and cookies. He talks to a boy (O.) and says "Baby." He returns to eating his

cookies. B. tips over his cup of juice and looks at the teacher (S.). Goes back to eating. B. finishes his cookies.

11:05 - B. and the teacher (S.) return to the bathroom. The teacher (S.) picks him up and puts him on the potty chair. B. and the teacher (S.) sing "Little Sir Echo." After he is done sitting on the potty chair, B. washes his hands. He goes directly to the sink when he hears the sound of the running water.

11:13 - B. gets on his coat to go outside. He is sitting on the bench waiting. He picks his feet while he waits.

Outside, B. walks happily to the playground holding the teacher's (S.) hand. He plays on the slide. The teacher (S.) assists him going up the ladder on the slide and assists him going down.

February 5, 1981

9:26 - B. is brought to the bathroom by the teacher (S.). He is put on the potty chair. The teacher (S.) sings and talks to him. Then she puts his dry pants on him. They sing some more. They go out into the hall.

9:36 - The teacher (S.) and B. go into the classroom and over to the quiet area (see Appendix A, Map 1). He holds on to a baby toy and then walks around the room. He runs into a teacher (J.). B. feels the material of her sweater. The teacher (S.) calls to him and he starts to walk. He goes to the toy refrigerator (see Appendix A, Map 1). He walks away.

9:37 - B. goes over to the science area and feels his way to sit down.

He gets the fishing poles (see January 20, 1981, 10:10). He puts the strings in his mouth and looks toward the windows. B. puts the string in his mouth, takes it out, shakes it and puts the string back in his mouth again. One of the boys (K.) takes the string away from B. Another teacher (MA.) gives him another fishing pole. He shakes the strings. The teacher (MA.) gives him a box of magnets. He puts the magnets in his mouth. With the other teacher (MA.), B. interacts with the magnets, fishing poles and other metal objects. He shakes the strings and when the teacher (MA.) tries to take the fishing poles away he cries. When the teacher (MA.) tries to interact with him, he lies down on the floor with his head between his arms. He looks away when she speaks to him.

9:48 - The teacher (MA.) takes B. to the water table and puts a water smock on him (made from garbage bags with holes cut in for the head and arms). The teacher (MA.) gets him to put his hands in the water. She talks to him all the while. B. gets a toy coffee pot. He turns around. B. has his arms up to his elbows in the water. He splashes the water and then turns around. The other teacher (S.) comes. She holds up B.'s arms so that his sweater can be removed. He continues to slap the water, smile and jump up and down. He feels around in the water for a toy.

The teacher (S.) talks to B. and he smiles in return. He again dips his arms into the water. His hand is in a toy coffee pot. He brings a funnel to his mouth and drinks some of the water that

drips from the funnel. Some of the water drops on the floor. B. takes a larger pail from the water and drinks some of that water. The teacher (S.) tells him to stop, but he ignores her, so she takes the pail away from him.

The teacher holds his hands and assists him in playing in the water. B. is very passive. The teacher (S.) lets go of B.'s hand. He smiles and begins splashing in the water. B. jumps, turns around, taps his hand on the water. He repeats this sequence three times. The splashing is getting water all over the floor. The teacher (S.) moves B. away from the water table.

10:05 - B. is taken to the art table. He tries to get play dough out of a container. He brings his hands to his eyes. B. looks around. It almost appears as if he is listening to what the others are saying. He puts his head down on the table. The teacher (S.) talks to him about using the play dough.

B. talks to the teacher (S.) but she does not respond. He sits down in the chair. The teacher (S.) talks to B. B. just sits.

10:15 - B. and the teacher (S.) go to the quiet area for recall of free play. B. does not respond to either the teacher (S.) or another girl (D.) who attempt to get him into the group. B. walks away. He comes back and lays down in the bean bag chair. B. yawns and buries his face in the bean bag. The teacher (S.) gets him to stand up beside her and she puts her arm around him. B. does not respond to the teacher (S.). He initiates a contact

with the girl (D.) but she does not respond.

10:22 - B. is taken to the adjacent classroom (Room 310) for small group time. He puts his head on the table, lifts it to initiate contact with a teacher (S.). She responds but he does not respond to her. B. puts his head on the table again. Another teacher (H.) talks to him and he gets up and goes to the wall. The teacher (H.) sits so that he cannot get by her. He goes around the table to the door. He goes to a small table. Someone says chips and he responds "Chips" and gets up. He is picked up and is taken back to the table by the teacher (H.). He cries and fights her. Finally he lies down on the floor in the corner. He gets up on his knees. One of the teachers (P.) talks to him and after some delay, B. sits up to the table for crackers and juice. B. puts his head down on the table and sucks his thumb. He sits up and it is almost like he is listening to the others. All of the teachers and children leave the room and B. is left sitting there. (The investigator is in the room.)

11:09 - A teacher comes for B. and he is taken to the Science area for large group time.

February 17, 1981

9:35 - B. wanders over to the make-believe area. The teacher (S.) talks to B. but he does not respond. He feels the play dough in a bowl. B. turns around. The teacher (S.) puts his hand in the play dough. B. goes down to the floor. The teacher (S.) speaks to him, but he does not respond. B. opens up the play refrigerator

door. He closes the door. B. opens the door of the play cupboard then closes the door. The teacher (S.) gives B. some toy pots and pans. He shakes the pans. B. feels around and opens and shuts the freezer door on the play refrigerator. B. jumps around and runs into the table and stumbles. B. finds a doll and pushes on it.

9:43 - Taken to bathroom. (See February 5, 1981, 9:26.)

9:54 - The teacher (S.) walks B. over the phonograph in the quiet area. B. jumps to the music. The teacher (S.) talks to him and he sits down on the teacher's (S.) lap. She claps his hands for him. B. smiles, gets up and jumps. B. touches the record. The teacher (S.) removes his hand from the record. B. bumps his head and rubs the spot that got bumped. The teacher (S.) sings and B. jumps. B. goes over to the window and puts his nose on it. He sings sounds. A speech therapist (J.) touches him. He stands up and puts his finger on the record, his hand is slapped away. B. responds to the song. The speech therapist (J.) touches his arm when the song says "Hello". He gets down on his knees with his hands on his eyes. He touches the record again and his hand is slapped away with the words "Don't touch."

B. faces the teacher (S.) while she sings. He grasps her hand. The teacher (S.) assists him in marching. B. holds onto her shoulders while she moves his legs up and down to the rhythm of the music. The teacher (S.) assists B. with the actions to Loop-de-Loop. B. starts to jump around. The teacher (S.) catches

him and brings him back to the actions of the song. Again B. puts his hands up to the record player and his hands are removed. B. stands listening to the music. He turns slowly and jumps "softly." He looks toward the window, rubs his eyes and sits down.

The teacher (S.) flicks her hand on B.'s hair. He puts his hand in hers, the teacher (S.) claps her hands. B. stands up and jumps. He brings his hands up to the record player, but the teacher (S.) removes his hand before he can touch the phonograph. B. turns around, jumps and holds on to the teacher's (S.) hand.

10:12 - The teacher (S.) and B. walk over to the art table (see Appendix A, Map 1). Another teacher (H.) talks to B. but he does not respond. B. sits down on a chair and he swings his legs as he is sitting down. The teacher (H.) continues to address B. but he does not respond. B.'s foot swings vigorously, he has his hand in his mouth. B. gets up. The teacher (H.) puts him back in the chair. B. fusses and squirms. He gets out of the chair, gets on the floor.

10:15 - B. walks over to the window. He sits down with the teacher (S.). The other teacher (H.) comes to get B., he resists her. The other teacher (H.) gets a toy radio and B. follows her back to the art table.

10:16 - B. winds up the toy radio. One of the girls (D.) takes the radio from B. He cries and goes after the radio. The teacher (S.) puts him in a chair. B. hits his own head, gets off the chair and

crawls along the floor. A male teacher (D.) talks to B. He starts walking. B. touches the sand/water table. He feels around the chairs and touches the children who are sitting on the chairs.

B. is put in a chair. He kicks very hard. The male teacher (D.) places his hand on B.'s leg to stop him from kicking. B. is quiet, he yawns, scratches his head and looks up. B. starts to kick again. The male teacher (D.) talks to B., telling him what the teacher (S.) is doing.

B. is given a small animal. B. does not respond to the male teacher (D.). He puts his hand in his ear. He puts his head down on the table. One of the little girls (D.) rubs B.'s neck. He puts his finger in his mouth.

The male teacher (D.) talks to B. and he responds verbally. The male teacher (D.) holds B. around the waist so he will sit up. The male teacher (D.) says what he is doing. They are pounding clay. The male teacher (D.) says "Right, left. Pounding the clay. Fast, slow, right, left." B. pounds his stomach. The male teacher (D.) is counting. Five counts on the right and five counts on the left. B. smiles.

B. resists the male teacher (D.). B. pats the clay by himself. They count to twenty. B. puts his head back and smiles. B. puts only his fingers in the clay rather than his whole hand.

The male teacher (D.) makes a snake with the clay. B. rubs his fingers over it. He grabs it and pulls it apart. The male teacher (D.) calls for B. to pick up the clay. B. picks it up

and pulls gently on it. The male teacher (D.) does not let B. put his face down on the table.

The male teacher (D.) touches B.'s hand with the clay and then raises the clay so B. must search for the clay in the air.

B. stands up, slides under his chair and calls to a handi-capped child (C.). B. talks to the male teacher (D.). They discuss the clay.

10:56 - B. and the male teacher (D) go to the phonograph in the quiet area. B. touches the record. The male teacher (D.) turns B. around. B. dances. He squats down and stands up. B. puts his ear to the record. B. turns the knob on the phonograph. B. dances around. The music stops. B. jumps. The music starts again.

11:01 - B. goes back to the art table for snack. He says "Juice." B. does not respond to the others. He calls to C.

The teacher (S.) gives him some cookies but he doesn't eat them. He drinks some of the juice. A teacher (S.) gives him some more juice. He says "Water, water." The teacher (S.) puts a cookie in B.'s mouth but he does not bite it off. Eventually he takes a bit. The teacher (S.) talks to B. but he does not respond. B. eats a cracker. B. laughs at something a boy (C.) does. B. is sitting straight up and looks like he is listening.

The teacher (S.) hits the table and B. runs. The teacher (S.) calls to B. but he does not respond. The teacher (S.) picks up B. He hugs the teacher (S.).

March 5, 1981

9:50 - B. is in the make-believe area (see Appendix A, Map 2). B. is playing with an airplane. The teacher (S.) pushes the airplane. B. pushes it back and forth on the floor. The teacher (S.) shows B. a stuffed bunny. B. feels it as the teacher (S.) talks about it. A boy (K.) takes it away. B. moves the airplane back and forth.

B. goes to the cash register when the bell rings. He crawls away. The teacher (S.) talks to him. B. goes back to the cash register. He pulls on the cord to make it open. He closes the drawer, pulls on the cord to open the cash register, pulls repeatedly. The cord gets stuck, B. pulls and moves the cord to get the bell to ring. B. pulls the cord downward. The teacher (S.) comments to B., but he does not respond. B. pushes on the buttons, lets up and walks around. B. finds some toy keys, shakes them and brings them to the teacher (S.).

9:56 - B. moves along the shelf that separates the make-believe area from the quiet area. He steps over toys and things on the floor.

9:57 - B. is searching in the quiet area. He does not put out his hands when he is walking and he runs into things. B. runs his hands over a book. He does not answer when the teacher (S.) talks to him. The teacher (S.) gives B. a teddy bear to hold while she reads him a book about a Teddy bear. B. runs his hands over the figures of felt puppets.

The teacher (S.) gets up to give the bean bag chair to another child (A.). She leaves. B. is lying in a crouched

position on the floor with his fingers in his mouth. The teacher (S.) calls to him but he does not respond. B. slightly changes his position on the floor, but he still is crouching on the floor. The teacher (S.) throws a small ball at him. He does not respond. She throws the ball again, there is no response. The teacher (S.) puts the ball under B., he moves away and lies flat on the floor. The teacher (S.) says "Play with A." B. sits up and slides over to the teacher (S.). She tells him to take his finger out of his eye and he does.

March 24, 1981

9:31 - B. is taken to the adjacent classroom to use a child's size potty chair in the rear portion of the room. The teacher (S.) talks to B. but he does not respond consistently. He is more likely not to respond than to respond. The teacher (S.) is quite persistent and continues to talk and interact with B. B. asks for the See and Say toy. B. does not urinate.

9:45 - The teacher (S.) and B. go to the bathroom. They sing back and forth to each other, repeat phrases or count while B. is sitting on the toilet. B. slides back and forth on the toilet seat. He puts his hands in his eyes. The teacher (S.) sings to B. to have him keep his fingers out of his eyes. The toilet seat slips and B. says he is scared. The teacher (S.) sings to him again. The teacher gives him the See and Say toy. B. turns around in a circle as he pulls on the string. He feels the dial.

9:55 - B. and the teacher (S.) return to the classroom. B. sits on

the floor and plays with the See and Say toy. B. stops the dial when it is part way around. He puts his ear closer to the toy when the blender is turned on.

B. is laying on the floor with his head on the See and Say toy. He is all alone in the area. A speech therapist (M.) talks to B. and he responds. B. puts his mouth on the toy.

The teacher (S.) speaks to B. and he responds. He stops the dial of the See and Say toy so that it makes a halting sound. B. says "Duck."

A boy (K.) comes over to look at B. B. pulls the string on the toy, stands up, jumps and sits down again.

10:13 - All of the children and teachers are gathered in the science area (see Appendix A, Map 2) for a talk by a nurse. B. is sitting on a carpet square by the teacher (S.). One boy (T.) interacts with B. but he does not answer.

The teacher (S.) helps B. with the motions to "I Found A Peanut." B. sits with his thumbs in his eye. He is sitting between the teacher's (S.) legs. He looks toward a teacher (J.).

B. is given an artificial piece of chicken. He is also given real crackers. He smells an apple and a carrot. A boy (I.) talks to B. B. puts his thumb into his mouth. He lies down on the floor. The teacher (S.) tells him to sit up, he ignores her. She tells him to sit up again and he does. He calls to a boy (C.) who ignores him and then he hits at C. The teacher (S.) holds his hand.

The nurse brings over a stethoscope. B. does not want the

stethoscope in his ears. B. goes over to the nurse, then to the Busy Box. B. puts his ear to the bell as he rings it. The people ignore B.

April 9, 1981

9:35 - B. is sitting on the floor by the window with a teacher (W.).

They are interacting with a See and Say toy. The teacher (W.) repeats the sound of the animal after the sound is made on the See and Say toy. B. responds by pulling the string. He asks to hold the toy. The teacher (S.) sings "Old MacDonald had a Farm." B. pulls on his ears.

9:42 - B. and the teacher (W.) go to the bathroom. The teacher (W.) helps B. and talks about what she is doing. The flow of the conversation is very natural. B. says "All done potty.", "Get off - all done potty." and "Cold water."

9:51 - B. and the teacher (W.) return to the same spot in the classroom where they had left the sound toys. B. is sitting on the teacher's (W.) lap. B. stops the dial on the See and Say toy before it goes all the way around. He pulls out the string only part way and smiles. The teacher (W.) asks him to say the sound of the animal. He does not respond. The teacher (W.) makes the sound of a rooster. B. smiles. B. rubs his eyes.

The teacher (W.) asks B. to pull off a snap bead after he has pulled the string on the See and Say toy part way. B. pulls out the string part way, the teacher says the sound and B. pulls off a snap bead. B. starts to move away. He gets up and turns around

as he pulls on the string. A boy (O.) enters into the play with B. and the teacher (W.). He has been watching the play for some time.

B. holds up the See and Say toy so the boy (O.) can say the sound. The boy (O.) says the sound. B. puts his fingers in his eyes. B. gets up and gropes along the wall. He finds a toy radio. B. holds it close to his ear. He gets out the Activity Box and plays with it. B. puts his head on the floor. B. gets up and bounces. The teacher (W.) bounces a ball to make sound, B. ignores it. B. ignores everything except the Activity Box. A bell rings. The teacher (W.) asks B. if he can hear the bells. He does not respond. She asks if he can hear bells in school.

B. asks for the See and Say toy. Both the See and Say toy and the Activity Box are going at the same time. B. pulls the string of the See and Say toy. He lets it go back slightly and pulls it out again. He seldom lets the string go all the way back. The teacher (W.) and B. are pulling apart the snap beads when he has finished with pulling the string on the See and Say toy. B. pulls off two snap beads. He pulls these apart.

Summary of the Classroom Experiences of J. (Nonhandicapped)

January 15, 1981

9:00 - J. greets a teacher (S.) as she comes into the preschool. She takes off her coat and talks to her mother about hanging up her coat. J. looks at a boy (I.) as he comes to the preschool. The teacher (MA.) talks to her and J. turns away. She stops her feet.

J. has brought a friend with her to the preschool.

9:02 - J. stands by the door. She moves into the room. J. stands by her mother. She looks at the art area (see Appendix A, Map 1). J. talks to the teacher (MA.). J. talks to mom. She listens to her friend (L.) talk. J., with her hand in her pocket, is looking at her friend (L.). Mom talks to J. She follows mom out into the hall.

9:08 - J. stands by a small table in the hall and talks to her friend (L.). The teacher (MA.) asks J. to come into the room and help her. J. puts her picture on the planning board. J. talks to her mother. She stands by her mother and says "Mom, don't go." J. follows mom around. Her friend (L.) follows J. around.

9:10 - J. goes to the block area. She runs back to mom and the teacher (MA.). A teacher (P.) talks to J. but she does not respond. She puts up her picture. She runs to mom and says, "Mom, don't go."

9:12 - J. and her friend (L.) are busy with the cash register. She tells her friend (L.) that she will show him how to do it. J. runs back to mom and then back to the cash register.

9:14 - J. goes to the make-believe area. She gets a baby bottle and shakes it. She looks toward her mother. J. is by the doll and bed. She looks over to where her friend (L.) is talking to the male teacher (D.). Her mother comes over and J. says, "Mom, I don't want you to go." J. follows her mother to the door. J. returns to the cash register. She watches her friend (L.). They are busy talking. They get something out of the cash register. The

friend (L.) opens the cash register door. J. gets a baby bottle and shakes it. She goes to the doll and doll bed. J. stands up. She twirls and shakes the bottle. She gets a purse and holds a doll.

9:20 - J. goes to the cash register and puts something in it. Her friend (L.) closes the drawer and then opens it. J. now has two purses, a doll and a bottle. She watches a group consisting of the male teacher (D.) and two children (I. and P.). She holds onto the baby bottle. She is still watching the group. J. smiles when the children complete a project.

J. takes a doll coat out of the purse, shakes it out, lays it down. She wraps the coat around the doll. J. looks at a girl (P.). She puts the dolls arms into the sleeves of the coat. She is watching the children (P. and I.) who are playing near her. J. smiles and laughs. She talks to herself. J. buttons up the doll coat. J. sits down and arranges to coat on the doll. She turns up the collar and touches the corners of the collar to the doll's eyes. J.'s friend (L.) talks to J. She takes off her shoes. She gets the baby bottle out of the purse and says, "Here's your bottle, honey." as she feeds the bottle to the doll. J. looks at her friend (L.). J. tosses the bottle up and down. She shakes the bottle. J. tucks the bottle under her arm. She puts the bottle in her purse. J. looks at a boy (A.) and then at the male teacher (D.). She twirls the clasp of the purse. J. looks toward the science area.

J. opens up the other purse and takes out a book. She flips through the pages. She takes another book out of her purse and puts the first book away. J. opens up the book and begins reading. She leaves the book and goes over to the cupboard.

9:32 - J. gets small toy food items from a pail. She opens and closes all of the boxes. As she opens the boxes she puts them to the side. J. shakes one of the boxes.

9:36 - J. tells a girl (D.), "L.'s here you know so you better not fight." The girl (D.) does not respond and J. repeats the sentence. J. moves closer to her friend (L.). J. and her friend (L.) discuss something at the cash register. They line up the play money. J. goes to put it in her purse, but she stops to watch her friend (L.). J. stands and fingers the money. She looks at a teacher (P.) singing to a boy (A.). J. talks outloud to no one in particular.

A girl (P.) comes over and asks, "Can I play?" J. answers "Yes." J. puts the money on a shelf, and looks around. J. puts the money away, "This goes here." as she puts the money in the cash register. J. goes to the books and the purse. She puts the book in the purse. The girl (P.) and J. talk. J. goes to get the doll and bottle. She sings to herself. J. crawls on her knees to the purse and puts the book and bottle in it. The girl (P.) talks to J. but she does not respond. J. looks up when another girl (S.) comes. J. fits the things into the purse and closes it. The purse does not close. J. takes out the bottle and closes the purse.

J. stands with the bottle and doll in one arm and the purse in the other. She looks at a teacher (P.) and a boy (A.). J. smiles at them. J. gets on knees to get a closer look. She sings. J. closes up the other purse. She puts this purse in the same hand as the doll. J. picks up the first purse, then transfers it to the other hand.

9:47 - J. moves to the block area with her friend (L.). J. talks to a teacher (P.). J. gets a block that her friend (L.) has and he tells her "No." J. sits down to feed the doll. Her friend (L.) pushes J. out of the way. J. picks up her things and moves.

9:52 - J. goes to the science area to a teacher (MA.). They talk and J. sits down to take off the doll's coat. Then she takes off the doll's dress. J. looks at a boy (N.) as the teacher (MA.) talks to him. J. returns to taking off the doll's dress. She talks to the teacher (MA.). The teacher (MA.) helps J. take off the doll's shoes. A girl (R.) comes to find out what J. and the teacher (MA.) are doing. J. dominates the conversation with the teacher (MA.). J. looks around as the door opens. She says, "I want you to take my baby over there." She throws the dress in the purse and folds up the coat. She talks to the teacher (MA.). J. wraps the doll in the coat. J. is busy with the doll, coat and purse. She talks to the teacher (MA.) about cleaning up the mess.

10:03 - J. goes to the sand/water table and stands beside her friend (L.). She and her friend (L.) talk. She watches her friend and a teacher (R.) play in the sand. J. pours sand. She holds on to a

funnel.

10:05 - J. goes to look at a painting someone did at the easel. She goes to the art table to get a scissors. J. shakes the scissors around. J. gets a piece of paper, adjusts her chair and sits down. She looks at a teacher (A.) and a boy (K.). She turns around to look at a boy (T.). The teacher (A.) and J. discuss something.

J. draws a circle. She asks the teacher (A.) repeatedly "Can you help me?" J. tries to cut. She is using gripper scissors rather than the old style. J. gets the purses and doll as the lights go out. J. drops the purse.

10:11 - J. goes to the sand/water table. She shovels sand. She asks her friend (L.) if she can play. He says "No." J. moves away and walks around the room.

10:15 - J. shows her friend (L.) the fish. She gets out a fishing pole (see January 20, 1981, 10:10). J. talks to the teacher (MA.), but the teacher does not respond. A teacher (A.) comes to get J. J. takes the teacher's (A.). They go to the art area. J. and her friend (L.) are holding hands. J. watches as a teacher (A.) ties her friend's (L.) shoe. She talks to the teacher (A.) but the teacher does not respond.

10:16 - J. is in a small group activity in the art area. J. leans on the table to watch the group. J. looks at her friend (L.) as he talks. J. gets up and goes over to the blocks. The teacher (A.) calls her back. J. sits down at the art table. J. picks her nose. J. does the motions to "Where is Theabkin?" J. has trouble holding

each finger separately. She pushes her chair in.

10:23 - J. is sitting on a carpet square by the window. She talks to a teacher (P.). The group is identifying body parts. J. holds her hands on her head. As she holds out her legs she says, "I got two." J. shakes her hands and says, "I have four fingers." The teacher (MA.) helps her count her fingers. J. wiggles her toes, "Wiggle, wiggle." She laughs at her friend (L.). J. twists her socks around and looks at a teacher (P.). J. opens her mouth on command and sticks out her tongue. J. smiles. She is moved back on to the carpet square. J. listens as the teacher describes how they are going to trace their bodies on a large sheet of paper. J. says, "I don't want to do that." to a teacher (MA.). J. sits down on the carpet square. She gets up.

10:30 - J. and her friend (L.) move back by the art area and stand together. J. kneels down and says to the teacher, "I don't want to do that." J. watches as the teacher (MA.) traces a girl (R.). J. says, "Me and L. don't want to do it." She tries to convince her friend (L.) that he shouldn't have his body traced.

10:36 - J. and her friend (L.) go to the toy train. They put the tracks together. J. gets up to watch as her friend gets traced. J. says to the teacher (MA.), "I don't want to do it." The teacher (MA.) says she doesn't need to get traced. J. watches a girl (R.). J. kneels and talks to her friend (L.) as he gets traced. She asks him, "It doesn't tickle?"

10:40 - J. goes back to the blocks and says, "I want L. to help me."

The teacher asks if she wants to be traced. J. responds, "I don't want to." J. watches the other children. She walks away singing. J. goes to a pop-up toy. She pushes the figures down. J. gets up. She goes to the shelf that has a crib mobile hanging from it. She crawls under it and squeezes the bulb to make noise. The teacher (MA.) comes over to J. and they talk. J. tells her, "I always like to paint."

10:48 - J. goes to the dress up box. She gets out the train. People talk to her but she ignores them. She plays with the train. J.'s friend (L.) helps her put away the train.

10:50 - J. goes to story time in the quiet area. She sits down and listens to the story. She looks away but returns to attend to the story. She tells the teacher (P.), "I love that story."

10:55 - J. and her friend (L.) go to the art table for snack. They sit by each other. A boy (O.) talks to her but she does not respond. J. looks at a boy (A.). J. kicks her feet under the table. She looks into a boy's (O.) cup. He smiles in return. J. pushes her cup over to the teacher (MA.) for more juice. J. converses with the teacher (MA.). J. finishes her snack, folds up her napkin and throws her cup and napkin away.

11:13 - J. goes to the block area, where her friend (L.) is playing. J. talks to a teacher (P.) but the teacher (P.) responds after two initiations. J. looks for a book. A teacher (S.) calls her to come to the science area for large group time. A teacher (P.) gets her and J. puts away the book.

11:14 - J. talks with her friend (L.). They are facing each other. J. wraps the carpet square around her legs. She and her friend (L.) talk. J. looks at a boy (C.). J. closes her eyes and shakes her head. She looks at the teacher (S.). J. pulls off her socks. J. goes to the teacher (S.) to tell her that when the song is over, mommy will come. J. adjusts the rug. J. gets up and goes to the teacher (S.). J. goes back and lies down on the carpet square, sits up, stands up, kneels. J. looks at her friend (L.). She twists her socks around. J. looks at a boy (O.). She looks at the teacher (S.). J. talks to her friend (L.). J. is pushing her carpet square around. She seems very uninterested. J. is given a picture of a horse for the song "There Was An Old Woman." She bends the picture back and forth. J. is completely turned around and away from the song. She puts the picture in the old woman's mouth (puppet made out of a paper bag). She looks at the teacher (P.). J. looks at a boy (I.). She pulls apart the picture and talks to her friend (L.). J. holds up her picture. She turns around to face her friend (L.). J. puts a picture in the "old woman's mouth."

11:30 - J. roams over to the art area. She looks at the food still on the table. J. drinks a boy's (A.) juice.

11:35 - J. goes back in the corner by the play refrigerator.

11:36 - J. goes to the science area to listen to a story. She squeezes up to the front so she can watch. J. looks up at the ceiling. She moves closer to her friend (L.). J. picks at her nose. She is not

looking at the story. She twists her socks around with her toes. J. sticks out her tongue. She starts to crawl away, but a teacher (P.) pulls her back. The teacher (P.) strokes J.'s back. J. goes to her carpet square. She puts her head on the carpet square and J. looks through her own legs. J. sits down. She crawls away, looks back, and continues crawling to the door. A teacher (MA.) goes to get her. J. smiles and flops when the teacher (MA.) picks her up. They go back to the group. J. does swimming actions to a chant. She soon loses interest.

11:50 - J. gets ready to go home. J. puts on her jacket and talks to anyone who will listen to her. Her mother gets her to go home.

January 27, 1981

10:45 - J. is sitting on a carpet square in the science area, listening to a story read by a teacher (S.). J. talks to the teacher (S.). J. rolls around on her carpet square. J. talks with the teacher (S.). J. crawls away. The teacher (S.) calls her back. She comes back and rolls around on the carpet square. The teacher (S.) tells her to sit still, J. does not respond but continues to roll around. J. rolls off the carpet square. The teacher (S.) tells her to sit down, J. continues to go. J. crawls over to a book. Another teacher (P.) brings J. back. J. wiggles and talks to no one in particular.

February 12, 1981

9:18 - J. sits down at the art table. A teacher (P.) talks to J. and J. looks at the teacher (P.). J. looks at a boy (I.) as he talks.

She looks at another boy (F.). J. watches the movements in the room. A teacher (S.) helps her get on her shoes. J. smiles at the teacher (S.) and the boy (F.).

J. goes to the door. The teacher (S.) touches J., but J. does not respond. J. talks to the teacher (S.), but she does not respond, instead another teacher (P.) responds to J.

9:25 - J. goes to the block area. J. stands and watches a teacher (P.). J. goes to the table in the make-believe area and watches a boy (I.) and a girl (D.) set the table.

9:28 - J. gets a doll in the quiet area. She talks with a teacher (P.).

9:29 - J. looks at a boy (I.). She also watches another boy (T.).

J. rocks the doll in the cradle. She takes the doll out. J. gives the doll to the girl (D.) and the girl (D.) and J. talk. J. picks up the doll and sits down on a chair by the table. J. laughs at something a boy (T.) does. J. picks up the doll by the hair. She arranges the doll so it is sitting just right on J.'s lap. She speaks to the girl (D.), the girl responds and J. laughs. J. picks up the spoon on the table. A boy (N.) comes over to the make-believe area and J. smiles at him. The boy (N.) leaves. J. feeds the doll from a cup of play dough. J. gets up and gets the bottle. She feeds the doll the bottle. She looks at the teacher (P.).

9:34 - J. goes to the quiet area to talk to a teacher (P.). J. looks in a box with a boy (T.). The boy (T.) talks to her, but she does not respond.

9:35 - J. goes back to the table in the make-believe area. She

converses with a girl (D.) and a boy (I.). They are sitting opposite each other at the table. J. cuddles the doll. She feeds the doll from a cup of play dough.

J. is sitting alone at the table. She puts the bottle in the doll's mouth and shakes it. J. looks at the other kids. She and the girl (D.) talk. J. is sitting at the table with her left elbow on the table and the doll in the crook of her other arm. The girl (D.) takes the play dough.

9:39 - J. follows the girl (D.) to the art area. She goes back to the make-believe area and then just roams around the room.

9:40 - J. opens the lid of a box. She goes to tell a boy (K.).

9:41 - J. goes back to the make-believe area. She takes the egg carton to the table. J. puts the plastic eggs into it. She is still holding the doll in her right arm. J. looks to the art area. She speaks to a girl (R.) in the art area. The girl does not respond. J. leans on the play sink. It looks like J. is washing the doll's hair. J. talks to the doll. J. looks toward the art area.

J. washes the rest of the doll. She talks to the doll. J. takes a cookie cutter and play dough to the table in a big glob. She fits the play dough into a cup. J. gets another cup and dish of play dough. J. sits down at the table. She closes the egg carton. An egg falls out, J. puts it back. She talks to herself.

J. looks at a teacher (P.) when she talks to another teacher (K.). J. fills the cups with play dough. She pats it down with the palm of her hand. J. talks to herself about what she is doing.

J. gets the baby bottle and a spoon. J. goes to the play refrigerator. J. picks up an egg; takes it to the carton and puts it in. She closes up the carton. J. looks toward the art area.

9:52 - J. goes to the art area. She talks to a teacher (K.). She watches the other children.

9:54 - J. puts on a bag used as a water smock.

9:56 - J. goes to the sand/water table. J. looks at two girls (R. and S.) who are playing in the water. J. turns to a teacher (P.) and says, "They don't even know I'm playing." The teacher (P.) responds. She then says, "They don't even know I've got one of these on (indicating the water smock)." J. has a pained look on her face. She looks like she will cry. Nobody pays attention to J. She doesn't cry. J. stands by the water table and holds on to the side. She does not talk or put her hands into the water. She talks to a girl (S.) but the girl (S.) does not respond. J. looks at the art table. The girls (S. and R.) leave. J. puts her hands into the water. She fills up a bottle using a small measuring cup. J. puts the cup on the side of the water table. She gets a larger cup and empties the bottle. J. puts the larger cup on the side of the water table. J. fills the bottle again with a small cup, dipping water from the large cup. J. finishes from the larger cup. She drops the cup into the water. She gets a toy coffee pot. J. fills the larger cup from the toy coffee pot. She places the cup on the side of the water table. J. watches a boy (A.) and a speech therapist (M.). J. fills the coffee pot by using the small cup.

She fills the large cup when the toy coffee pot is full. J. dips out the water in the large cup with the small cup. J. fills another coffee pot. She talks to herself when she is filling the coffee pot. She looks for another toy to use in the water table. She has a pensive look on her face. J. puts the large pots and pans in a pail. She fills a large kettle using the toy coffee pot. J. is humming "Baa, Baa Black Sheep." J. puts a different cup on each corner of the water table. She looks at the art table.

10:12 - J. washes her hands and goes to the art table to make rolled out cookies. She seems to understand rolling out dough. She pushes the flour into a pile. She looks at the teacher (S.) when she talks to J. J. cuts out three cookies. When she is finished she pushes the flour into a pile with a sponge. J. watches the teacher. She wipes the table with her sponge.

February 24, 1981

8:55 - J. follows a teacher (P.). She stands looking at the painting easel. She goes to the side of it. A teacher (P.) names the paint colors incorrectly but J. does not respond. J. puts on a paint shirt and walks around the art table. She looks at the other girl (P.) who is painting. J. dips her brush into the green paint and makes vertical strokes on the paper. Next she paints with yellow. J. talks to the other girl (P.) and the girl looks on. J. smiles at the girl (P.) and the girl (P.) responds. J. goes to a teacher (H.). J. dips her brush in the orange paint. Most of the painting has become orange. J. talks to a speech therapist (M.), but the

therapist does not respond. J. takes off her paint shirt. She talks to the girl (P.). She puts her paint shirt back on. J. says, "I can't find my sleeve." A teacher (H.) helps her. J. looks at the painting of the girl (P.). J. goes to the other paints. She and the girl (P.) talk. J. paints her finger tips. She rubs paint on her fingers. Paints with just her fingers. Rubs paint all over her hands. J. paints with the brush. J. rubs her hands on the painting. A teacher (P.) and a girl (P.) talk about J. and she rubs her hands on the painting more vigorously. J. looks at the girl (P.). J. rubs her hands on the painting and looks at the other girl (H.).

9:15 - J. goes to the center of the room. A teacher (H.) talks to her. She goes back to the easel. J. watches the girl (P.). She follows the girl (P.) around. She goes back to the easel. A teacher (MA.) helps J. wash the paint off her hands.

9:31 - J. crawls over to the block area where a number of children are playing with Constructo Straws. J. sits along side a girl (S.). She builds with the straws by herself. J. looks at the other children. She gets involved in her own work. She looks at the work of a boy (M.). J. makes a wheel with the hubs and straws. She looks at the others. J. looks to the quiet area. She puts down her straws and gets up.

9:35 - J. looks at the boys (M. and I.) with a flip book. A boy (M.) turns the pages. J. is lying on the floor looking at the book. She gets up on her knees. She looks at the books. A

teacher (A.) talks to her. J. does not respond. J. looks at a book about flies alone. She looks at a boy (I.). A teacher (A.) is reading a book. J. ignores them. J. looks toward the block area where someone is showing their wheel of straws. J. goes to pick up straws. J. twirls the straws around. She looks at a boy (K.) when he talks. She talks more to herself than to anyone.

9:43 - J. gets up and then returns to the same spot.

March 19, 1981

9:17 - J. is sorting beans (seeds) with three children (P., F., and I.). J. picks up beans from the floor. J. looks toward two boys (M. and B.). J. sorts beans. J. talks to a boy (F.) with prompting from the teacher. (F. is physically handicapped.) J. watches the teacher (MA.) and a boy (B.). J. tells the boy (F.), "I like you, F." J. continues to talk to the boy (F.). A girl (D.) joins the group of J. and the boy (F.). J. and the girl (D.) fight over the boy (F.). They share crackers from the boy's (F.) lunch box. J. looks at a girl (P.). J. drinks water. Closely watches what the girl (P.) is doing. J. goes over to the girl (P.) and attempts to get into the group. J. talks to the teacher (MA.) and to the boy (F.), but she gets no response from them. J. goes back to her beans. She picks up a few at a time. J. watches the boy (F.). She puts some beans into a small bin. J. rubs her eyes. J. looks at the other children. J. sorts beans with the other children (P., F., and D.). J. gets up on her knees. She leaves the area. (9:33)

9:42 - J. goes to the science area. She sits down by a girl (D.).

They talk to each other. J. sits on a chair and turns around. J. talks to the girl (D.). J. draws a circle on the paper with a magic marker. J. turns around. The girl (D.) leaves, J. is alone. J. traces her hand with a marker. She colors the tracing of her hand. J. holds the marker with a full hand grip. J. draws a circle on the hand. She turns the paper over. J. makes dots and circles. J. looks at the marker in her hand. She gets a different marker (orange). J. smells the marker. She gets the pink marker. She smells the orange marker. J. puts both markers into the can.
(9:47)

March 31, 1981

11:13 - J. is looking at something by the fish tank. A teacher (A.) talks to J. and she sits down as the teacher (A.) begins to sing. J. looks around but she doesn't sing. J. follows the actions to "Ten Little Bunnies." She holds up her fingers. J. says, "Hop, hop, hop." It takes J. some time to coordinate the actions and words to a song. J. wiggles in her chair while the others are talking. J. talks. The teacher (A.) tells J. to pay attention. J. looks at the teacher (A.).

J. smiles when she talks to a girl (D.). The teacher (A.) asks J. to sit down. J. wants a shaker to play to the music.

The teacher (A.) tells the group to open their eyes wide. J. visibly widens her eyes. J. shakes the shaker. She misses her cue to play the shaker. A teacher (C.) cues J. J. misses her cue again. J. waves rather than claps. J. puts away her shaker and

and gets ready to go home.

Summary of the Classroom Experiences of P. (Nonhandicapped)

January 22, 1981

8:45 - P. kisses her father good bye.

8:47 - P. initiates conversation with a teacher (A.).

8:48 - P. goes over to the science area (see Appendix A, Map 1). She talks to a boy (A.). P. talks to the speech therapist (M.).

8:53 - P. goes to the center of the classroom where the plexiglass easel has been placed horizontally on cinder blocks to form a table-like structure. A rope to which a cup or funnel can be attached is over the easel. P. asks the teachers many questions about the easel. A teacher (MA.) explains it to her.

8:59 - P. goes to the quiet area where a teacher (MA.) is reading books. P. talks to the teacher (MA.). P. looks at the books. She coughs and stands up. P. goes to the books and talks about each one to the teacher (MA.). P. picks up a book and asks the teacher (MA.) to read the book. The teacher (MA.) reads the book to P.

9:00 - While the teacher is reading the book, P. interrupts and comments on the pictures and the story. P. gets a handkerchief from her pocket and blows her nose. The teacher (MA.) finishes the story. P. gets up to select another book. Two boys (M. and I.) have arrived. The teacher (MA.) reads the story to P. The teacher (MA.) points out words to P. P. is totally involved in the story. She stuffs her handkerchief into her pocket. P. does

not take her eyes off the book. The book is finished and P. puts it away. P. goes out to get her picture in the hall. She stamps her feet on the way back to the area where she will plan her free play activities.

9:11 - P. goes to the block area to the toy farm set. She tries to take the top off the silo. She asks a speech therapist (M.) to help but the therapist did not respond. P. gets the top off and takes the items out of the silo. P. takes the people out of the airplane and puts them into the cart. P. drives the cart around. She puts the people into the silo. A boy (I.) calls, "Hey, P." P. looks in the mirror. The speech therapist (M.) talks to her. P. runs and jumps. P. and the boy (I.) run and jump in the bean bag chair. They continue to run and jump. The speech therapist (M.) gets P. and the boy (I.) to stop their running and jumping.

9:15 - P. talks to a teacher (A.) and a speech therapist (J.).

9:16 - P. gets the fishing poles (see January 20, 1981, 10:10) from a teacher (MA.). They discuss something about measuring cups. A boy (N.) climbs up on a table and watches P. and the teacher (MA.). P. gets a puppet out. She looks at the speech therapist (M.) and the boy (N.).

9:20 - P. goes to the horizontal easel to talk to a teacher (P.) and a boy (F.). She discusses the new table with a girl (S.). P. runs to the make-believe area. The girl (S.) and P. run to different parts of the room. They go to the fishing poles and magnets. P. looks on as the teacher (MA.) feeds the fish. She talks to the

teacher (MA.). P. holds the fish puppet over the tank and has the puppet talk to the fish, "I like fish." P. moves the light over the fish.

9:30 - In the quiet area, P. gets the large body puzzle. P. sings while she is putting the puzzle together. She talks to a boy (O.), he does not respond. P. returns her attention to the puzzle. P. talks to the boy (O.). She takes his puzzle and puts it together. A teacher (P.) asks P. what she is going to do, she points to the other areas of the room and names things she wants to do. P. gets up and talks to a boy (I.). She goes over and lies down on the horizontal easel.

9:35 - P. looks at the pictures. She ignores the speech therapist (J.) and pursues conversation with the teacher (A.).

9:36 - P. goes back to the science area. She gets out the magnets and fishing poles. She spreads the magnets on the floor. She picks up the magnets with the fishing pole. P. spreads out the magnets again. She drags the line over the floor to pick up the magnets. P. continues this activity with two boys (N. and I.). She says, "I caught a big fish."

9:43 - P. runs to the block area and back to the quiet area. P. looks at the books. She asks a teacher (K.) to read a book. The teacher (K.) reads a book to a group of children. There is more talking than story. Two of the children (O. and E.) talk, P. and a girl (R.) are still involved with the story. At the end of the story, P. wipes her nose. She talks to the teacher (K.). The girl (R.)

brings another book for the teacher (K.) to read.

9:53 - P. and the girl (R.) get into the bathtub (see Appendix A,

Map 1) while the teacher (K.) reads them a book. P. points to the pictures in the book. She puts her face directly in front of the teacher's (K.) face to make a point. P. gets up to get another book. P. looks around to see what the other children are doing. When the book is finished, P. goes to the horizontal easel.

10:05 - P. gets a paint shirt on. P. holds the paint. P. crawls under the horizontal easel. She crawls out. P. stands beside a girl (R.). P. draws with the paint on her part of the easel. She gives the paint to the girl (R.). P. moves around the easel. She talks to the teachers around the easel. P. goes to the sink to get a sponge. She wipes the paint from the easel. She makes many trips to the sink. P. washes her hands in the sink. She wipes her hands and then washes them again.

10:13 - P. paints by swinging a cup with paint in it. The cup is suspended from a string above the easel. P. watches the male teacher (D.) as he talks. P. pushes the paint across the easel. P. walks around the easel. She gets a chair and sits down. The teachers say it is time to get cleaned up. P. gets a sponge and starts washing off a teacher (D.). P. gives the sponge to a girl (J.). P. gets another sponge. She sings as she washes off the table.

10:30 - P. goes to the sink. She wants a boy (T.) to hurry. P. washes her hands. A teacher (P.) comes to get P. so she can go to small

group time.

10:35 - P. goes to the adjacent classroom (Room 310). She talks to the teacher (P.). P. arranges her chair so that it is lined up exactly with that of another girl (S.). The group is making nut covered bananas. P. listens while the teacher (P.) gives directions. P. listens to the other people talking and enters into the conversation with appropriate comments.

P. cuts her banana in two pieces. She puts the peel back on the banana and laughs as she shows it to the teacher (P.). P. listens to the teacher (P.). Most of the group complains that their bananas are falling apart. P. says, "Mine aren't because mine is lying on the table." A boy (N.) talks to P. and she responds. P. stands up to roll the banana in the nuts. P. eats her banana. She asks if she can have another one. She is given another piece of banana. P. rolls the banana in nuts. P. tells the teacher (P.) that she needs a napkin. P. talks to a teacher (P.) but gets no response. She repeats her comment, still no response.

11:10 - A teacher (K.) helps P. get her coat and boots on to go outside. P. talks to a boy (M.) and a teacher (P.) while she is getting dressed. P. points to the braces of a handicapped boy (F.) and asks, "What happened to him?" The teacher (P.) responds. P. looks at the pictures of the children. She asks more questions about the boy (F.). P. stands in line to go outside. She talks to the girl in front of her.

February 3, 1981

- 9:28 - P. washes her hands in the sink and then goes to the art table. She talks to a girl (D.). P. measures flour by filling the cup with a spoon. P. stirs the flour. She looks up at the teacher (R.). P. measures the flour in the bowl. She wipes her hands on her pants. P. asks the teacher (R.) to help her. A boy (T.) and P. are mixing in the same bowl. They slap each other's hands. She mixes in a bowl with a girl (D.).
- 9:38 - P. washes her hands. She goes to a figure of "I Know An Old Woman Who Swallowed A Fly."
- 9:39 - She then goes back to the flour at the art table. P. spins around the paint stand. She sits down between two children (D. and F.). P. gets up and moves to another space.
- 9:45 - P. goes to the water table with a girl (R.). They put shirts on. P. fills an empty soap bottle with water. She puts a cork on the top, takes the cork off and drains the bottle. She takes off her paint shirt.
- 9:48 - P. goes back to the art table. She moves a chair so she can sit at the table. P. watches the group. She talks to some of the children (S., D., and E.). P. holds out her hands and a teacher (S.) gives her some dough. The teacher (S.) talks about the dough. P. is kneading the dough. P. and a girl (D.) are imitating each other in the types of interaction they are having with the dough. They slap, pat, roll, and knead the dough.
- 10:01 - P. goes to wash her hands, but returns to the table. She works the dough into the table. P. smiles at the other children.

10:10 - P. goes to the sink to wash her hands.

March 3, 1981

8:47 - P.'s father brings her to the preschool. P. greets a teacher (P.) when she arrives. Her father helps her take off her boots. P. talks to everyone. She kisses her dad good-bye.

8:51 - P. goes into the classroom and just stands.

8:52 - P. gets her picture for planning.

8:54 - P. goes to the art table. A teacher (P.) asks her what she wants to do. P. responds, "I don't know yet." P. wanders around the room. She says, "I'm a bull.", and goes back to the table.

8:55 - P. runs and jumps around the room.

8:56 - P. pulls open the cash register. She puts some play money in each of the spaces and then closes the drawer. P. presses the buttons. She puts on a cap and looks in the mirror. P. takes off the cap, and puts on another hat, and another hat.

8:58 - P. goes over to the bathtub. P. and a girl (S.) climb into the bathtub and fall down. P. reaches up and talks into a microphone which is suspended from the ceiling. The girl (S.) and P. sit close together and sing "A funny man from mars." The girl (S.) corrects P. when she makes a mistake.

9:03 - P. talks with a teacher (S.). She looks in the mirror. P. watches a boy (F.). She adjusts her hat in the mirror.

9:04 - P. goes to the cupboards on the far side of the room and talks to a teacher (MA.).

9:06 - P. goes back to the make-believe area and hangs up the hat.

She fixes her hair in the mirror.

- 9:07 - P. goes to the block area and asks the teachers (S. and H.) if she can go to the bathroom.
- 9:08 - P. goes to the bathroom.
- 9:11 - P. returns to the room. She butts into a teacher (A.), "I'm going to be a bull today." P. runs around the room.
- 9:12 - P. goes to the block area. She lies down on the floor with a girl (D.) and plays with the doll house. P. looks toward the center of the room. She gets up.
- 9:13 - P. goes to the art table. She talks to a speech therapist (M.). She goes back to the block area and then to the center of the room.
- 9:15 - P. goes to the art table. She picks up some glurch (rubbery stuff). P. says "Ugh." and lets go of it. She roams around the room. She goes back to the girl (D.) and the doll house.
- 9:17 - P. goes to the cash register. She rings the bell. P. walks away.
- 9:19 - P. goes to the science area, the quiet area and then to the typewriter in the make-believe area.
- 9:20 - P. sits down at the typewriter. She moves the carriage back and forth. She asks a teacher (H.) for help. The teacher (H.) fixes the typewriter. P. talks to another teacher (MA.). She asks the teacher to help her. P. folds up the paper. P. calls repeatedly to the teacher (MA.). She does not stop until the teacher (MA.) responds. P. types. She says the letters as she

types.

9:26 - P. goes to the block area, the make-believe area and the sand/water table.

9:27 - P. goes to the cupboard, folds up her paper and looks for some stamps on a bottom shelf. P. folds up her paper more and puts more stamps on it. She puts it in the mailbox.

March 26, 1981

9:05 - P. has on a paint shirt and is standing at the easel. The teacher (MA.) asks her what size paper she wants to paint on. P. tapes both pieces to the easel. P. talks with the teachers (MA., J., and P.) while she paints on both pieces of paper. P. paints her hands. She makes hand prints all over the paper.

P. paints a square. It has gradually become thicker. P. paints her hands with purple and makes hand prints. She paints her hand pink and then purple. The teachers (A., MA., and S.) talk to her. The teachers (A., MA., and S.) leave. She laughs and laughs.

9:17 - P. goes to the sink and wets her hands. She returns to her painting. P. sings as she paints. She has one paint brush in each hand. P. draws a circle on the square.

9:23 - P. washes her hands and goes back to her painting. She paints with brushes in each hand. P. takes off her paint shirt. She paints her hand. P. makes sure that the paint gets between each of her fingers. P. carefully holds the brush in her right hand.

9:26 - P. washes her hands. She turns her hands over to make sure she

has all the paint off them.

10:18 - P. is sitting at the art table with a small group. The teacher (K.) asks questions and they respond. P. points to the stapler, and says, "My dad has one. A red one."

The teacher (K.) tells them that they are going to make books. P. says, "I don't know, I don't know how to make words." P. counts out three sheets of paper. She asks if she is supposed to put them on top of each other. She is working on making a book. She asks the teacher (K.), "Isn't mine pretty?" The group talks about the different kinds of books, books with dots and books with words. P. finishes her book. She colors in her book. P. says, "I think I'll make a rainbow in the book." No one responds to her so she repeats it. P. looks over to one of the girls (S.) writing. P. says the alphabet to a boy (N.). One of the girls (S.) looks at P.'s book and says, "You mean you're only writing pictures and not words?" P. just sits. A moment later she says, "I think I'll color in this when I get home." P. gets up and walks around.

April 7, 1981

9:29 - P. is in the adjacent classroom (Room 310) with a teacher (W.) and two children (S. and R.). P. gets out the bear puzzle. She tries to fit all of the pieces together. P. has trouble with it, so she puts it away. She talks to the teacher (W.). P. picks up toy binoculars. She looks through the binoculars. P. goes to the rear portion of the classroom where materials are kept and gets a

game Bug Off. The teacher (W.) and the girls (P., R., and S.) play the game. P. laughs when she gets a bug. P. and a girl (R.) get the same bug. There is lots of laughter. The teacher (W.) stops the girls (P., R., and S.) from getting too carried away. P. swats the wrong color of bug. She laughs. A girl (R.) quits. She rejoins the game. Each girl counts how many bugs she has. They are very concerned about who is the winner. The play excitedly. There is a great amount of conversation in the group, among the teacher (W.) and the girls (P., R., and S.). There is a wild scramble for a bug. The game ends when it is clean-up time.

P. is putting away the bear puzzles. (All of the pieces are supposed to fit inside the bear for storage.) The pieces do not fit together properly so P. takes part of them and puts them in one half of the puzzle and then fits the mane for a lion in the other half. She puts the puzzle away.

April 14, 1981

9:26 - P. goes to the adjacent classroom (Room 310) for planning time. She looks at a teacher (S.) reading a book to a girl (J.). No one seems to notice P. She talks to a teacher (R.) but the teacher does not respond. P. picks out some blocks. She puts them on end. When four are put in a stack, they fall over. P. makes a tower with the cylinders. She talks to herself. A teacher (S.) asks her what she plans to do for the day. P. draws pictures depicting what she wants to do.

P. gets a truck that can be taken apart. She takes apart the

truck and puts it back together. She fits the wheels on according to the shape of the hub. P. looks at a girl (J.) and a book. P. rolls the truck on the table. She takes it apart again. P. tells a teacher (H.) how the pieces fit together. She is alone. P. gets a story book and flips through the pages.

9:40 - P. goes to the science area of the classroom. She helps a teacher (W.) untangle the fishing poles. Objects are placed in an old tire. P. dangles the line of the fishing pole in the tire. Two boys (K. and I.) are fishing with P. She gets down on her knees. The children (P., K., and I.) converse. The lines get tangled. The teacher (W.) helps them untangle the line. P. catches a fish (paper cut-out with a paper clip on it). P. ties the fishing pole around her waist. Then she unties it. P. bounces up and down.

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